

# Anxiety about scientific research in accounting master students

## Abstract

*The psychological disorders are part of today's society, and research is the process through which humanity progresses; however, issues arise when anxiety becomes a hindrance. The research aimed to determine the levels of anxiety generated by graduate students in accounting at the National University of the Altiplano in Puno regarding the curriculum area. This study had a non-experimental quantitative approach with a cross-sectional correlational design. The total sample consisted of 196 graduate students from the second, third, and fourth cycles. ANOVA statistics and post-hoc analysis were applied. The Hamilton Anxiety Rating Scale (HARS) survey was used to evaluate anxiety levels in the curriculum areas: scientific culture, spatiality, and research. The results, from the Tukey's test for homogeneous subgroups and comparison of individual means from an ANOVA, indicate that the average concentration of anxiety disorders is significantly higher for the research curriculum area ( $M=19.58$ ;  $P<0.01$ ), and lower for the specialization ( $M=9.84$ ;  $P<0.01$ ) and scientific culture ( $M=10.03$ ;  $P<0.01$ ) curriculum areas. Graduate students in accounting and finance who take courses in the research area exhibit higher anxiety levels compared to other areas, highlighting the importance of promoting research as it sustains societal development.*

## Keywords:

*Anxiety, scientific research, master's students, level, society.*

## I. INTRODUCTION

The development of scientific research is the "fundamental axis that strengthens the development of society"[1], therefore, it develops welfare in health, education, wealth generation, power consolidation and even nation liberation[2]. Universities are the entities that promote the development of research projects that contribute to society through various initiatives through training and research development, Latin American universities highlight the importance of training creative, innovative, curious professionals to society as a fundamental part of development and thus respond to the problems of their environment[3]. Universities, through diverse scientific research, have managed to develop multi- and interdisciplinary cooperation to face the new challenges of globalization and the economy, where the link between universities, society and institutions is a key link in the development of activities and projection towards a sustainable society [4]. University work points to research as a fundamental function for the development of society, becoming a great challenge for Latin American universities [5] [6].

However, scientific research, for some people, turns out to be an activity that generates deterioration in mental health, such as high levels of anxiety, when carrying out

research activities [7], especially those who work in competitive fields or under pressure to obtain results, may experience anxiety disorders. The pressure to conduct significant research in order to obtain a master's degree can generate significant levels of stress and anxiety. Anxiety in thesis students can negatively affect their performance, ability to concentrate and decision making. It can hinder the creative process and innovation, which can be detrimental to the quality of research.

In Peruvian universities, the pressure to publish research has become evident, as summarized in the biennial report of the National Superintendence of Higher Education SUNEDU [8], which states the urgent need to develop research in Peruvian universities, since less than 3% of the university community publishes scientific articles in impact journals, this aspect is strengthened in order to better understand our reality and propose relevant solutions; research is part of improving the quality of teaching and the positioning of universities in the global environment [9,10].

The World Health Organization (WHO) reports that 264 million people are victims of anxiety worldwide [11]. On the other hand, in the academic field, anxiety in teachers and postgraduate students, in the situation of obtaining a degree, can bring with it a series of psychological, physical and behavioral imbalances channeled by neurobiological mechanisms in the face of the development of scientific research [12,13]. Anxious syndrome can cause: hyperthyroidism, hypoglycemia, heart failure, epilepsy [14,15].

The Peruvian Ministry of Health reported that students in public and private universities suffer from mental health problems, the most recurrent cases being anxiety (82%), stress (79%) and violence (52%) [16]. Likewise, other reports have shown that 22.8% of graduate students have high levels of anxiety[17], with a higher frequency among female students [18]; and in view of this worrying situation, the Ministry of Education and the Ministry of Health have in mind to propose related regulatory documents to promote strategies for good mental health, in order to ensure comprehensive health care in the university community.

The question that was analyzed in this study was: Are there significant differences of suffering from anxiety disorders in the development of courses in the area of research in the students of the master's degree in Accounting and Finance of the National University of the Altiplano of Puno, Peru? Therefore, the purpose of this study was to determine the levels of anxiety generated in the development of research courses by the students of the master's degree in accounting and finance of the National University of the Altiplano of Puno.

## II. MATERIALS AND METHODS

This study was a descriptive, explanatory and cross-sectional study, which was carried out from August to December 2022, with the participation of 196 students of the Master's Degree in Auditing and Taxation of the Postgraduate Unit of the Faculty of Accounting and Administrative Sciences of the National University of the Altiplano of Puno, Peru.

The study considered as inclusion criteria all regular students from the first to the fourth cycle of the Master's program in Auditing and Taxation, the students participated voluntarily and as exclusion criteria were considered irregular students and students with special enrollment and also students who did not wish to participate, the students were selected by non-probabilistic sampling by convenience, without distinction of age, cycle, curricular area and marital status.

The sociodemographic variables considered in this study were: age, cycle, curricular area and marital status. In this study, 152 students under 31 years old (77.1%), 8 students from 31 to 37 years old (4.2%), 31 students from 38 to 44 years old (15.6%) and 6 students older than 44 years old participated. 63 students of the II cycle (32.3%), 72 students of the III cycle (36.5%) and 61 students of the IV cycle (31.2%), as well as 51 students developing the specialty course (26.0%), 63 students developing the scientific culture course (32.3%) and 82 students developing the research course; The information was obtained through the application of the Hamilton Anxiety Survey - HARS. Prior to the application, the time, characteristics and purpose of the study were made known to the respondents, who accepted voluntarily.

TABLE 1.  
SOCIODEMOGRAPHIC VARIABLES (N = 196)

Sociodemographic variable	n	(%)
Age		
Under 31 years old	152	77.1
Between 31 to 37	8	4.2
Between 38 and 44	31	15.6
Over 44 years old	6	3.1
Cycle		
Cycle II	63	32.3
Cycle III	72	36.5
Cycle IV	61	31.2
Curricular area		
Specialty	51	26.0
Scientific culture	63	32.3
Research	82	41.7
Marital status		
Married	33	16.7
Divorced	25	12.5
Single	138	70.8

To evaluate the anxiety factor in the teachers, the Hamilton - HARS test [19] was applied in the virtual

modality, which consists of 14 items that evaluate both psychological and physical symptoms of anxiety, including tension, insomnia, fear, depression and somatic symptoms. Each item is scored on a scale of 0 to 4, where 0 indicates the absence of the symptom and 4 indicates the extreme presence of the symptom. The test took approximately 30 minutes. The effectiveness of the same was determined through Cronbach's alpha, from which a value of  $\alpha=0.5$  was obtained, indicating that the research has solids. The following sociodemographic variables were also analyzed: age, cycle and marital status, which will help us to determine the relationship and implications between them. The master's degree program in accounting and finance of the Graduate Unit of the Faculty of Accounting and Administrative Sciences of the Universidad Nacional del Altiplano has three curricular areas: specialty curricular area, in this curricular area 10 specialized courses in accounting and finance are developed; scientific culture curricular area, in this area 2 courses are developed that help to strengthen the culture in professional work, and finally the research curricular area, area where 4 courses related to research processes are developed.

The analysis of variance ANOVA was used to compare the groups and the Tukey test was used to define the groups with a level of significance ( $p<0.05$ ) using the SPSS v23 statistical program. Finally, the structural equation model (SEM) was developed using analysis of variance and Tukey's test with the SPSS AMOS V.24 program.

### III. RESULTS

TABLE 2  
ANXIETY LEVELS ACCORDING TO CURRICULAR AREA

		Curricular area			Total
		Specialty	Scientific Culture	Research	
Levels of anxiety	Mild	36	26	0	62
		63,2%	57,8%	0,0%	31,6%
	Moderate	21	19	87	127
		36,8%	42,2%	92,6%	64,8%
	Severe	0	0	7	7
		0,0%	0,0%	7,4%	3,6%
Total		57	45	94	196
		100,0%	100,0%	100,0%	100,0%

The Chi-square test supports the existence of significant differences ( $\chi^2=28.894$ ;  $P>0.05$ ) of suffering from anxiety disorders within the groups (curricular areas) which are: scientific culture, research and specialty, developed by the students.

This study shows that 92.6% of the master's degree students who take courses in the research curricular area suffer from moderate anxiety disorders and 7.4% suffer from severe anxiety disorders. However, more than 50% of the master's degree students taking courses in the specialty and scientific culture curricular areas suffer from mild anxiety disorders.

This implies that courses in the research curricular area generate greater anxiety disorders in accounting and finance master's degree students (Table 2).

TABLE 3.  
DIFFERENCE IN MEANS OF SUFFERING ANXIETY SYMPTOMS WITH RESPECT TO THE DEVELOPMENT OF CURRICULAR AREAS.

(I) Área curricular	(J) Área curricular	Diferencia en promedios (I-J)	D.E.	Sig.	confidence Interval 95%	
					Lower limit	Upper limit
Specialty	Cultural scientific	-.19226	1,64484	,992	-4,1099	3,7254
	Scientific culture Research	-9,73500*	1,56004	,000	-13,4507	-6,0193
Scientific culture	Specialty	,19226	1,64484	,992	-3,7254	4,1099
	Research	-9,54274*	1,46419	,000	-13,0302	-6,0553
Research	Specialty	9,73500*	1,56004	,000	6,0193	13,4507
	Scientific culture	9,54274*	1,46419	,000	6,0553	13,0302

\*. The difference in means is significant at the 0.05 level.

A low difference of means (I-J= -0.19226;  $P>0.05$ ) can be observed between the curricular areas of specialties and scientific culture, this means that the master's degree students do not find differences in suffering anxiety disorders when developing the courses of the curricular groups of Specialty and Scientific Culture, however, statistically significant differences can be appreciated (I-J= -9.73500;  $P<0.05$ ) in suffering from anxiety symptoms when taking courses in the research curricular area with reference to taking courses in the Specialty area (Table 3).

We clearly note that the courses developed in the research curricular area by the master's degree students have a marked statistically significant difference ( $P<0.05$ ) with respect to the courses in the specialty and scientific culture curricular areas. This means that the levels of anxiety disorder are higher in the development of courses

of the research area with respect to the other curricular areas.

TABLE 4.  
TUKEY'S TEST FOR ANXIETY MEANS IN TWO SUBSETS

Anxiety			
Curricular area	N	Subset for alpha = 0.05	
		1	2
Specialty	51	9,8400	
Scientific culture	63	10,0323	
Research	82		19,5750
Sig.		,992	1,000

\*. La diferencia de medias es significativa en el nivel 0.05.

In the Tukey's homogeneous subgroups test, the comparison of individual means from an ANOVA analysis of variance can be clearly observed. Tukey's DHS test has formed two subsets: subset 1 has grouped the curricular areas of specialty and scientific culture with no significant differences ( $P>0.05$ ) and subset 2 is only formed by the curricular area of research ( $P>0.05$ ). It is also observed that the mean concentration of anxiety disorders is much higher for the research curricular area (DHS=19.5750;  $P<0.05$ ) and lower for the specialty (9.8400) and scientific culture (10.0323) curricular areas.

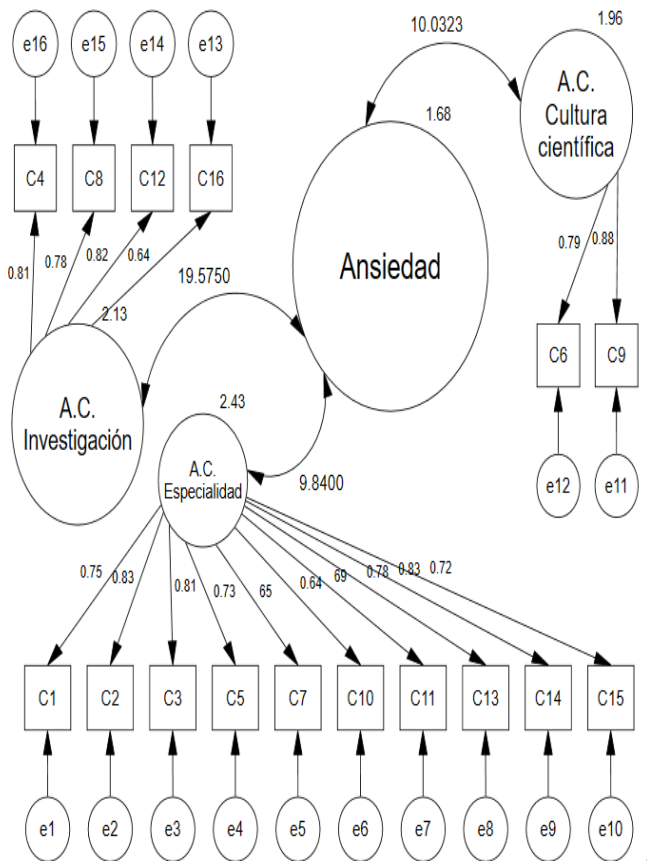


Fig. 1. Multigroup SEM of anxiety and curricular areas.

The SEM and Tukey's DHS test show strong evidence that the research curricular area developed through 4 courses: C4; C8; C12 and C16, generates greater anxiety disorders (DHS=19.57;  $P < 0.05$ ) than the curricular areas of specialty developed through 10 courses: C1; C2; C3, C5, C7, C10, C11, C13, C14 and C15 (DHS=9.84;  $P < 0.05$ ) and the curricular area of scientific culture developed through 2 courses (DHS=10.03;  $P < 0.05$ ). It is important to note that the research curricular area developed by only 4 courses may generate greater anxiety disorders in graduate students.

#### IV. DISCUSSION

The findings of this research show that 92.6 % of master's students suffer from moderate anxiety disorders and 7.4 % suffer from severe anxiety disorders when developing courses of the research curricular area (DHS=19.57;  $P < 0.05$ ) with respect to the specialty curricular area (DHS=9.84;  $P < 0.05$ ) and scientific culture (DHS=10.03;  $P < 0.05$ ) as shown in the SEM analyses and Tukey's DHS test.

Similar research has shown that anxiety is a relevant issue in the context of graduate students, since they can face multiple stressful situations during this demanding academic period [20,21]; this can bring serious consequences such as rejection towards the development of research with negative attitudes that occur unconsciously in the person, which is the reason why a minimum number of new researchers is evidenced [22-24]. Some authors indicate that it is important to identify the symptoms of anxiety and difficulty in relation to

academic behavioral factors, since this is one of the reasons for academic desertion in undergraduate students [14,25], and this study corroborates this statement, indicating that anxiety makes it difficult to obtain the degree and the development of their thesis [26-28].

With respect to the results obtained, it can be mentioned that anxiety is a factor that unbalances the production of new research [29-31]. Research has shown that anxiety can have a variety of consequences on the conduct of research. Some of these consequences include: Difficulties in the data collection process: Anxiety can interfere with researchers' ability to conduct interviews, surveys, or other data collection techniques. It may hinder communication with participants, generate nervousness when asking questions or affect objectivity in the interpretation of answers.

Influence on methodological decision-making, anxiety can lead researchers to doubt their methodological choices and to feel uncertain about the selection of appropriate tools, techniques or approaches for their research. This can lead to indecision and delays in study planning and execution.

Impact on interpretation of results, anxiety may influence how investigators interpret the results of their study. They may be affected by anxiety-related cognitive biases, which may distort their interpretation of the findings or lead to inaccurate conclusions [32,33].

Procrastination and delays in work completion, anxiety can lead to procrastination and delays in completing research-related tasks [34].

Anxious investigators may delay data analysis, report writing, or presentation of results because of concern about the quality of their work or fear of rejection [35,36].

#### V. CONCLUSIONS

In conclusion, this research aims to provide significant information showing a high degree of relationship between anxiety and research. For the same reason, an analysis of the causes and effects that anxiety provokes in the development of research is shown [5]. The results obtained indicate the importance of being able to develop a curriculum that responds to the needs of master's degree students, taking into account their strengths and weaknesses [24]. In addition, this shows the need to develop research management in regular basic education.

This research had the following limitations: the first was related to the size of the sample, since, if the sample were larger, the results would be more accurate. On the other hand, it can be mentioned that when applying the survey some teachers were afraid to register their answers, which indicated that it could be part of the evaluation of the course, for this it was necessary to explain the reason for the research.

"Anxiety as a system that alerts the organism to events that can put it at a disadvantage; It is an unpleasant feeling that is accompanied by somatic sensations such as nausea, palpitations, sweating, headache, need to empty the bladder and even diarrhea, among others" [25], which are generated as a result of an unwanted past experience, this may have its origin in several negative situations

(unsympathetic teachers, lack of knowledge of tools to develop research, little knowledge of the research process, bureaucratic procedures, among others). For this reason it is necessary to promote a positive experience in the student to improve the development of scientific research [26,27].

The information obtained in this research, shows a challenge to propose new strategies to transform this weakness into new skills that serve to counteract the anxiety in front of the development of scientific research and the birth of new researchers.

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