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# *Sociodemographic factors associated with stress, depression and anxiety in Colombian Adventist university students*

## *Factores Sociodemográficos vinculados al estrés, depresión y ansiedad en universitarios adventistas colombianos*

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**ABSTRACT**

Every day, a growing number of university students pursue their professional aspirations, an endeavor that often compromises their well-being. Colombia Adventist University welcomes more than 1,200 young people from various parts of the country each year. The mental health of these students may deteriorate as they progress through their curriculum. The objective of this study is to quantify the levels of academic stress, anxiety and depression. It also seeks to identify the sociodemographic characteristics linked to these variables in students of Colombia Adventist University. This analysis is cross-sectional and correlational. The study was carried out on a sample of 377 students selected from the different faculties. The statistical results showed the following: age did not show a relevant connection with academic stress, anxiety and depression, while gender showed a significant correlation only with anxiety. Marital status also revealed a significant link with anxiety. Demographic origin showed a significant relationship with academic stress. Career showed a significant connection with academic stress and depression. University residence showed a significant relationship with depression, and religious status was significantly related to academic stress. In conclusion, there is a significant correlation between academic stress and depression.

**Keywords:**
College students; Stress; Anxiety; Depression; Sociodemographic; Stress; Academia

**RESUMEN**

Cada jornada, una cantidad creciente de estudiantes universitarios persiguen concretar sus aspiraciones profesionales, un empeño que a menudo compromete su bienestar. La Universidad Adventista de Colombia acoge anualmente a más de mil doscientos jóvenes de diversas zonas del país. La salud mental de estos estudiantes puede deteriorarse mientras avanzan en su plan de estudios. El objetivo fue medir los niveles de estrés académico, ansiedad y depresión. Además, conocer las características socio demográficas relacionadas con estas variables en los estudiantes de la Universidad Adventista de Colombia. Este análisis es de tipo transversal y correlacional. El estudio se llevó a cabo en una muestra de 377 alumnos seleccionados de las distintas facultades. Los resultados estadísticos arrojaron lo siguiente: la edad no mostró una conexión relevante con el estrés académico, la ansiedad y la depresión, mientras que el género evidenció una correlación significativa únicamente con la ansiedad. El estado civil también reveló una vinculación considerable con la ansiedad. El origen demográfico mostró una relación significativa con el estrés académico. La carrera profesional presentó una conexión notable con el estrés académico y con la depresión. La residencia universitaria evidenció una relación significativa con la depresión, y la condición religiosa se relacionó significativamente con el estrés académico. En conclusión, existe una correlación significativa entre el estrés académico, la ansiedad y la depresión en los estudiantes de la Universidad Adventista de Colombia.

**Palabras clave:**
Estudiantes universitarios; Estrés; Ansiedad; Depresión; Sociodemográfica; Academia

## INTRODUCTION

In a recent global report, the WHO stated that approximately 450 million people suffer from a mental or behavioral disorder, but only a small minority receive even basic treatment. The report revealed that among the top 10 causes of disability worldwide, four are now mental disorders (World Health Organization, 2001).

It is estimated that, worldwide, one in four individuals suffers from some serious stress problem; in cities, an estimated 50 percent of people have some mental health problem of this type. Figures in the United States show that 70 percent of medical consultations are for stress problems; a quarter of the medications distributed are for central nervous system diseases (Caldera, Pulido, & Martínez, 2007).

According to WHO data, the prevalence of depression reaches 8% among young people, and nearly 100,000 people per year suffer from depression at some point in their lives; additionally, 80% of patients with chronic illnesses suffer from depression at some point in their lives (Cited by Guti et al., 2010).

In international studies, Fisher and Hood (1987, cited in Polo, et al., 1996) maintain that there are university students who experience a significant increase in levels of depression, obsessive symptoms and loss of concentration after six weeks at the university.

Some researchers also argue that university students are subjected to extreme intellectual and psychological emotional overload, mental fatigue, crises of moral values, poor adaptation to new study conditions, the need to move away from home, numerous tests and exams, fear for their future work, fear of the future, general frequent eating and sleeping disorders, ignorance on how to deal with stressful situation, lack of time for rest, outdoor activities among others, which influence their psychological health (Ivakhnova, 2009).

Aragón, Contreras, and Tron (2011) state that the main challenge university students face is success in their studies, and this depends on economic and personal factors, as well as psychological and emotional ones. Stress, anxiety, and depression are psychological and emotional factors that undermine the health and concentration of university students, leading to poor academic performance.

In Colombia, epidemiological data have been identified that affirm that anxiety and depression constitute a major health problem, occupying the first lines on the reasons for psychological and psychiatric consultation (R. de C. Ministry of Social Protection, 2003).

Within the Colombian university population, figures indicate that the main reasons for seeking psychological care from university welfare offices are depression and anxiety (Agudelo, D., Casadiegos, C., Sánchez, 2008).

Therefore, due to the fact that there are factors that endanger the physical and mental health of university students, a research approach involving multiple sociodemographic variables with academic stress, anxiety, and depression is necessary to gain new knowledge and a clearer and broader view on this topic. Therefore, we ask: To what extent are sociodemographic characteristics related to academic stress, depression, and anxiety in students at the Adventist University of Colombia, Medellín? The objective of this study is: To determine the extent to which sociodemographic characteristics are related to academic stress, depression, and anxiety in students at the Adventist University of Colombia, Medellín. As well as to determine the level at which these variables are present in this study population and the relationships between them. Hypothesizing that sociodemographic characteristics are significantly related to academic stress, depression, and anxiety in students at the Adventist University of Colombia, Medellín.

This study aims to build knowledge about the behavior and analysis of these variables in the Colombian university population. It also aims to provide data resulting from this research that will be useful to health institutions and local health stakeholders within this institution and other educational and ecclesiastical entities of the Adventist Church, enabling them to make preventive policy decisions and implement intervention programs addressing the current problems of stress, depression, and anxiety at the Colombian Adventist University. Finally, it will help families take preventive measures for their

university-aged children.

Within the theoretical foundations, it can be argued that it is necessary to correlate sociodemographic characteristics with the variables of stress, anxiety, and depression in young university students. Among the different factors implicated in academic stress are biological moderators (age, sex, etc.), psychosocial moderators (behavior patterns, coping strategies, social support, etc.), psychosocial-educational moderators (academic self-concept, type of studies, course, etc.), and socioeconomic moderators (place of residence, scholarship status, etc.). These modulating factors impact the entire stress process. They may be related to the causes and/or consequences (Labrador, 1995, cited in Martín, 2007).

On the other hand, despite the importance of studying anxiety in relation to, for example, exams, psychoeducational research has not yet provided conclusive information on the variables that determine this relationship (Rosário et al., 2008). There are also studies that analyze the relationship between anxiety and variables such as health, negative and positive affect, introversion and extroversion, hostility, social discomfort, fears, neuroticism, depression, and others (Aragón, Contreras, and Tron, 2011).

There are individual variables that are related to depression in university students: family and personal history of depression, academic difficulties, economic instability, and diagnosis of a serious illness, death of a loved one, separation from parents, alcohol consumption, planning and/or attempting suicide (Arrivillaga et al., 2003 cited in Agudelo, Casadiegos and Sánchez 2008).

According to Orlandini (1996) and Hernández and Pozo (1996), the tension experienced by a student during a learning period in an educational context is called academic stress. However, for Barraza (2008), the study of academic stress is a new and growing field because of a structural problem. Between 1996 and 2006, research revealed the coexistence of three conceptualizations of stress: those focused on stressors, those focused on symptoms, and those defined based on the transactional model. Furthermore, there are studies that conduct their research from a multidimensional approach and others with a two-dimensional approach; that is, they attempt to recover both stressors and symptoms. Added to this is the fact that research does not explicitly conceptualize stress and does not cross its conceptualization with other constructs such as mental health or anxiety.

Anxiety and academic stress present physiological, cognitive, and social responses. In physiological responses, the close relationship between anxiety and academic performance is well documented. Anxiety is characterized by the activation of different systems, primarily the Autonomic Nervous System and the Motor Nervous System. The individual only perceives some changes in responses: heart rate, respiratory rate, sweating, peripheral temperature, muscle tension, gastric sensations, among others. These physiological changes can lead to a series of transient psychophysiological disorders: headaches, insomnia, erectile dysfunction, muscle contractures, gastric dysfunction, among others (Cabrera, Casal, & Cortéz, 2005, cited in Herrera, Rodríguez, & Valverde, nd).

Social responses also include constant, excessive, and unjustified worry about studies and their professional future. Individuals may even feel seriously handicapped academically and socially. These anxiety traits have been found in students participating in several studies on this topic (Benedito and Botella, 1992, cited in Aragón, Contreras, and Tron, 2011).

Similarly, cognitive responses are observed at the cognitive-subjective level; anxiety is characterized by feelings of discomfort, worry, hypervigilance, tension, fear, insecurity, and a sense of loss of control, among others. According to Singh (2011) in his "Study and Analysis of Academic Stress of B. Ed Students," various studies in some European countries reflect that anxiety hinders academic performance in all its forms. In 126 different studies applied to more than 36,000 people, it was shown that the more predisposed to worry a person is, the lower their academic performance. For example, in one test, non-worriers were asked to worry for 15 minutes—their ability to complete a task was significantly reduced. When those who worried relaxed for 15


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minutes, their ability to perform a task improved radically.

Consequently, the objective of the research was to measure levels of academic stress, anxiety, and depression. It also sought to understand the sociodemographic characteristics associated with these variables among students at the Adventist University of Colombia.

Its relevance is argued, among various factors, because in depression as a global public health problem it is described: data from the World Bank indicate that major depression represents an important mental health problem, it is estimated that by 2020 it will be the second cause of disease burden in the world, representing 3.4% of the total burden of disease, measured in disability-adjusted life years, after ischemic heart disease. (Ministry of Health, 1998 cited in Pardo A., Sandoval and Umbarila 2004),

Similarly, depression and academic stress are common among young university students, where depression and suicidal thoughts can be a significant problem, as the psychological distress is compounded by the inability to achieve satisfactory academic performance (Campuzano, 2013). Furthermore, various studies reveal that the higher the stress levels in students, the more likely they are to experience depression (Mosley, 1994, cited in Guti et al., 2010).

## METHOD

This research uses a descriptive and correlational quantitative approach, with a non-experimental, cross-sectional design. The population consists of all 1,231 students at the Adventist University of Colombia enrolled in in-person professional programs. The sample was sampled using a non-random, non-probability approach, determined by convenience.

To ensure representativeness, the formula for finite populations was used, obtaining a sample of 293 students; however, at the researcher's discretion, the sample was increased to 377 students because it was considered appropriate for the study; it was carried out on a circumstantial basis and in this way ensures greater reliability.

For the measurement of sociodemographic variables, an ad hoc questionnaire was used. For the subjective variables, three instruments developed by other researchers and used in different contexts were used. The academic stress inventory developed by Polo, Hernández and Pozo, 1996 with a Cronbach's alpha of 0.90. On the other hand, the anxiety variable was measured through the reduced anxiety scale based on the inventory of anxiety situations and responses by García, Ortiz and Gordillo, 1995, with a Cronbach's alpha coefficient = .90. Finally, the depression variable was measured through the Zung scale with a reliability of 0.887. (1965, cited in Lezama, 2012). These instruments were statistically validated by other researchers and for the purposes of this study, content validation was carried out through expert judgment and reliability was calculated with this population, evidencing a reliability index of 0.910 for this context.

The collected data were tabulated using Excel and SPSS 22.0 software. Descriptive analyses of the variables were performed using statistics for qualitative and quantitative variables. Sociodemographic factors, academic stress, anxiety, and depression were described in frequency and percentage tables, reflecting their specific characteristics. Correlations between sociodemographic factors and the variables academic stress, anxiety, and depression were analyzed using Pearson's chi-square test and Kendall's tb test to correlate ordinal variables. Dichotomous variables were analyzed with chi-square tests, and a significance level of 5% (0.05) was considered for all variables.

## RESULTS

In Table 1, regarding academic stress, it is observed that the majority of respondents present a moderate level (41.4%), while high and critical levels present a percentage of 48%. Regarding anxiety, it is observed that the majority of respondents present a risky level (71.9%), while high and critical levels present a percentage of 18.5%. Likewise, in depression, it is observed that the majority of respondents present a risky level (54.6%), while the high level presents 8.8%.

**Table 1.** *Level of academic stress, anxiety and depression of students*

| | Frequency | Percentage |
|---|---|---|
| Critical level | 31 | 8.2 |
| High level | 150 | 39.8 |
| Moderate level | 156 | 41.4 |
| Low level | 39 | 10.3 |
| Very low level | 1 | ,3 |
| Total | 377 | 100.0 |
| Critical level | 2 | ,5 |
| High level | 68 | 18.0 |
| Risky level | 271 | 71.9 |
| Low level | 36 | 9.5 |
| Total | 377 | 100.0 |
| High level | 33 | 8.8 |
| Risky level | 206 | 54.6 |
| Low level | 130 | 34.5 |
| Very low level | 8 | 2.1 |
| Total | 377 | 100.0 |

As shown in Table 2 on the relationship between sociodemographic variables with academic stress, anxiety and depression, the following is observed:

Age has no significant relationship with academic stress, anxiety, or depression, so the *p value* > $\alpha$ (0.05) in all cases.

Regarding gender, a significant relationship with anxiety is observed with a chi square = 8.088 at 3 degrees of freedom and the *p value* < $\alpha$ (=, 044 < 0.05).

Regarding marital status, a significant relationship with anxiety is observed where the chi square = 19.783 at 9 degrees of freedom and the *p value* < $\alpha$ (=, 019 < 0.05).

Regarding occupational status, a significant relationship was observed with anxiety, where the chi-squared value was 12.319 at 3 degrees of freedom and the *p-value was* < $\alpha$ (= .006 <0.05). It was also significantly related to depression, where the chi-squared value was 9.047 at 12 degrees of freedom and the *p-value was* < $\alpha$ (= .029 <0.05).

Regarding demographic origin, a significant relationship with academic stress is observed where the chi square = 11.657 at 4 degrees of freedom and the *p value* < $\alpha$ (=, 020 < 0.05).

Regarding career, a significant relationship was observed with academic stress, where the chi-squared was 72.01 at 40 degrees of freedom and the *p-value was* < $\alpha$ (= .001 < 0.05). It was also significantly related to depression, where the chi-squared was 53.986 at 30 degrees of freedom and the *p-value was* < $\alpha$ (= .005 < 0.05).

Regarding university residence, a significant relationship with depression is observed where the chi square = 10.522 at 3 degrees of freedom and the *p value* < $\alpha$ (=, 015 <0.05).

Regarding religious status, a significant relationship with academic stress is observed where the chi square = 11.436 at 4 degrees of freedom and the *p value* < $\alpha$ (=, 022 < 0.05).

Therefore, the evidence allows to conclude that age has no significant relationship with academic stress, anxiety, or depression, while gender has a significant relationship with anxiety. Marital status has a significant relationship with anxiety. Occupational status is significantly related with anxiety and depression.

The demographic origin has a significant relationship with academic stress. The professional career has a significant relationship with academic stress and depression. The university residence hall has a significant relationship with depression and religious status has a significant relationship with academic stress in students at the Adventist University of Colombia, Medellín.

**Table 2.** *Sociodemographic characteristics in relation to academic stress, depression and anxiety*

| | | Academic stress | Anxiety | Depression |
|---|---|---|---|---|
| Age | Chi-square | 3.786 | 2.329 | 7.923 |
| | gl | 8 | 6 | 6 |
| | Next. | ,876 | ,887 | ,244 |
| Gender | Chi-square | 8.675 | 8.088 | 7.745 |
| | gl | 4 | 3 | 3 |
| | Next. | ,070 | ,044 | ,052 |
| Marital Status | Chi-square | 20.252 | 19,783 | 9.827 |
| | gl | 12 | 9 | 9 |
| | Next. | ,062 | ,019 | ,365 |
| Occupational Status | Chi-square | 5.317 | 12.319 | 9.047 |
| | gl | 4 | 3 | 3 |
| | Next. | ,256 | ,006 | ,029 * |
| Demographic Origin | Chi-square | 11.657 | 3.005 | 2.647 |
| | gl | 4 | 3 | 3 |
| | Next. | ,020 | ,391 | ,449 |
| Professional Career | Chi-square | 72.01 | 34.004 | 53,986 |
| | gl | 40 | 30 | 30 |
| | Next. | ,001 | ,281 | ,005 |
| University Residence | Chi-square | 2.218 | 7.062 | 10.522 |
| | gl | 4 | 3 | 3 |
| | Next. | ,696 | ,070 | ,015 |
| Religious Condition | Chi-square | 11.436 | 7.483 | 3.512 |
| | gl | 4 | 3 | 3 |
| | Next. | ,022 | ,058 | ,319 |

As shown in Table 3, the following is observed regarding the relationship between sociodemographic variables and academic stress:

Age, gender and marital status do not have a significant relationship with the physiological factors, cognitive factors and driving factors of academic stress, so the *p value* > $\alpha$ (0.05) in all cases.

Regarding occupational status, a significant relationship was observed with physiological factors and academic stress, where the chi-squared value was 9.635 at 4 degrees of freedom and the *p-value was* < $\alpha$ (= .047 < 0.05). It was also significantly related to motor factors, where the chi-squared value was 10.348 at 3 degrees of freedom and the *p-value was* < $\alpha$ (= .016 < 0.05).

Regarding demographic origin, a significant relationship was observed with the physiological factors of academic stress, where the chi-squared value was 16.738 with 4 degrees of freedom and the *p-value was* < $\alpha$ (= .002 < 0.05). It was also significantly related to the motor factors, where the chi-squared value was 13.124 with 3 degrees of freedom and the *p-value was* < $\alpha$ (= .004 < 0.05).

Regarding professional career, a significant relationship is observed with physiological factors where the chi square = 57.898 at 40 degrees of freedom and the *p value* < $\alpha$ (=, 033 < 0.05).

The evidence then allows to conclude that age, gender, and marital status have no significant relationship with either the physiological factors, the cognitive factors, or the driving factors of academic stress, while occupational status has a significant relationship with the physiological factors of academic stress and with the driving factors.

Demographic background is significantly related to physiological factors of academic stress and motor factors. Professional career is significantly related to physiological factors of academic stress among students at the Adventist University of Colombia, Medellín.

**Table 3.** *Sociodemographic characteristics in relation to physiological, cognitive and motor factors of academic stress*

| | | Academic stress | | |
|---|---|---|---|---|
| | | Physiological factors | Cognitive factors | Driving factors |
| Age | Chi-square | 3.398 | 5.984 | 3.998 |
| | gl | 8 | 8 | 6 |
| | Next. | ,907 | ,649 | ,677 |
| Gender | Chi-square | 6.942 | 9.169 | 6.577 |
| | gl | 4 | 4 | 3 |
| | Next. | ,139 | ,057 | ,087 |
| Marital Status | Chi-square | 15,776 | 12.490 | 15,864 |
| | gl | 12 | 12 | 9 |
| | Next. | ,202 | ,407 | ,070 |
| Occupational status | Chi-square | 9.635 | 4.358 | 10.348 |
| | gl | 4 | 4 | 3 |
| | Next. | ,047 | ,360 | ,016 |
| Demographic Origin | Chi-square | 16,738 | 6.214 | 13.124 |
| | gl | 4 | 4 | 3 |
| | Next. | ,002 | ,184 | ,004 |
| Professional Career | Chi-square | 57,898 | 50,936 | 36,812 |
| | gl | 40 | 40 | 30 |
| | Next. | ,033 | ,115 | ,183 |
| University Residence | Chi-square | 4.557 | 4.056 | 1,885 |
| | gl | 4 | 4 | 3 |
| | Next. | ,336 | ,399 | ,597 |
| Religious condition | Chi-square | 9.265 | 7.096 | .567 |
| | gl | 4 | 4 | 3 |
| | Next. | ,055 | ,131 | ,904 |

As shown in Table 4, the following is observed regarding the relationship between sociodemographic variables and anxiety:

Regarding gender, a significant relationship was observed with the physiological factors of anxiety, where the chi-squared was 16.097 at 4 degrees of freedom and the *p-value was* < $\alpha$ (= .003 < 0.05). It was also significantly related to the motor factors, where the chi-squared was 13.372 at 3 degrees of freedom and the *p-value was* < $\alpha$ (= .010 <0.05).

Regarding occupational status, a significant relationship was observed with the physiological factors of anxiety, where the chi-squared value was 18.432 with 4 degrees of freedom and the *p-value was* < $\alpha$ (= .001 < 0.05). It was also significantly related to the motor factors, where the chi-squared value was 17.929 with 3 degrees of freedom and the *p-value was* < $\alpha$ (= .001 < 0.05).

Regarding demographic origin, a significant relationship was observed with the physiological factors of anxiety, where the chi-squared value was 12.748 at 4 degrees of freedom and the *p-value was* < $\alpha$ (= .013 < 0.05). It was also significantly related to the motor factors, where the chi-squared value was 15.634 at 4 degrees of freedom and the *p-value was* < $\alpha$ (= .004 < 0.05).

Regarding professional career, a significant relationship is observed with the physiological factors of anxiety, where the chi-square = 76.935 at 40 degrees of freedom and the *p-value* < $\alpha$ (=, 000 < 0.05). It is also significantly related to the cognitive factors, where the chi-square = 71.265 at 40 degrees of freedom and the *p-value* < $\alpha$ (=, 002 <0.05). It is also significantly related to the motor factors, where the chi-square = 70.742 at 40

degrees of freedom and the *p-value* < *α* (=, 002 <0.05).

Regarding the University Residence, a significant relationship was observed with the physiological factors of anxiety, where the chi-squared value was 13.761 with 4 degrees of freedom and the *p-value was* < *α* (= .008 < 0.05). It was also significantly related to the motor factors, where the chi-squared value was 17.893 with 4 degrees of freedom and the *p-value was* < *α* (= .001 < 0.05).

Regarding religious status, a significant relationship is observed with the physiological factors of anxiety, where the chi-square = 14.545 at 40 degrees of freedom and the *p-value* < *α* (= .006 < 0.05). It is also significantly related to the cognitive factors, where the chi-square = 13.261 at 40 degrees of freedom and the *p-value* < *α* (= .010 <0.05). Likewise, it is significantly related to the motor factors, where the chi-square = 13.310 at 40 degrees of freedom and the *p-value* < *α* (= .010 <0.05).

The evidence then allows concluding that age and marital status do not have a significant relationship with either the physiological factors, the cognitive factors, or the motor factors of anxiety. Gender, on the other hand, has a significant relationship with the physiological factors of anxiety and with the motor factors. Occupational status has a significant relationship with the physiological factors of anxiety and with the motor factors.

The demographic origin is significantly related to the physiological factors of anxiety and to motor factors. The professional career is significantly related to the physiological factors of anxiety and to cognitive factors, as well as to motor factors. Regarding University Residence, a significant relationship is observed with the physiological factors of anxiety and with motor factors. Furthermore, in the Religious Status variable, a significant relationship is observed with the physiological factors of anxiety and with cognitive factors, as well as with motor factors.

**Table 4.** *Sociodemographic characteristics in relation to the physiological, cognitive and motor factors of anxiety*

| | | Anxiety | | |
|---|---|---|---|---|
| | | Physiological factors | Cognitive factors | Driving factors |
| Age | Chi-square | 13.253 | 6.723 | 6.273 |
| | gl | 8 | 8 | 8 |
| | Next. | ,103 | ,567 | ,617 |
| Gender | Chi-square | 16.097 | 7.649 | 13.372 |
| | gl | 4 | 4 | 4 |
| | Next. | ,003 | ,105 | ,010 |
| Marital Status | Chi-square | 14,830 | 10.727 | 6.844 |
| | gl | 12 | 12 | 12 |
| | Next. | ,251 | ,552 | ,868 |
| Occupational Status | Chi-square | 18,432 | 5.693 | 17,929 |
| | gl | 4 | 4 | 4 |
| | Next. | ,001 | ,223 | ,001 |
| Demographic Origin | Chi-square | 12.748 | 3.532 | 15.634 |
| | gl | 4 | 4 | 4 |
| | Next. | ,013 | ,473 | ,004 |
| Professional Career | Chi-square | 76,935 | 71,265 | 70,742 |
| | gl | 40 | 40 | 40 |
| | Next. | ,000 | ,002 | ,002 |
| University Residence | Chi-square | 13.761 | 6.945 | 17,893 |
| | gl | 4 | 4 | 4 |
| | Next. | ,008 | ,139 | ,001 |
| Religious Condition | Chi-square | 14.545 | 13.261 | 13.310 |
| | gl | 4 | 4 | 4 |
| | Next. | ,006 | ,010 | ,010 |

As shown in Table 5, the following is observed regarding the relationship between sociodemographic variables and symptoms of depression:

Age, gender, marital status and demographic origin do not have a significant relationship with the affective, psychological, cognitive and physical symptoms of depression, so the *p value* > *α* (0.05) in all cases.

Regarding the occupational situation, a significant relationship is observed with the cognitive symptoms of depression where the chi square = 9.905 at 3 degrees of freedom and the *p value* < *α* (=, 019 <0.05).

Regarding professional career, a significant relationship is observed with the affective symptoms of depression where the chi square = 44.190 at 30 degrees of freedom and the *p value* < *α* (=, 046 < 0.05).

Regarding the University Residence, a significant relationship is observed with the affective symptoms of depression where the chi square = 7.883 at 3 degrees of freedom and the *p value* < *α* (=, 048 <0.05).

Regarding religious status, a significant relationship was observed with the cognitive symptoms of depression, with a chi-square test of 9.120 at 3 degrees of freedom and a *p-value of* < *α* (= .028 < 0.05). Age, gender, marital status, and demographic origin were not significantly related to the affective, psychological, cognitive, and physical symptoms of depression.

Regarding occupational status, a significant relationship was observed with cognitive symptoms of depression. Regarding career status, a significant relationship was observed with affective symptoms of depression. Regarding university residence, a significant relationship was observed with affective symptoms of depression. Regarding religious status, a significant relationship was observed with cognitive symptoms of depression.

**Table 5.** *Sociodemographic characteristics in relation to the affective, psychological, cognitive, and physical symptoms of depression*

| | | Depression | | | |
|---|---|---|---|---|---|
| | | Affective symptoms | Psychological symptoms | Cognitive symptoms | Physical symptoms |
| Age | Chi-square | 8.751 | 10.256 | 7.418 | 10.991 |
| | gl | 6 | 6 | 6 | 6 |
| | Next. | ,188 | ,114 | ,284 | ,089 |
| Gender | Chi-square | 3.761 | .290 | 1,756 | 3.944 |
| | gl | 3 | 3 | 3 | 3 |
| | Next. | ,288 | ,962 | ,624 | ,268 |
| Marital Status | Chi-square | 7.711 | 12.882 | 8.409 | 10.127 |
| | gl | 9 | 9 | 9 | 9 |
| | Next. | ,564 | ,168 | ,493 | ,340 |
| Occupational Status | Chi-square | 3.193 | 1934 | 9.905 | .680 |
| | gl | 3 | 3 | 3 | 3 |
| | Next. | ,363 | ,586 | ,019 | ,878 |
| Demographic Origin | Chi-square | .729 | 1,517 | 2.072 | 4.301 |
| | gl | 3 | 3 | 3 | 3 |
| | Next. | ,866 | ,678 | ,558 | ,231 |

| | | Depression | | | |
|---|---|---|---|---|---|
| | | Affective symptoms | Psychological symptoms | Cognitive symptoms | Physical symptoms |
| Professional Career | Chi-square | 44.190 | 23,497 | 24,774 | 54,540 |
| | gl | 30 | 30 | 30 | 30 |
| | Next. | ,046 | ,794 | ,736 | ,004 |
| University Residence | Chi-square | 7.883 | .516 | 4.978 | 4.167 |
| | gl | 3 | 3 | 3 | 3 |
| | Next. | ,048 | ,915 | ,173 | ,244 |
| Religious Condition | Chi-square | .245 | 4.125 | 9.120 | 1,776 |
| | gl | 3 | 3 | 3 | 3 |
| | Next. | ,970 | ,248 | ,028 | ,620 |

As shown in Table 6, regarding the correlation between academic stress and anxiety, the statistical model for ordinal variables, Kendall's Tau_b, reports a p-value of .000 at a significance level of 0.05 (two-tailed) and a relationship level of 0.181, indicating a low correlation between the variables.

Likewise, academic stress is related to depression, so Kendall's Tau_b reports a p value = .000 at a significance level of 0.05 (bilateral) and a relationship level of 0.296; which indicates a low correlation between the variables. On the other hand, regarding the correlation between anxiety and depression, The Kendall's Tau_b statistical model for ordinal variables reports a p-value = .000 at a significance level of 0.05 (bilateral) and a relationship level of 0.282; which indicates a low correlation between the variables. It is concluded that there is a significant relationship between academic stress, anxiety, and depression in students at the Adventist University of Colombia, Medellín.

**Table 6.** *Correlation between academic stress, anxiety and depression*

| **Correlations** | | | | | |
|---|---|---|---|---|---|
| | | | Academic stress | Anxiety | Depression |
| Kendall's tau_b | Academic stress | Correlation coefficient | 1,000 | ,181 ** | ,296 ** |
| | | Sig. (bilateral) | . | ,000 | ,000 |
| | | N | 377 | 377 | 376 |
| | Anxiety | Correlation coefficient | ,181 ** | 1,000 | ,282 ** |
| | | Sig. (bilateral) | ,000 | . | ,000 |
| | | N | 377 | 377 | 376 |
| | Depression | Correlation coefficient | ,296 ** | ,282 ** | 1,000 |
| | | Sig. (bilateral) | ,000 | ,000 | . |
| | | N | 376 | 376 | 376 |

**. The correlation is significant at the 0.01 level (2-tailed).

## DISCUSSION

The results of this study corroborate what Versaevel (2015) stated, indicating that stress levels can negatively influence student well-being. Furthermore, the data from this research confirm that Latin America has a high incidence of stress among university students, with values exceeding 67% of the population studied falling into the "moderate stress" category (Román, Ortíz, and Rodríguez 2008).

When analyzing sociodemographic

characteristics in relation to the variable academic stress, it was found that age, gender, marital status, and religious affiliation were not significantly related to the physiological, cognitive, or driving factors of academic stress. This means that both men and women, single, married, or in a cohabiting union, may or may not experience academic stress.

When looking at their occupational status, where the majority (49.6%) are unemployed, and their demographic background, where the majority (76.4%) come from urban areas, the emergence of physiological and motor manifestations of academic stress becomes evident. These include nervousness, sweating, sudden and disoriented movements, and rapid heartbeat, among others; even when cognitively one thinks that "nothing is happening academically."

It's worth noting that, regarding career paths, there is a significant relationship with physiological factors of academic stress; that is, the degree they study, whether due to its academic load, length of study, complexity, etc., produces physical effects of academic stress in students.

*Discussion of the results of sociodemographic characteristics in relation to the physiological, cognitive, and motor symptoms of anxiety.*

On the other hand, when analyzing sociodemographic variables related to anxiety, it was found that age and marital status had no significant relationship with either physiological factors, cognitive factors, or the driving factors of anxiety; that is, regardless of age, whether students are single, married, in a common-law relationship, or divorced, they may or may not suffer from anxiety.

The results of this research highlight a long-standing youth problem in Colombia. Epidemiological data confirm that anxiety and depression constitute a significant health problem in this country, ranking first in the list of reasons for psychological and psychiatric consultations (R. de C., Ministry of Social Protection, 2003).

However, regarding gender, occupational status, demographic background, and university residence, a significant relationship is observed with physiological factors and drivers of anxiety. It should be noted that the majority of respondents were male (65.5%). In contrast, the literature (Gisper, 2008) shows a higher incidence of anxiety in women. This work demonstrates that psychological responses to anxiety vary according to gender. Furthermore, the evidence confirms that, regardless of a student's marital status, they may or may not present evidence of stress, anxiety, or depression.

On the other hand, students experience higher levels of anxiety due to their lack of work. Furthermore, most students come from urban areas, which also represent higher levels of anxiety, possibly due to the urban lifestyle. Furthermore, being an external resident would elevate these anxiety levels in contrast to those living in the relative comfort of a university boarding school like the one studied.

Regarding career and religious affiliation, these are the only variables that show a significant relationship with the physiological, cognitive, and driving factors of anxiety. That is, the career a young person may be studying and their religion may be a major source of anxiety, reflected in their thoughts, symptoms, and signs.

This is quite striking in this research since it was thought that because it is a Christian institution, the values would be in favor and not against it.

On the other hand, in the analysis of the present work, when relating sociodemographic variables with symptoms of depression, it is observed that age, gender, marital status, and demographic origin do not have a significant relationship with the affective, psychological, cognitive, or physical symptoms of depression. That is, regardless of the student's age, whether they are single, living in a common-law relationship, or married, or whether they come from an urban or rural area, they may or may not present symptoms of depression—whether affective, psychological, cognitive, or physical.

It can also be observed that the students' occupational status is significantly related to the cognitive symptoms of depression. Both the non-working group (49.6%) and those who are working may be experiencing emotional distress, experiencing negative or self-defeating thoughts, as well as difficulties finding a way out of their altered emotional state.

Concerning career paths, emotional and physical symptoms of depression are evident. The student may be undervaluing his or her major or suffering from feelings of inferiority for belonging to one major rather than another (it is worth noting that in the present study, the majority were in theology and nursing). It may be that those studying disciplines such as theology and nursing feel emotionally depressed, in contrast to those studying systems engineering or administration, and vice versa.

About the student's University Residence, physical symptoms of depression are perceived, that is, as an example: an external or internal theologian could have symptoms of depression that would be evident in perception and feelings of low self-esteem and self-regard for not being happy in his or her career and for not being happy in his or her place of residence.

Likewise, considering religious affiliation, a significant relationship was observed with cognitive symptoms of depression; that is, negative thoughts, confusion, grief, dissatisfaction, and disappointment with their self-identified religion. This factor is very surprising and concerning at an Adventist university.

## CONCLUSIONS

One of the objectives of this study is to determine the relationship between stress, anxiety, and depression in students at the Adventist University of Colombia, Medellín. Statistical work shows a significant relationship between these variables. For example, depending on their major, students report significant levels of academic stress but also symptoms of depression. Considering that the majority of students surveyed are in theology and nursing, it is important to highlight that students could be academically stressed, for example, due to the difficulty of their major, but also depressed.

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