

**Chapter 7 Academic stress in the students of the Bachelor's Degree in Administration of the Tecnológico de Estudios Superiores de Villa Guerrero in times of Covid 19**

**Capítulo 7 Estrés académico en los alumnos de la Licenciatura en Administración del Tecnológico de Estudios Superiores de Villa Guerrero en tiempos de Covid 19**

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## **Abstract**

Higher education in Mexico has important challenges, one of them to face in the almost immediate future, is the mental health of its community, both student and teacher, finding in academic stress one of the most important factors that the COVID-19 pandemic has left. The present study allows to recognize this condition in university students of the Degree in Administration of the Technological of Superior Studies of Villa Guerrero, in the state of Mexico, same that, according to the recognition of three important elements such as: stressors, symptoms and coping strategies, it will be possible to diagnose the effects of this, during the health contingency, to propose alternatives to the management of academic stress in the school community.

## **Academic stress, Students, Administration**

### **Resumen**

La educación superior en México ostenta retos importantes, uno de ellos a enfrentar en un futuro casi inmediato, es la salud mental de su comunidad, tanto estudiantil como docente, encontrando en el estrés académico uno de los factores más importantes que la pandemia por COVID-19 ha dejado. El presente estudio permite reconocer este padecimiento en alumnos universitarios de la Licenciatura en Administración del Tecnológico de Estudios Superiores de Villa Guerrero, en el estado de México, mismo que, de acuerdo al reconocimiento de tres elementos importantes como son: los estresores, la sintomatología y las estrategias de afrontamiento se permitirá diagnosticar los efectos de este, durante la contingencia sanitaria, para proponer las alternativas del manejo del estrés académico en la comunidad escolar.

## **Estrés académico, Estudiantes, Administración**

### **1 Introduction**

The specialist in school psychology Yanning Calderón Pérez – A researcher at the National Autonomous University of Mexico, she explains that, as human beings, we develop in different social spheres, the main ones being: family, couple, school and work. In each of them we have different demands and when there is an excess of these, it is feasible the manifestation of stress, which is a natural response of the organism that has allowed us to survive because, she argues, it is the automatic response of the body to face situations that are threatening or challenging (Toche, 2019).

One of the most studied environments as a stress triggering medium is the school or academic environment, depending on the level of education (Roman and Hernández, 2011). Lloyd M. (cited in IISUE, 2020) in the article Education and Pandemic refers that the COVID-19 pandemic exposed educational inequalities in Mexico and other countries. The Mexican government and educational institutions have resorted to a variety of strategies with the help of technology in an attempt to continue providing education to more than 36 million children and adults in the country.

Despite this, the virtual form faces serious limitations, difficulties and ethical questions, especially regarding the equity of the model. Among the factors that condition access to quality online education are: social class, race, ethnicity, gender, geographic location and the type of educational institution to which they belong. (pp. 115), representing the scopes or limitations that students are part of at the time of a teaching-learning process.

Dussel, Ferrante y Pulfer (2020) The report presents different points of view on the effects of the pandemic on education in students, teachers and educational authorities, since it is possible to perceive the negative effects on mental health and the ways of interacting in children and young people, and on the other hand, the opportunity to reinvent the school and its old inertias that reflect the uncertainty of this fact never seen before: millions of people in isolation.

Therefore, it is of interest to study the context of the students of the Tecnológico de Estudios Superiores de Villa Guerrero. (TESVG), located in the State of Mexico, which has eight bachelor's degrees and approximately 1500 students in a rural context, considering for this study specifically the Bachelor's Degree in Administration, where the majority enrollment of this institution is located and in which the authors of this research are attached, the interest and concern about the symptoms that students have come to present in times of pandemic as a result of COVID 19, as well as the stressors that may be triggering them, and the coping strategies they have used, are the reasons for developing the present study through the application of the instrument adapted to the context of the COVID-19 crisis of the SISCO SV Academic Stress Inventory for University Students.

The importance of this research lies in the importance of the SISCO SV Academic Stress Inventory with its adaptation to the pandemic, applied to a sample of 177 students of the Bachelor's Degree in Administration of the TESSVG, which through a factor analysis with Stata software for information processing, will allow to obtain the stressors, symptoms and coping strategies for those students who have suffered from it, will allow obtaining the stressors, symptoms and coping strategies for those students who have suffered from it, thus providing alternatives for the management of academic stress in the student community, so that this study is part of the water for the diagnosis and establishment of a health education program.

This can be observed in the methodology section, while the results will show the development of the information processing in a synthesis of the results of the analysis of the most important factors rescued from Stata, it is worth mentioning that the statistical model obtained a validity through the KMO test, which will be described in the same section.

## **2 Literature Review**

To understand this research it is necessary to contextualize the time and place in which it is developed, as this has an impact on the results, for this reason reference will be made to the pandemic during 2020 and so far in 2021.

According to the portal provided by the Government of Mexico (2020) "The SARS-Cov-2 coronavirus is a virus that appeared in China. Then it spread to all continents of the world causing a pandemic. Currently Europe and America are the most affected". This new virus causes the disease known as COVID-19.

The COVID-19 pandemic unleashed a health event with worldwide repercussions, the population was forced to comply with mandatory social isolation as a radical measure to counteract the spread of the virus, in this context the education system is the one that underwent the most changes, implementing online education globally. (Alania R. et al., 2020).

The challenges that afflict the Mexican educational system are great, given that the conditions for developing distance learning are unequal and vary in relation to the role played by those involved.

### **Academic stress**

Over time we can find proposed concepts in stress, even some used interchangeably, such as the terms stress, anxiety, study worry or test anxiety, for academic stress according to Putwain (García-Ros, Pérez-González, Pérez-Blasco, & Natividad, 2012).

Starting from the types of stress, according to the nature of the condition, i.e., the place where it develops, we can find two: work stress, as it is triggered in the workplace, and academic stress, which is produced by the demands of the educational environment. However, the effects do not only fall on one figure; strictly speaking, it could affect both teachers - let us remember the problems of public speaking anxiety or the so-called Burnout syndrome or the stress reported by teachers in the approach to their teaching tasks - and students (Caldera, Pulido, and Martínez, 2007).

In the same way, it has been proposed to reserve the use of this term, academic stress, to designate the experience of higher grade students, using the terms teaching stress when analyzing the situation of teachers and school stress when talking about compulsory education levels (García-Ros, et al., 2012).

It is through this study that it is intended to know which are the stressors that most influence the presence of academic stress, since, having this information will allow improving the welfare of students and their academic performance, opting to apply strategies in favor of the results that result here, same that allow the student the use of efficient and adapted study techniques, for example, the practice of sports or recreational activities and the planning of time for hobbies and pastimes; and thus prevent the consequences or, if applicable, the adverse effects of academic stress (Ferrera and Bárcenas, 2016).

Arturo Barraza Macías, researcher at the Pedagogical University of Durango, pointed out that the main reasons why students get stressed are exams, surprise exams, homework overload and the teacher's character, (...) instead of promoting knowledge, it generates memory loss and learning difficulties (Miranda, 2019). To understand this work it is necessary to develop the following concepts: stressors, symptoms or symptomatology and coping strategies.

### **Academic stressors**

Stressors are any external or internal stimulus that, in an acute or chronic manner, can be perceived by the individual as important, dangerous or potentially capable of modifying his or her life, causing a destabilization in the equilibrium of the organism (Lucini and Pagani, 2012).

According to Osorio (2018) The demands that can give rise to stress are of two types:

- Internal Demands: those that we make to ourselves when we are very self-demanding, have high expectations of achievement, need to maintain control and strive for them, among others.
- External Demands: Those that our environment presents us with, such as having to hand in assignments and take tests and exams in a limited time; doing group work; presenting in front of the course (dissertations); not understanding the contents addressed in class; limited time for academic obligations, among others.

As mentioned by González L. (2020) in recent months the external sources of stress have intensified as a result of the COVID-19 pandemic, in this sense to obtaining good grades, passing exams and the level of demand of teachers, have been added others such as uncertainty due to isolation, the little coexistence, the concern generated by a possible contagion and to top it off, The fear of not having a good computer and resources to pay for the internet and stay connected to receive classes, including the limitations of telecommunications services, a very present issue in public schools and in students who are in rural communities, being able to fail or have a low grade for this fact is a source of stress.

### **Symptomatology of academic stress**

In relation to the symptomatology we can indicate that stress of academic origin has, like other types of stress, individual physical, behavioral and psychological manifestations, for the case of physical manifestations we find increased pulse rate, heart palpitations, increased perspiration and muscle tension in arms and legs, shortness of breath and grinding of teeth, sleep disorders, chronic fatigue, headache and digestion problems. On the other hand, frequent behavioral responses are: deterioration of performance, tendency to argue, isolation, listlessness, smoking, alcohol consumption or others, absenteeism, accident proneness, nervous gestures, increased or decreased appetite and increased or decreased sleep. Psychological responses include: restlessness, depression, anxiety, disturbance, inability to concentrate, irritability, loss of self-confidence, worry, difficulty in making decisions, recurrent thoughts and distractibility. (Suárez-Montes and Díaz-Subieta, 2015).

However, researchers (Alfonso, Calcines, Monteagudo, and Nieves, 2015), consider that physical discomforts are those that involve a reaction of the body itself, psychological ones have to do with the cognitive or emotional functions of the person, while in the behavioral ones are those that involve the conduct of the person for example arguing, isolation from others, absenteeism from classes, among others.

## Coping with stress

Coping according to Lazarus and Folkman, 1986, (as cited in Berrío N. and Mazo R. 2011) "Is the process through which the individual manages the demands of the individual-environment relationship that he or she evaluates as stressful and the emotions that this generates".

Some of the strategies that help both to prevent the chronification of stress and to cope with the manifestations in the burnout phase are as follows (Osorio, 2018):

- Plan and prioritize activities
- Deciding between different study techniques
- Eating healthy on a regular Schedule
- Engaging in sports or recreational activities
- Spending time on hobbies
- Maintain stable sleep cycles
- Seek help and share with others
- Practice relaxation and deep breathing
- Maintaining a sense of humor
- Strive to maintain calm and tranquility

When a person suffers stress, in this case academic stress, we can find as already mentioned the stressors, symptoms and coping strategies, however, it is also important to study the alternatives that exist after a person suffers this type of situation, so we will address some of them. Due to the pandemic experienced in the year 2020 and until 2021, there has been an increase in research that relates stress in a general way to the concept of resilience, which we will develop below.

According to Uriarte J. (2005) in his article "Resilience. A new perspective in developmental psychopathology", he mentions that resilience is understood as the process that allows certain individuals to develop normally and in harmony with their environment despite living in a disadvantaged and socioculturally deprived context and despite having experienced conflictive situations since childhood.

Thus, resilience has embedded a different vision in the field of education by relying more on the strength of people and their ability to make positive changes, aimed at the capacity for personal and social adjustment despite developing in an unfavorable context and having had traumatic experiences is what defines the resilient personality.

In other considerations we can contribute that there are studies that refer to strategies to develop skills as an alternative in the management of stress in university students. In the words of Sierra L., Pérez A. and Rodríguez Y. (2017) Stress management skills are defined as a "system of psychic and practical activities, necessary for the conscious regulation of the activity and contents on stress management". The development of these skills should ensure that trainees personalize the values linked to a harmonious and healthy life as part of health education in educational systems, which has an immediate impact on the quality of life at the university level. This proposal indicates that universities would be in charge of designing these strategies to the extent that they recognize the needs of students and teachers, encouraging the observation of stress behavior, the identification and sources of stress and the diagnosis of its level, allowing the application of cognitive and behavioral techniques for stress management, helping to promote and disseminate health education.

In this sense, there is a need to recognize these three elements in the students of TESVG's Bachelor's Degree in Administration in order to implement alternatives for the benefit of the school community. Although, as already mentioned, the SISCO SV Academic Stress Inventory adapted to the context of the crisis by COVID - 19 was used as an instrument for this study, what will provide us with the answers is the factorial analysis with the Stata program.

## Methodology

The general objective of this research is to determine the physical, psychological and behavioral reactions, as well as the academic situations that affect the students of the Bachelor's Degree in Administration of the TESVG, and the strategies they use to face them through factorial analysis using the SISCO SV Academic Stress Inventory adapted to the context of the crisis by COVID - 19.

A population of 326 students enrolled in the period September 2020 - February 2021, belonging from the second to the eighth semester, of which 177 students were sampled by stratified random sampling.

Likewise, the research is quantitative, with a non-experimental, cross-sectional design, using as a technique the digital survey, through Google forms, with a Likert-type scale instrument which is the SISCO SV Inventory Adapted to the context of the crisis by COVID - 19 (Bazarrá & Silerio, 2007).

It is worth mentioning that, for this study, the demographic variables are not conditional; however, for the application of this instrument they were not evaluated, while the participation of students from the TESVG undergraduate program in Administration was controlled.

On the other hand, for the processing of the information, Stata was used to perform factor analysis, which is mainly used for data reduction purposes. In addition, it allows obtaining a small set of variables (preferably uncorrelated) from a large set of variables (most of which are correlated with each other). To create indexes with variables that measure (conceptually) similar things. There are two types of factor analysis:

- Exploratory It is exploratory when the study has no predefined idea of the structure or how many dimensions there are in a set of variables.
- Confirmatory. It is confirmatory when you want to test specific hypotheses about the structure or number of dimensions underlying a set of variables (i.e., in your data you may think there are two dimensions and you want to verify this). Two types of factor analysis

Exploratory analysis was used in this study, in this sense the main intention of factor analysis is to determine the number and nature of the latent variables or factors that explain the variation and covariation among a set of observed measures, commonly known as indicators.

## Results

Once the information obtained from the application of the Academic Stress Inventory SISCO SV Adapted to the context of the crisis by COVID - 19 was processed, the factorial analysis was continued with the Stata program, registering terms in English -which naturally result from the use of this program and which can be observed in that language-, in this sense the data obtained are the following:

### Test KMO

**Table 7.1** KMO test for all questions. Kaiser-Meyer-Olkin measure of sampling adequacy

Variable / KMO	Variable / KMO	Variable / KMO	Variable / KMO	Variable / KMO	Variable / KMO
p1   0.9454	p9   0.9050	p17   0.8628	p25   0.9433	p33   0.8706	p41   0.9159
p2   0.9077	p10   0.9104	p18   0.8852	p26   0.9295	p34   0.8496	p42   0.8626
p3   0.9177	p11   0.8872	p19   0.8907	p27   0.9271	p35   0.8674	p43   0.8859
p4   0.8884	p12   0.9117	p20   0.9217	p28   0.8975	p36   0.8343	p44   0.8221
p5   0.8574	p13   0.9066	p21   0.8531	p29   0.9333	p37   0.8899	p45   0.8918
p6   0.9214	p14   0.8431	p22   0.8701	p30   0.9396	p38   0.7901	p46   0.9022
p7   0.8966	p15   0.8481	p23   0.8808	p31   0.9357	p39   0.8048	p47   0.8317
p8   0.9031	p16   0.9076	p24   0.8651	p32   0.8987	p40   0.9060	p48   0.4999
					Overall   0.8894

Source: Retrieved from Stata

The KMO test is a measure of the adequacy of the data for factor analysis. The test measures the sampling adequacy for each variable in the model and for the full model. The statistic is a measure of the proportion of variance between the variables in the model and for the full model. The statistic is a measure of proportion of variance between variables that could be common variance. The lower the proportion, the more suitable the data are for factor analysis. The KMO test returns values between 0 and 1. A rule of thumb for interpreting the statistic: KMO values between 0.9 and 1 indicate that the sampling is excellent.

In this study, the following questions were asked: p1, p2, p3, p4, p6, p7, p8, p9, p10, p12, p13, p16, p20, p25, p26, p27, p29, p30, p31, p40, p41 and p46; because they presented the highest KMO value. The complete sample has an average KMO of 0.89 (See Table 7.1).

### Three-factor analysis

test scale = mean (unstandardized items)

### Cronbach's alpha. Using all questions

Average interitem covariance: 0.7697543

Number of items in the scale: 25

Scale reliability coefficient: **0.9338**

**Table 7.2** Correlation in the factor analysis

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	9.68867	7.39199	0.6396	0.6396
Factor2	2.29668	0.42754	0.1516	0.7912
Factor3	1.86913	1.21763	0.1234	0.9146
Factor4	0.65150	0.18315	0.0430	0.9576
Factor5	0.46835	0.10003	0.0309	0.9885
Factor6	0.36833	0.05655	0.0243	1.0128
Factor7	0.31178	0.09899	0.0206	1.0334
Factor8	0.21278	0.05377	0.0140	1.0475
Factor9	0.15902	0.02996	0.0105	1.0580
Factor10	0.12906	0.01452	0.0085	1.0665
Factor11	0.11454	0.02676	0.0076	1.0740
Factor12	0.08778	0.03631	0.0058	1.0798
Factor13	0.05147	0.03789	0.0034	1.0832
Factor14	0.01358	0.01565	0.0009	1.0841
Factor15	-0.00207	0.04153	-0.0001	1.0840
Factor16	-0.04360	0.01782	-0.0029	1.0811
Factor17	-0.06142	0.02226	-0.0041	1.0771
Factor18	-0.08368	0.02319	-0.0055	1.0715
Factor19	-0.10687	0.00963	-0.0071	1.0645
Factor20	-0.11650	0.00942	-0.0077	1.0568
Factor21	-0.12592	0.02356	-0.0083	1.0485
Factor22	-0.14949	0.00827	-0.0099	1.0386
Factor23	-0.15776	0.04658	-0.0104	1.0282
Factor24	-0.20434	0.01837	-0.0135	1.0147
Factor25	-0.22271	---	-0.0147	1.0000
LR test: independent vs. saturated: $\chi^2(300) = 2823.45$ Prob> $\chi^2 = 0.0000$				

Source: Retrieved from Stata

In the correlation test for factor analysis, the Kaiser-Meyer-Olkin criterion suggests retaining only those factors with Eigen values (principal values) greater than or equal to one, in this study we will retain three factors (factor 1, factor 2 and factor 3 with principal values of 9.7, 2.3 and 1.9, respectively). (See Table 7.2).

**Table 7.3** Factor loadings (pattern matrix) and unique variance

Variable	Factor1	Factor2	Factor3	Uniqueness
p1	0.5081	-0.0478	-0.2993	0.6500
p2	0.5584	-0.1259	0.0634	0.6684
p3	0.6612	-0.0887	0.1565	0.5305
p4	0.6568	-0.1648	0.1696	0.5127
p6	0.7414	-0.2604	0.3064	0.2885
p7	0.6522	-0.2263	0.4478	0.3229
p8	0.6756	-0.2242	0.2005	0.4531
p9	0.5973	-0.2383	0.1240	0.5711
p10	0.7736	-0.0733	0.1889	0.3605
p11	0.7955	-0.1973	0.1562	0.3039
p12	0.6324	-0.2263	0.1173	0.5351
p13	0.7059	-0.1566	0.2154	0.4307
p16	0.6674	-0.0472	0.1483	0.5304
p20	0.5702	0.0426	-0.2488	0.6112
p25	0.6748	0.0698	-0.3065	0.4458
p26	0.6585	-0.0340	-0.2596	0.4978
p27	0.7331	0.0999	-0.3933	0.2979
p28	0.6897	0.1535	-0.4458	0.3020
p29	0.6591	0.1291	-0.3806	0.4040
p30	0.6495	0.1566	-0.3247	0.4482
p31	0.5832	0.1555	-0.3397	0.5203
p32	0.3251	0.4156	0.1568	0.6970
p40	0.3173	0.7643	0.2002	0.2751
p41	0.3422	0.7661	0.2818	0.2165
p46	0.3742	0.6668	0.3789	0.2718

Source: Retrieved from Stata

Factor loadings are part of the output of factor analysis, which serves as a data reduction method designed to explain correlations between observed variables using a smaller number of factors. Before running factor analysis, factor loadings should be rotated to obtain a clearer pattern.

## Rotation

**Table 7.4** Factor analysis by principal components method

Factor	Variance	Difference	Proportion	Cumulative
Factor 1	6.76841	1.19114	0.2603	0.2603
Factor 2	5.57728	2.56340	0.2145	0.4748
Factor 3	3.01388	---	0.1159	<b>0.5908</b>
Factor analysis/correlation				Number of obs = 177
Method: principal-component factors				Retained factors = 3
Rotation: orthogonal varimax (Horst off)				Number of params = 75
LR test: independent vs. saturated: $\chi^2(325) = 2945.38$				Prob> $\chi^2 = 0.0000$

Source: Retrieved from Stata

The factorial rotation aims to select the simplest and most interpretable solution. In short, it consists of rotating the coordinate axes, which represent the factors, until they are as close as possible to the variables in which they are saturated. Each variable should not be saturated in more than one factor. In Table 7.4, the three factors explain 59% of the total observed variance.



**Table 7.5** Rotated factors and communalities. Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness	Comunalidades (1-Uniq)
p1	0.2479	0.5309	0.0398	0.6551	0.34
p2	0.4963	0.2823	0.0553	0.6709	0.33
p3	0.6239	0.2694	0.1207	0.5236	0.48
p4	0.6127	0.2904	0.0796	0.5340	0.47
p6	0.8161	0.2031	0.0595	0.2893	0.71
p7	0.8195	0.0410	0.1299	0.3098	0.69
p8	0.6756	0.2589	0.0579	0.4732	0.53
p9	0.5923	0.2424	0.0054	0.5904	0.41
p10	0.7055	0.3269	0.1836	0.3617	0.64
p11	0.7493	0.3484	0.0837	0.3101	0.69
p12	0.6169	0.2852	0.0028	0.5381	0.47
p13	0.6854	0.2816	0.1170	0.4372	0.56
p16	0.5617	0.3220	0.1798	0.5485	0.45
p20	0.2635	0.5587	0.0804	0.6120	0.35
p25	0.3175	0.6393	0.1147	0.4773	0.52
p26	0.3588	0.5847	0.0502	0.5269	0.47
p27	0.2749	0.8040	0.1189	0.2639	0.74
p28	0.1890	0.8201	0.1395	0.2722	0.73
p29	0.2313	0.7229	0.1326	0.4064	0.60
p30	0.2336	0.6734	0.1666	0.4641	0.54
p31	0.1991	0.6192	0.1571	0.5523	0.45
p32	0.1459	0.1557	0.4740	0.7298	0.27
p40	0.0239	0.1457	0.8436	0.2665	0.73
p41	0.0637	0.1209	0.9104	0.1526	0.85
p46	0.1896	0.0504	0.8190	0.2908	0.71

Source: Retrieved from Stata

Table 7.5 shows the values that the simple variables have in common in relation to all the factors, as well as the percentage of variation of the questions explained by the factors. A relatively high value in the communalities indicates that the variable has much more in common in reference to the other variables taken in the groups. Also, in Table 7.6, it can be observed that question 41 has the highest communality and question 32 the lowest.

Factor 1 is defined by questions 6, 7, 10 and 11. Factor 2 is defined by questions 27, 28 and 29 and factor 3 is defined by questions 40, 41 and 46; because they present the highest values: (0.82, 0.82, 0.71, 0.75, 0.80, 0.82, 0.72, 0.84, 0.91 and 0.92); respectively.

### Factor rotation matrix

**Table 7. 6** Factor rotation matrix

	Factor1	Factor2	Factor3
Factor1	0.6959	0.6189	0.3642
Factor2	0.3573	-0.1415	0.9232
Factor3	0.6229	0.7726	0.1227

Source: Retrieved from Stata

## Prediction

**Table 7.7** Scoring coefficients (method = regression; based on varimax rotated factors)

Variable	Factor1	Factor2	Factor3
p1	-0.04148	0.15472	-0.07017
p2	0.07956	0.00634	-0.02334
p3	0.09092	-0.00844	0.01601
p4	0.11673	-0.02875	-0.00942
p6	0.15577	-0.05963	-0.01666
p7	0.18336	-0.11728	0.01817
p8	0.13516	-0.03989	-0.02716
p9	0.10348	-0.00679	-0.05179
p10	0.09959	-0.00741	0.02869
p11	0.11258	-0.00042	-0.02106
p12	0.10784	-0.00761	-0.04707
p13	0.13011	-0.04066	0.00211
p14	0.15719	-0.09598	-0.00780
p16	0.09722	-0.01874	0.02994
p20	0.03091	0.13201	-0.01772
p25	0.04330	0.16088	-0.01594
p26	0.02381	0.14613	-0.04610
p27	0.05289	0.17883	-0.01470
p28	0.07449	0.19316	-0.00552
p29	0.07217	0.18712	-0.00644
p30	0.06050	0.16486	0.01498
p31	0.08070	0.18076	0.00667
p32	0.00377	-0.02692	0.21958
p40	0.05453	-0.00910	0.31586
p41	0.03251	-0.03543	0.32785
p46	0.00450	-0.06966	0.31918

*Source: Retrieved from Stata*

$$F1 = 0.16 P6 + 0.18 P7 + 0.10 p10 + 0.11 P11$$

$$F2 = 0.18 P27 + 0.19 P28 + 0.19 P29$$

$$F3 = 0.32 P40 + 0.32 P41 + 0.32 P46$$

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## Conclusions

Once the model has been validated and the analysis of the results obtained, we can conclude, according to the factors considered in the Academic Stress Inventory SISCO SV Adapted to the context of the crisis by COVID - 19, the following aspects. In the first place, regarding Factor 1 referring to the Stressors Dimension, those that most affect the students of the Bachelor's Degree in Administration of the TESVG were: p6 (Question 6. The type of work that my professors ask me to do (analysis of readings, projects, essays, conceptual maps, recordings, exercises and problems, internet searches, etc.), p7 (Question 7.)), p7 (Question 7. Being taught by very theoretical professors), p10 (Question 10. The performance of exams, practical or application work) and p11 (Question 11.)

With respect to Factor 2, corresponding to the Symptom Dimension, the factors resulting from the factor analysis that stand out in the students are: p27 (Question 27. Conflicts or tendency to polemicize, contradict, argue or fight), p28 (Question 28. Isolation from others) and p29 (Question 29. Unwillingness to do academic work).

Finally, in Factor 3, Coping Strategies Dimension, the factors obtained correspond to: p40 (Question 40. Evaluate the positive and negative aspects of my proposals in a stressful situation), p41 (Question 41. Maintain control over my emotions so that what stresses me does not affect me) and p46 (Question 46. Surfing the Internet).

In sum, students present academic stress factors typical of student life at a higher level, however, it is not superfluous to consider strategies to reduce the effects of study activities, thus ensuring that their performance is not affected and the interest in studying is limited due to the reluctance shown by students. This aspect obtained as a result in the Inventory, in addition to the fact that a coping strategy they use is surfing the Internet, however, this may be another cause of lack of concentration or reluctance to study or as part of a prediction for further study; In addition, even interpersonal relationships may be affected, due to the tendency to polemicize or isolation that may occur due to stress. However, it could be considered as favorable aspects, that they evaluate the positive and negative aspects of a stressful situation, and maintain control over their emotions, allowing at some point to intervene from the position and interest of the educational institution with a proposal of alternative management of academic stress.

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