

## **Anxiety and aggressiveness in Peruvian postgraduate students in COVID-19 context**

<sup>1</sup>Nancy Isabel Herrera Paico <sup>2</sup>Sanchez Diaz Sebastian <sup>3</sup>Juan Méndez Vergaray <sup>4</sup>Edith Gissela Rivera Arellano <sup>5</sup>Enaidy Reynosa Navarro

<sup>1,2,3,4,5</sup>Universidad César Vallejo, Perú

email: nherrera2610@gmail.com

### **ABSTRACT**

*The objective of this work was to determine the level of anxiety and aggressiveness in graduate students from a private university in Lima; likewise, establish the level of association between the variables under study in the COVID-19 context. Methodology: quantitative approach, non-experimental descriptive cross-sectional design; population made up of 378 graduate students from the César Vallejo University (San Juan de Lurigancho, Lima-Peru Campus). Non-probabilistic sample of 203 doctoral students from the mentioned university. The instrument used to measure state anxiety and trait anxiety was the STAI "State-trait Anxiety inventory" and the Buss and Perry aggressiveness questionnaire (AQ). Results: 84.7% of the participants presented a high level of state anxiety, while 44.3% presented a trait anxiety above the average; on the other hand, 60.6% showed a low level of aggressiveness. The Chi-squared test showed a significant association between the variable state anxiety and aggressiveness at a confidence level of  $p = 0.008 < 0.05$ ; Likewise, the association between trait anxiety and aggressiveness showed a confidence level of  $p = 0.009 < 0.05$ . Conclusions: As a consequence of the confinement caused by COVID-19, the levels of state anxiety and trait anxiety increased, which is probably associated with the increase in aggressiveness in its different variants.*

*Palabras clave: Anxiety; aggressiveness; postgraduate; COVID-19*

### **INTRODUCTION**

COVID-19 spread around the world very quickly, which is why on March 11, 2019 it was declared a pandemic by the World Health Organization (WHO) [1]. So far, the results of the pandemic are many losses of humans worldwide [2] and material resources of all kinds; reasons why states of health emergency, quarantines and prolonged confinement have been declared around the world. However, COVID-19 has not only caused deaths around the world, it has also impacted on people's mental health, generating high levels of stress, anxiety and depression as a result of the confinement process [3]; [4]; [5].

In Latin America, COVID-19 spread at a time of weakness and vulnerability, both micro and macroeconomic, showing rates of economic slowdown from 6% to 0.2% [6]. Furthermore, as the pandemic spread in the Latin American region, its health, economic and social impact was increasingly evident; generating drastic decisions in the work

structure that directly affected people's purchasing [7]. Similarly, COVID-19 not only affected the economy, but also the physical and mental health of people, as a consequence of the sudden confinement [8].

In Peru, recent research, related to the subject in question, warns that stress reached a high level in 89.4% of the population; anxiety, a high level in 94.2%; anxiety a high level in 92.3%. Regarding resilience, a medium-high level was evidenced in 60.9% of the participants [9]. Also, a high level of reaction related to anger and fear in the presence of COVID-19 was demonstrated [10]. A sector strongly affected by the pandemic in Peru is education, which has caused around one million 895 907 university students to be affected in their studies [11]. Faced with this situation, it is important to carry out studies related to mental health in the field of higher education and thus evaluate the psychological impact on university students in the current pandemic context.

It should be noted that education has also been affected by this disruptive situation that led educational agents from a face-to-face situation to a remote one, generating difficulties in this new scenario. In this regard, students had to make adaptations to the new way of learning that generated stress and difficulties in academic performance [12], this reality also generated in students and teachers a new challenge to use with efficiency digital tools and innovate teaching-learning strategies [13].

The present study considers the anxiety constructs in its two dimensions: trait and state. Anxiety/state is conceptualized as a temporary emotional state or condition, characterized by subjective feelings, consciously perceived, of tension and apprehension, as well as by a hyperactivity of the autonomic nervous system, it fluctuates in intensity; Likewise, trait anxiety is conceptualized as the anxious propensity for which subjects differ in their tendency to perceive situations as threatening and to raise, consequently, their anxiety/state [14].

Aggression and violence as a consequence of the pandemic has been one of the issues that has generated great concern for researchers. Therefore, it seeks to balance good relationships between family members, to perform remote work since work activities have moved home [7]. On the other hand, aggression or aggressive behavior is an external, open, objective and observable action, which has been defined with different formulations. Within the categories of aggressiveness are considered: physical, verbal, hostility and anger [15].

The objective of this study was to determine the level of anxiety and aggressiveness in graduate students of the César Vallejo University (San Juan de Lurigancho, Lima-Peru Campus); likewise, establish the level of association between the variables in the COVID-19 context; It is argued that trait anxiety and state anxiety are associated with high levels of aggressiveness.

## **METHODOLOGY**

Quantitative approach study, non-experimental descriptive cross-sectional design. The population was 378 students from four doctoral programs at the César Vallejo University (San Juan de Lurigancho, Lima-Peru Campus). Probabilistic convenience sample of 203 students, according to the formula for finite populations:

$$n = \frac{z^2 pq N}{e^2(N-1) + z^2 pq}$$

Inclusion criteria: only the responses of graduate-level students from the César Vallejo University (San Juan de Lurigancho, Lima-Peru Campus) who freely and voluntarily agreed to take part in the research were taken into account. Exclusion criteria: the participation of those students who did not accredit being graduate level students of the aforementioned institution or who declined to participate in the study was rejected.

The instruments used to measure the psychological constructs, reason for study were: (a) inventory "State-trait Anxiety inventory" STAI, which consists of 20 items for state anxiety whose responses correspond to the ordinal scale nothing = 0, something = 1, quite a lot = 2, a lot = 3 and 20 items for trait anxiety that should be answered with almost never = 0, sometimes = 1, often = 2 and almost always = 3 [14], on the other hand, to measure aggressiveness, the AQ questionnaire by Buss and Perry was used, adapted in Peru [15], which consists of 29 Likert-type items, sized into four categories: physical aggressiveness, verbal aggressiveness, anger and hostility; whose answer alternatives are: completely false = 1, quite false for me = 2, neither true nor false for me = 3, quite true for me = 4, completely true for me = 5. The instrument application procedure was through Google Forms. The data were processed using the SPSS v.25 statistical program, which allowed obtaining the association results of the variables through the Chi-squared test.

Participation in the research was strictly voluntary, with the informed consent of the students who took part; Furthermore, anonymity was guaranteed, as well as the use of the information collected for strict research purposes.

## RESULTS

Table 1. Association between state anxiety and aggressiveness

			Aggressiveness			Total
			Low	Average	High	
State anxiety	Above average	Count	26	0	5	31
		% of the total	12,8%	0,0%	2,5%	15,3%
	High	Count	97	28	47	172
		% of the total	47,8%	13,8%	23,2%	84,7%
Total		Count	123	28	52	203
		% of the total	60,6%	13,8%	25,6%	100,0%

It is observed that 84.7% of those surveyed have a high level of state anxiety, while 15.3% are above the average. In addition, 60.6% showed a low level of aggressiveness, 25.6% a high level of aggressiveness and 13.8% an average level of aggressiveness. Of the 172 participants who show high state anxiety, 47.8% show a low level of aggressiveness, 23.2% are associated with a high level of aggressiveness and 13.8% associated with an average level of aggressiveness. Of the 31 participants with a low level of state anxiety: 12.8% were associated with a low level of aggressiveness and 2.5% with a high level of aggressiveness. The association test of Chi-squared = 9, 604 (2) with a p value = 0.008 < 0.05, shows a significant association between the variables state anxiety and aggressiveness.

Table 2. Association between trait anxiety and aggressiveness

			Aggressiveness			Total	
			Low	Average	High		
Trait Anxiety	Low	Count	33	10	9	52	
		% of the total	16,3%	4,9%	4,4%	25,6%	
	Trend to average	Count	20	8	13	41	
		% of the total	9,9%	3,9%	6,4%	20,2%	
	Above average	Count	62	4	24	90	
		% of the total	30,5%	2,0%	11,8%	44,3%	
	High	Count	8	6	6	20	
		% of the total	3,9%	3,0%	3,0%	9,9%	
	Total		Count	123	28	52	203
			% of the total	60,6%	13,8%	25,6%	100,0%

Of the 203 participants, 44.3% showed above average trait anxiety, 25.6% low trait anxiety, 20.2% trend to average and 9.9% low trait anxiety. Of the 90 respondents who are at an above-average level of anxiety, 30.5% show a low level of aggressiveness, 11.8% present a high level of aggressiveness, and 2.0% an average level of aggressiveness. Of the 50 respondents who are located in a low level of trait anxiety: 16.3% present low aggressiveness, 4.9% present medium aggressiveness and 4.4% high aggressiveness. Of the 41 participants who showed a level of trait anxiety with a tendency to the average: 9.9% present low aggressiveness, 6.4% present high aggressiveness and 3.9% average aggressiveness. Of the 20 participants who are located in a level of trait anxiety with a tendency to a high level, 3.9% present high aggressiveness, 3% present medium aggressiveness and 3% present low aggressiveness. The association test of Chi-squared = 17,229 (6) with a p value of 0.009 <0.05, consequently, a significant association is evidenced between the variables trait anxiety and aggressiveness.

Table 3. Contingency for the association between state anxiety and physical aggressiveness

			Physical Aggression			Total
			Low	Average	High	
State anxiety	Above average	Count	22	4	5	31
		% of the total	10,8%	2,0%	2,5%	15,3%
	High	Count	76	41	55	172
		% of the total	37,4%	20,2%	27,1%	84,7%
Total		Count	98	45	60	203
		% of the total	48,3%	22,2%	29,6%	100,0%

Of the 203 participants, 48.3% showed low physical aggressiveness, 22.2% average physical aggressiveness, and 29.6% high physical aggressiveness. In addition, 84.7% showed high state anxiety and 15.3% state anxiety above the average. Of the 172 respondents who are located in a high state anxiety level, 37.4% present low physical aggressiveness, 27.1% present high physical aggressiveness and 20.2% present average physical aggressiveness. Of the 31 participants who are at an above-average level of state anxiety, 10.8% present low physical aggressiveness, 2% present average physical aggressiveness and 2.5% high. The association test shows a Chi-squared = 7.551 (2)

with a p value of 0.023 <0.05, consequently, it is evidenced that the variables have a significant association.

Table 4. Association between state anxiety and verbal aggressiveness

			Verbal Aggression			Total
			Low	Average	High	
State anxiety	Above average	Count	26	0	5	31
		% del total	12,8%	0,0%	2,5%	15,3%
	High	Count	125	26	21	172
		% del total	61,6%	12,8%	10,3%	84,7%
Total		Count	151	26	26	203
		% del total	74,4%	12,8%	12,8%	100,0%

Of the 203 participants, 74.4% (151) showed low verbal aggressiveness, 12.8% (26) average verbal aggressiveness and 12.8% (26) high verbal aggressiveness. Of the 172 (84.7%) participants who are located in a high state anxiety level, 61.6% present low verbal aggressiveness, 12.8% present average verbal aggressiveness and 10.3% present high verbal aggressiveness. Of the 31 (15.3%) participants who are at an above-average level of state anxiety, 12.8% present low verbal aggressiveness and 2.5% present high verbal aggressiveness. The association test shows a Chi-squared = 5.544 (2) with a p value = 0.066 > 0.05, consequently, it was evidenced that the variables are independent; therefore, there is no association between the two.

Table 5. Contingency for the association between state anxiety and anger

			Anger			Total
			Low	Average	High	
State anxiety	Above average	Count	22	4	5	31
		% del total	10,8%	2,0%	2,5%	15,3%
	High	Count	93	26	53	172
		% del total	45,8%	12,8%	26,1%	84,7%
Total		Count	Count	30	58	203
		% del total	56,7%	14,8%	28,6%	100,0%

Of the 203 participants, 56.7% showed low anger, 14.8% anger within the average and 28.6% high level of anger. Of the 172 (84.7%) participants who are located in a high state anxiety level, 45.8% present a low level of anger, 26.1% present a high level of anger and 12.8% an average level of anger. Of the 31 (15.3%) participants who are at an above-average level of anxiety, 10.8% have a low level of anger, 2% have an average level of anger and 2.5% have a high level of anger. The association test shows a Chi-squared = 4.429 (2) with a p value of 0.109 > 0.05, consequently, it is evidenced that the variables are independent, there is no association between the two.

Table 6. Contingency for the association between state anxiety and hostility

			Hostility			Total
			Low	Average	High	
State anxiety	Above average	Count	24	2	5	31
		% del total	11,8%	1,0%	2,5%	15,3%
	High	Count	83	30	59	172
		% del total	40,9%	14,8%	29,1%	84,7%
Total		Count	Count	32	64	203
		% del total	% del total	15,8%	31,5%	100,0%

Of the 203 participants, 52.7% showed low hostility, 15.8% average hostility, and 31.5% high hostility. Of the 172 (84.7%) participants who present a high level of state anxiety; 40.9% show low hostility, 29.1% high hostility, 14.8% average hostility. Of the 31 (15.3%) respondents who present an above-average level of state anxiety, 11.8% show low hostility, 2.5% high hostility, and 1% average hostility. The association test showed a Chi-squared = 9,002 (2) with a p value of 0.011 <0.05, consequently, it is evidenced that the variables have a significant association.

Table 7. Contingency for the association between trait anxiety and physical aggressiveness

			Physical Aggression			Total
			Low	Average	High	
Trait Anxiety	Bajo	Count	30	11	11	52
		% del total	14,8%	5,4%	5,4%	25,6%
	Trend to average	Count	18	6	17	41
		% del total	8,9%	3,0%	8,4%	20,2%
	Above average	Count	40	24	26	90
		% del total	19,7%	11,8%	12,8%	44,3%
	High	Count	10	4	6	20
		% del total	4,9%	2,0%	3,0%	9,9%
Total		Count	98	45	60	203
		% del total	48,3%	22,2%	29,6%	100,0%

Of the 90 (44.3%) participants who present a level of trait anxiety above the average; 19.7% show low physical aggressiveness, 12.8% high physical aggressiveness and 11.8% average physical aggressiveness. Of the 52 (25.6%) surveyed who present a low level of anxiety; 14.8% show low physical aggressiveness, 5.4% average physical aggressiveness and 5.4% high physical aggressiveness. Of the 41 (20.2%) surveyed who present a level of trait anxiety with a tendency to average, 8.9% present low physical aggressiveness, 8.4% high physical aggressiveness and 3% average physical aggressiveness. Of the 20 (9.9%) surveyed who present a high level of trait anxiety; 4.9% show low physical aggressiveness, 3% high physical aggressiveness and 2% average physical aggressiveness. The association test showed a Chi-squared = 6.732 (6) with a p value of 0.346 > 0.05, consequently, it is evidenced that the variables are independent; therefore, it is assumed that there is no association between the two.

Table 8. Contingency for the association between trait anxiety and verbal aggressiveness

			Verbal Aggression			Total
			Low	Average	High	
Trait Anxiety	Bajo	Count	43	4	5	52
		% del total	21,2%	2,0%	2,5%	25,6%
	Trend to average	Count	26	6	9	41
		% del total	12,8%	3,0%	4,4%	20,2%
	Above average	Count	68	10	12	90
		% del total	33,5%	4,9%	5,9%	44,3%
	High	Count	14	6	0	20
		% del total	6,9%	3,0%	0,0%	9,9%
Total		Count	151	26	26	203
		% del total	74,4%	12,8%	12,8%	100,0%

Of the 90 (44.3%) participants who present a level of trait anxiety above the average; 33.5% show low verbal aggressiveness, 5.9% high verbal aggressiveness and 4.9% average verbal aggressiveness. Of the 52 (25.6%) surveyed who present a low level of trait anxiety; 21.2% show low verbal aggressiveness, 2% average verbal aggressiveness and 2.5% high verbal aggressiveness. Of the 41 (20.2%) respondents who present a level of trait anxiety with a tendency to the average; 12.8% show a low level of verbal aggressiveness, 4.4% high verbal aggressiveness and 3% average verbal aggressiveness. Of the 20 (9.9%) surveyed who present a high level of trait anxiety; 6.9% show low verbal aggressiveness, 3% average verbal aggressiveness. The association test showed a Chi-squared = 12.2872 (6), with a p value of 0.045 < 0.05; consequently, it is evidenced that the variables have a significant association.

Table 9. Contingency for the association between trait anxiety and anger

			Anger			Total
			Low	Average	High	
Trait Anxiety	Bajo	Count	33	10	9	52
		% del total	16,3%	4,9%	4,4%	25,6%
	Trend to average	Count	20	6	15	41
		% del total	9,9%	3,0%	7,4%	20,2%
	Above average	Count	52	12	26	90
		% del total	25,6%	5,9%	12,8%	44,3%
	High	Count	10	2	8	20
		% del total	4,9%	1,0%	3,9%	9,9%
Total		Count	115	30	58	203
		% del total	56,7%	14,8%	28,6%	100,0%

Of the 90 (44.3%) participants who present a level of trait anxiety above the average; 25.6% show a low anger level, 12.8% a high anger level, and 5.9% an average anger level. Of the 52 (25.6%) participants who present a low level of anxiety; 16.3% show a low level of anger, 4.9% an average level of anger and 4.4% a high level of anger. Of the 41 (20.2%) surveyed who present a level of trait anxiety with a tendency to average; 9.9% show a low anger level, 7.4% high anger level and 3% average anger level. Of the 20 (9.9%) participants who present a high level of trait anxiety; 4.9% show a low anger level, 3.9% high anger level and 1% average anger level. The association test showed a Chi-squared = 6.633 (6) with a p value of 0.387 > 0.05, consequently, it is evidenced that the variables are independent, there is no association between the two.

Table 10. Contingency for the association between trait anxiety and hostility

			Hostility			Total
			Low	Average	High	
Trait Status	High	Count	33	4	15	52
		% del total	16,3%	2,0%	7,4%	25,6%
	Trend to average	Count	16	10	15	41
		% del total	7,9%	4,9%	7,4%	20,2%
	Above average	Count	50	16	24	90
		% del total	24,6%	7,9%	11,8%	44,3%
	High	Count	8	2	10	20
		% del total	3,9%	1,0%	4,9%	9,9%
Total		Count	107	32	64	203

	<b>% del total</b>	<b>52,7%</b>	<b>15,8%</b>	<b>31,5%</b>	<b>100,0%</b>
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Of the 90 (44.3%) participants who present a level of trait anxiety above the average; 24.6% show a low hostility level, 11.8% high hostility level, and 7.9% average hostility level. Of the 52 (25.6%) participants who present a low level of anxiety; 16.3% show a low hostility level, 7.4% a high hostility level and 2% an average hostility level. Of the 41 (20.2%) respondents who present a level of trait anxiety with an average tendency, 7.9% show a low level of hostility, 7.4% show a high level of hostility and 4.9% show an average hostility level. Of the 20 (9.9%) surveyed who present a high level of trait anxiety; 4.9% show a high level of hostility, 3.9% a low level of hostility and 1% an average level of hostility. The association test showed a Chi-squared = 11.377 (6) with a p value of  $0.077 > 0.05$ , consequently, it is evidenced that the variables are independent, there is no association between both.

## DISCUSIÓN

State anxiety occurs in university students at a high level and can be derived as a product of confinement and should be considered as normal responses to an adaptive pandemic situation experienced by millions of citizens [16]. Faced with a stressful situation related to a pandemic and confinement; Added to this, critical events such as illness and death of a family member or friend due to COVID-19, increases anxiety levels and in turn influences academic results in university students [17].

On the other hand, the students present as a permanent trait a level of trait anxiety above the average; It is worth mentioning that trait anxiety is the permanent latent state that all people have at a low, medium or high level of anxiety; which is enhanced in threatening situations, triggering inappropriate behaviors [14]; This emotional state was affected by confinement due to COVID-19, which caused an increase in psychological and mental problems, due to the fact that people are isolated, in the absence of communication and of relating to their peers, causing depression and anxiety and this situation is even worse when the availability of a timely psychological intervention is reduced in this pandemic situation [3]. As a palliative, meditation-based training can effectively mitigate the negative psychological consequences that people go through, especially the most vulnerable, and thus protect and promote their mental health [18].

The results referring to state anxiety and trait anxiety in university students are due to the fact that both states of anxiety are affected in this prolonged confinement; that is, the affective and emotional conditions of the human being are affected, due to an alteration of their routine life as a consequence of the pandemic. In addition to this, dealing with a virtual education where it is necessary to have the equipment and connectivity to carry out their classes at a distance; as well as receiving too much information through educational platforms, applications and emails; leads the student to feel overwhelmed in all this adaptive situation [19].

On the other hand, the results showed a low level of aggressiveness, probably due to their level of training, which allows them to control their aggressiveness; avoiding physically or psychologically hurting another person, which could generate disgust or rejection [20]. In this sense, there is an increase in psychological problems in university students as a result of COVID-19 and confinement, where 46% of university students

indicated presenting anxiety and depression, while 22% indicated presenting depression and stress; 17% reported presenting post-traumatic stress, these manifestations have caused serious effects on mental health [21]. It is confirmed that; Due to the confinement situation due to COVID-19, the population has experienced an increase in stress [17].

Likewise, physical and verbal aggressiveness were located at a low level, this behavior is related to the fact that the students are in full development of a professional profile, which allows them to have socio-emotional skills that contribute to the control of impulses and aggressiveness towards others. A recent study showed that the levels of social and prosocial awareness is higher in professionals, which allows them to control aggressiveness towards others [22]. This behavior is reinforced when the social skills that contribute to developing measured behaviors that help to control verbal and physical aggressiveness are adequately worked, ensuring interpersonal relationships between the environment where the individual operates [23].

On the other hand, anger is located at a low level, because university students tend to control it in various contexts, as part of their behavior that allows them to experience feelings polarized among them anger, but the good relationships in their environment allow it better control their emotions [24]. These types of psycho-emotional emergencies generate an increase in anxiety, stress, depression, anger, a feeling of uncertainty, anguish and panic, making us as human beings more prone to instability in our mental balance [25].

With regard to hostility, it is also shown at a low level. A recent investigation showed that during the confinement period, university students presented an anxiety level of 45.9%; 3.5% anger or hostility; 23.5% suffered from sadness or depression, 18.9%; 3.5% was neutral; However, to increase resilience and improve their learning strategies, spaces for student reflection were necessary, which helped their university education [26]. In this sense, universities in the face of this pandemic can implement wellness units for psychological care, general guidance and support, as well as counseling for a favorable mental health of their students [27].

On the other hand, a significant association between state anxiety and aggressiveness was demonstrated, this result is an indicator that the students presented a high risk of presenting psychological disorders, as a consequence of confinement, therefore, to face this pandemic situation, it is necessary preserve mental health. For this purpose, it is recommended to participate in healthy activities such as physical exercise that can improve people's ability to cope with this reality [28]. An investigation, relevant to the present study, found that students were afraid of catching COVID-19 and that it could trigger a fatality, but after the psychotherapeutic intervention carried out on these students, they showed a reduction in anxiety levels and depressive symptoms, evolving favorably [29].

Likewise, a significant association between trait anxiety and aggressiveness was evidenced. A recent scientific publication found that aggressiveness levels unexpectedly dropped during COVID-19 [30]. This phenomenon probably happened because people begin to realize the fragility of life and appreciate it every moment; Likewise, to deal with these emotions, it is important to increase physical activity, improve time

management, organize sleep activity and socialize as a family (at home, or through ICT). These activities help limit anxiety and anxiety. aggressiveness. Maintaining contact with loved ones during the pandemic through the telephone, social networks and creating new hobbies, as well as thinking positively can help reduce anxiety levels during this global crisis [31].

Related to the association between state anxiety and physical aggressiveness, it is evidenced that the variables have a significant relationship. A recent study identified that the level of emotional state related to stress, anxiety and anguish of the participants in their study increased severely due to the social closure in which they are currently immersed in the face of the COVID-19 pandemic, affecting mainly women and older adults [9]. However, despite these results, there is a positive reaction in how to face and react to these difficult events. An association was also found between state anxiety and hostility. In this regard, another study showed that 0.9% of those surveyed experienced severe anxiety, 2.7% moderate anxiety and 21.3% mild anxiety, because economic factors, having relatives or acquaintances infected by COVID-19, were decisive to increase the level of anxiety of Chinese university students [32].

In contrast to the previous results, no association was found between state anxiety and verbal aggressiveness, as well as between state anxiety and anger. A related investigation found that students present low levels of emotions such as aversion; which in turn is positive in this situation since the presence of these emotions would hinder online learning; Also other emotions such as fear, sadness, anger, anticipation and joy are located at an intermediate level [33].

Related to the relationship between trait anxiety and physical aggressiveness, no association was found between them. There was also no association between state anxiety and anger. However, a recently published study showed high levels of anxiety during the pandemic, mild to severe anxiety occurred more frequently in females. In this sense, it is convenient to develop intervention strategies that allow students to develop various assertive coping techniques to reduce all threats to mental health [34].

In contrast to the previous results, an association was found between trait anxiety and verbal aggressiveness. These results do not agree with a recently published research, which showed that the majority of university students did not present psychological alterations or suicidal ideation during the pandemic, only a small percentage evidence anxiety, depression and vulnerability to stress [21]. This happens because they had a coping focused on the predominant emotion that favored control and management of emotions. As a complement, there is another investigation that demonstrates the effect of intolerance to uncertainty on anxiety and depression [35], noting an understandable reaction relevant to the subject, but that could be deepened in later studies.

## CONCLUSIONS

COVID-19 has generated abrupt changes in human behavior worldwide, showing high rates of violence; on the other hand, uncertainty, job loss, death of family members, forced confinement, estrangement from their families and the ravages of the pandemic; they have so profoundly impacted the emotional state of the graduate students under study, that the levels of anxiety / trait and anxiety / state that, in general, remained at

low or medium levels before the pandemic; they were a necessary and positive conduit for interpersonal interaction. However, since confinement, anxiety / trait and anxiety / state levels have increased above normal; reaching high and high average levels that affect the mental health of students; This situation reflects the magnitude of the emotional impact of the pandemic.

Contrary to what was expected, regarding aggressiveness, this, in general, shows low levels, but when contrasted with the types of aggressiveness; the participants tend more to physical aggressiveness and less to verbal aggressiveness. This reality may seem incongruous, however, it is part of everyday life, so its repercussion would seem natural and less harmful on the person who receives it, since verbal aggressiveness is not perceived as such.

Finally, what could initially constitute a focus of extreme aggressiveness and anxiety, is becoming an incentive to develop coping strategies to a new reality as a consequence of COVID-19 that holds a different future, with new perspectives and new challenges, different forms of contact with loved ones, new learning and the possibility of assessing the importance of living in the face of uncertainty. Obviously, the human being is capable of overcoming adversity and finding paths that lead him to find new forms of adaptation.

## LIMITATIONS

For the development of the present study, the scarce publication of scientific research in graduate students was identified as the main limitation; Likewise, the non-face-to-face application of the instruments may in some way bias the results obtained.

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