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Stress and Academic Performance of Students at the Faculty of Education, Veracruz Region, Veracruzana University, Mexico

Estrés y desempeño académico de estudiantes de la Facultad de Pedagogía Región Veracruz de la Universidad Veracruzana, México

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Stress and Academic Performance of Students at the Faculty of Education, Veracruz Region, of the Universidad Veracruzana, Mexico

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Abstract

This research study identified the relationship between stress and academic performance among university students throughout their academic careers. The study employed a quantitative approach using a non-experimental, cross-sectional design. Data were collected via a survey administered to 186 students aged 18 to 23 in the city of Boca del Río, Veracruz; a Cronbach's alpha coefficient of 0.84 was obtained. The survey was adapted from theoretical models concerning academic stress and coping, academic stress in university students, and the model of autonomy, motivation, and social support. The results were analyzed using descriptive charts, which revealed significant information linking student stress to academic performance. An important opportunity was identified to address this issue at an institutional level.

Keywords: student stress, academic performance, university trajectory

Resumen

El presente trabajo de investigación identificó la relación que existe entre el estrés en estudiantes universitarios y el desempeño académico durante su trayectoria universitaria. La investigación se condujo con enfoque cuantitativo, bajo un diseño no experimental y transversal. Los datos se recolectaron a través de la aplicación de una encuesta a 186 estudiantes entre los 18 y 23 años, todo ello, en la ciudad de Boca del Río en el estado de Veracruz; se obtuvo $\alpha = 0.84$ en el coeficiente alfa de Cronbach. Dicha encuesta se adaptó a partir de modelos teóricos relacionados con el Estrés académico y afrontamiento, así como el Estrés académico en estudiantes universitarios, y el Modelo de Autonomía, motivación y apoyo social. Los resultados fueron analizados a través de gráficas descriptivas, las cuales permitieron encontrar información sobresaliente que relaciona el estrés estudiantil con el desempeño académico. Se obtuvo un área de oportunidad importante para atender esta necesidad desde un sentido institucional.

Palabras clave: estrés estudiantil, desempeño académico, trayectoria universitaria

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1. Introduction

The constant social changes we encounter in each of today's contexts allow us to understand that the dynamics of socialization are being modified in accordance with the needs that arise in each of the personal and interpersonal spheres. These personal and interpersonal needs are related to the integral development of the individual, a development that entails analyzing the emotional states of each person; these emotional states will be reflected in the fulfillment of personal, professional, and/or academic goals.

Based on the foregoing, the academic performance of university students is affected by the various elements present in their reality, elements that enable them to develop diverse socioemotional states related to their activity within their university life, which is an important pillar for developing the learning required for their future professional performance.

The social dynamics in which the world of the 21st century finds itself have generated in individuals various problems that are reflected in social interactions and in the emotional health of all members of society. This hurried dynamism that we face day after day generates in people various problems such as anxiety, depression, and stress.

This last problem has increased very severely among university students, who in turn reflect it in their academic performance, thus transforming the dynamism found within the classroom and bringing about a change in the teaching-learning process.

2. Theoretical Framework

To speak of university stress is to speak of a socioemotional problem that has been studied by various theorists in the field of psychological health, as is the case of the Theory of Academic Stress, by Lazarus and Folkman. According to this theory, we find that the onset of stress develops on the basis of two appraisals: primary appraisal and secondary appraisal. The first appraisal begins with an analysis of the consequences entailed by the situations to be faced; from there, the individual evaluates the resources available and seeks ways to reduce the likelihood that those consequences will be negative. It is at that point that the second appraisal develops, and this second appraisal becomes evident when people feel threatened (Rocha Chavarría, 2018).

These two appraisals that enable the development of stress in individuals, according to Lazarus and Folkman, make it possible to understand that the various actions university students carry out within their academic work, as well as their various personal commitments, enable the development of diverse situations of stress in their daily lives.

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In addition to this theory, Ryan and Deci, in Self-Determination Theory, establish that human beings depend on three basic needs in order to develop optimally (autonomy, competence, and relatedness). The first need, autonomy, refers to having the feeling of being in control of each of the decisions made day to day; for its part, the second need, competence, is related to achieving each of the objectives that individuals set for themselves in each of the areas in which they perform; and, for its part, the need to relate to others is satisfied when people manage to connect meaningfully with those who form part of their environment (Stover et al., 2017).

On this subject, Ryan and Deci (2000) stated the following:

Excessive control, non-optimal challenges, and lack of connectedness, on the other hand, disrupt the actualizing and organizational tendencies with which nature has endowed individuals, and therefore such factors result not only in a lack of initiative and responsibility but also in distress and psychopathology. (p. 13)

What these authors propose helps us understand the way in which this theory is related, in a very particular manner, to the development of various psychological processes that culminate in situations of stress, in any of the settings in which individuals develop.

Finally, this study was grounded in the Cognitive Load Theory, of John Sweller (1988), which posits in a very particular way how human beings reach a limit in their capacity to adequately process the information they receive, which may cause the individual to become overloaded with cognitive processes that result in poor academic performance. The foregoing is further aggravated when stress is present in the training process, regardless of the educational level at which the students find themselves (Chen & Chang, 2009).

3. Research Method

For the implementation of the present study, quantitative research was carried out. According to De Jesús (2024): “Quantitative research is a methodology that focuses on the collection and analysis of numerical data in order to understand and explain social, economic, scientific, and business phenomena” (p. 4). This research approach allowed for a data collection process that made possible the development of a descriptive, non-experimental, and cross-sectional methodology.

This research process was conducted at the Faculty of Education, Veracruz region, of the Universidad Veracruzana; more precisely, the study focused on the students of the Bachelor's Degree in Education, which has a population of 759 students, from which a random sample was drawn, achieving the participation of 186 students between 18 and 23 years of age, with a middle-low socioeconomic level. This academic entity is located in the city of Boca del Río, Veracruz, in the Mexican Republic.

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In order to obtain the data, a survey was designed with a total of 30 items, which were adapted from recognized theoretical models related to academic stress and coping (Folkman, 2013), as well as academic stress in university students (Barraza Macías, 2007) and the model of autonomy, motivation, and social support (Ryan & Deci, 2000). This questionnaire was adapted into a virtual form, in which the students were able to answer each of the questions.

The reliability of the questionnaire was assessed by means of Cronbach's alpha coefficient using the responses of 186 students of the Faculty of Education. For the analysis, the response options were coded on a four-point scale (a = 1, b = 2, c = 3, and d = 4). Likewise, the items worded in a positive sense were reverse-scored in order to maintain a single direction in the interpretation of the scores.

The complete instrument, comprising 30 items, yielded a Cronbach's alpha coefficient of 0.81, a value that reflects adequate internal consistency. When each dimension was analyzed separately, the Academic Stress scale, composed of 11 items, obtained $\alpha = 0.62$; the Autonomy and Motivation dimension, made up of 9 items, reached $\alpha = 0.78$; and the Cognitive Load dimension, comprising 10 items, registered $\alpha = 0.84$.

4. Results

The results of the survey administered to the 186 students of the Faculty of Education of the Veracruz region of the Universidad Veracruzana were processed through a descriptive statistical data analysis; when we speak of descriptive statistics, we may say that it “is a set of statistical techniques and procedures that help to describe, display, and summarize the information of a data set” (Rincón, 2017, p. 15). Below are some of the charts produced from the survey results, all of which are aimed at the study of stress and its impact on academic performance.

Item 4 focused on ascertaining how students react when they feel overwhelmed by the amount of academic tasks and responsibilities (Figure 1). It was found that 20.4 % of the respondents answered “I isolate myself and withdraw into my own world”, while another 20.4 % indicated “I complain to my friends and family”. These results show that 76 of the students recognize the pressure they face, but each one manages it differently, which may affect their emotional well-being and their academic performance.

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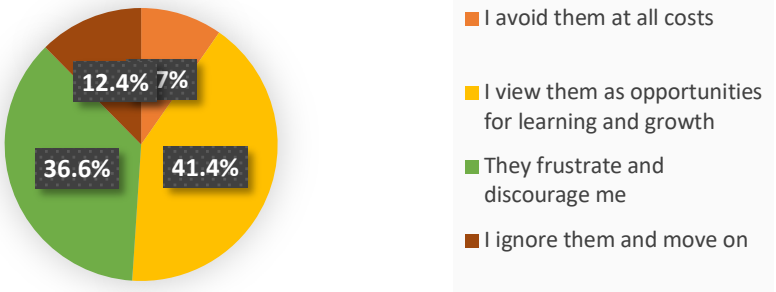
Figure 1
Response to the question "4. What do you do when you feel overwhelmed by the amount of academic tasks and responsibilities?"

Likewise, item 6 focused on ascertaining how students react to academic mistakes or failures (Figure 2). It was observed that 41.4 % of the respondents answered "I see them as opportunities to learn and improve", which indicates that a significant portion of the group seeks to learn from their experiences, showing a willingness to improve continuously. For their part, 36.6 % indicated "They frustrate and demotivate me", which reveals that a considerable number of students may experience difficulties in managing negative emotions and maintaining motivation in the face of academic challenges.

Figure 2
Response to the question "6. Which of the following statements best describes your attitude toward academic mistakes and failures?"



When the respondents were asked how they perceive constructive criticism (Figure 3), 31.2 % indicated "I feel insecure and doubt my abilities". This suggests that almost a third of the group could experience emotional vulnerability in the face of feedback, which highlights the importance of the role of teachers in offering comments in a constructive, empathetic, and motivating manner, so that students perceive criticism as an opportunity for improvement and not as a judgment about their ability.

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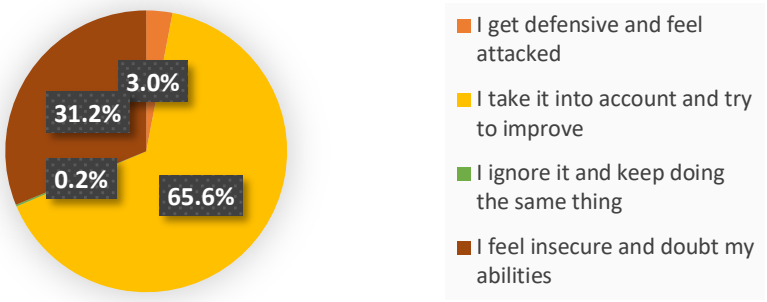
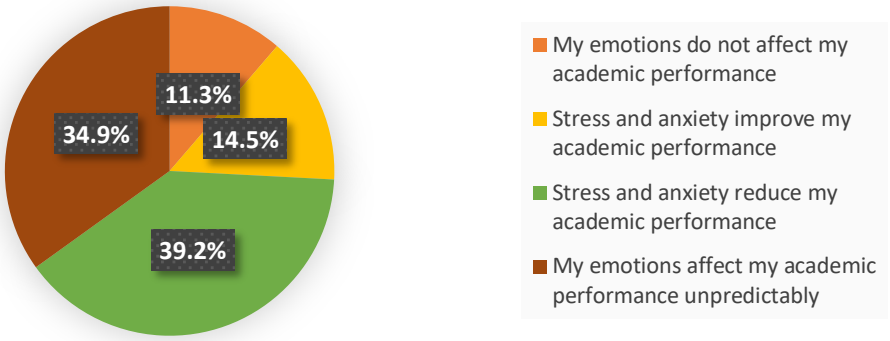
Figure 3
Response to the question "7. When you are faced with constructive criticism about your academic performance, how do you react?"



Likewise, when the respondents were asked about the relationship between their academic performance and their emotional state (Figure 4), it was observed that 34.9 % of them said "My emotions influence my performance unpredictably", while 39.2 % indicated "Stress and anxiety diminish my performance". This indicates that an important portion of the group feels that their emotions directly affect how they fare in their studies, whether variably or through negative effects such as stress and anxiety.

Figure 4
Response to the question "8. How does your emotional state influence your academic performance?"



On the other hand, when the respondents were asked about the strategies they use to manage stress (Figure 5), 34.4 % answered "I do nothing and wait for the stress to go away on its own"; this group may tend to avoid confronting their negative emotions, which may indicate difficulties in regulating stress and managing situations of pressure, and could suggest that they perceive stress as something overwhelming or uncontrollable.

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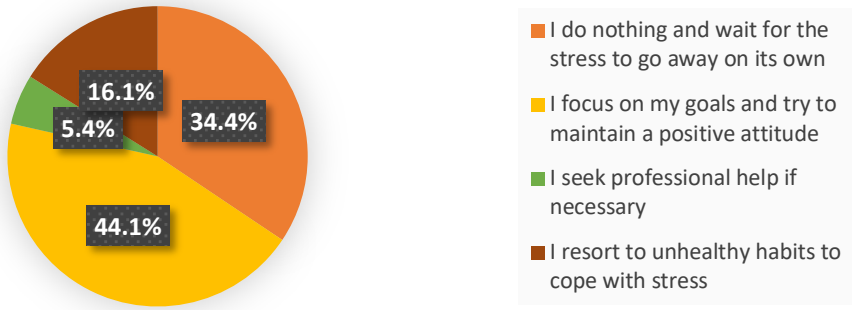
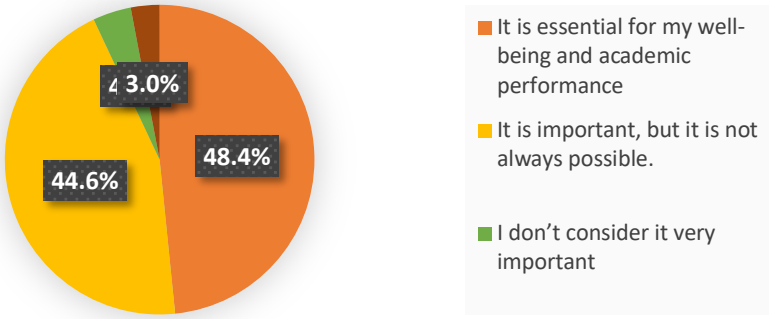
Figure 5
Response to the question "9. What strategies do you use to manage academic stress over the long term?"



Likewise, the respondents were asked about the balance between their personal and academic lives (Figure 6). A total of 44.6 %, almost half of the respondents, indicated "It is important, but it is not always possible", while 48.4 % stated "It is essential for my well-being and academic performance", which demonstrates that students value this balance as an important aspect that directly influences their well-being and their academic performance.

Figure 6
Response to the question "10. How do you rate the importance of maintaining a balance between your academic and personal life?"



On the other hand, when the respondents were asked how difficult they find it to concentrate in places with distractions (Figure 7), it was observed that 37.1 % of the students consider that concentrating on their tasks is "Difficult", while 24.7 % perceive it as "Very difficult". These results indicate that more than half of the group faces difficulties in maintaining attention in the presence of external stimuli, which could affect their academic performance and the effectiveness of their learning.

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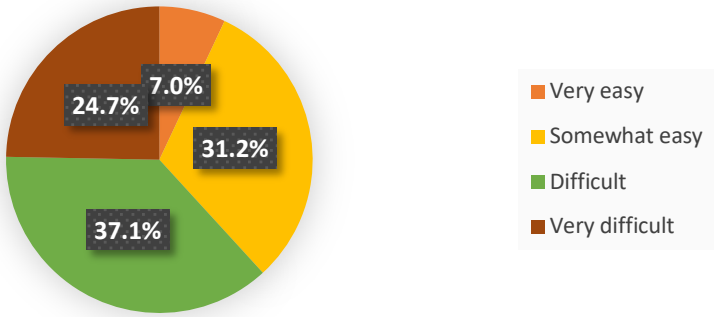
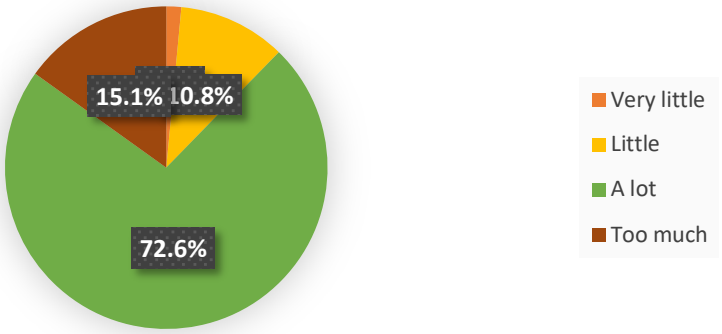
Figure 7
Response to the question "21. How easy is it for you to concentrate on your academic tasks when there are distractions around you?"



Item 22, which reflects the perception of the amount of information that students must process in their courses (Figure 8), showed that 72.6 % of the respondents rated it as "A lot", while 15.1 % considered it "Too much". This result reveals that practically the entire group perceives a high academic load, which constitutes a relevant finding because it may be an important indicator of possible factors that increase academic stress.

Figure 8
Response to the question "22. How would you describe the amount of information you must process in your courses?"



Likewise, item 24 (Figure 9) showed that 104 of the respondents, that is, 55.9 %, feel overwhelmed "Often" by the amount of information they must learn in their courses. This percentage indicates that many students could be facing challenges in managing their learning load effectively, which may affect students' motivation, causing some to feel less confident in their ability to learn and to progress through the content.

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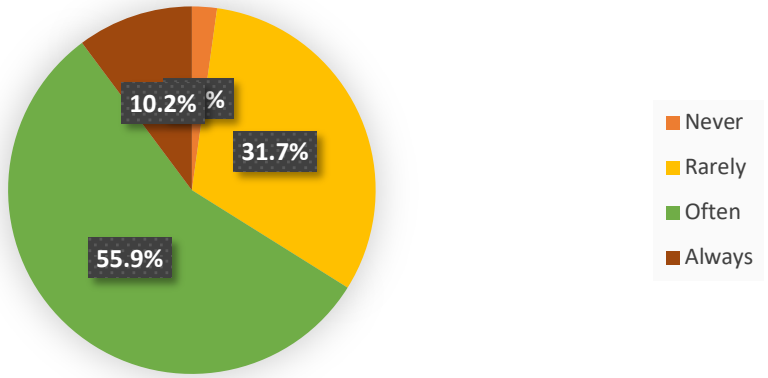
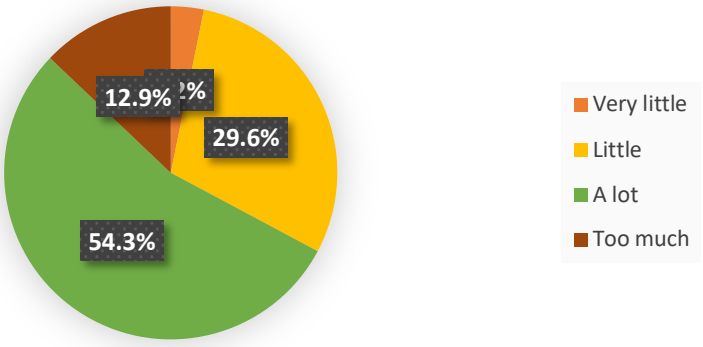
Figure 9
Response to the question “24. How often do you feel overwhelmed by the amount of information you must learn in your courses?”



On the other hand, when the respondents were asked about their perception of the cognitive effort required to understand the concepts of their course (Figure 10), 54.3 % answered “A lot” and 12.9 % answered “Too much”; most students perceive that their courses demand a high level of mental effort, which could directly influence their concentration, motivation, and time management, and this perception of high cognitive load may be a factor that increases levels of academic stress.

Figure 10
Response to the question “29. How would you describe the amount of mental effort you must invest in order to understand the concepts of your course?”



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5. Conclusions

Based on the results of the survey, and drawing on the statistical description of those results, it can be said that the students of the Faculty of Education, Veracruz region, of the Universidad Veracruzana do experience a certain degree of stress in the face of the various academic activities they carry out during their university education, which has a significant impact when they undertake each of the activities inherent to their learning process, thereby affecting their academic performance.

In addition, it is important to mention that most students demonstrate resilient attitudes toward academic stress, considering that mistakes can be taken as opportunities for growth and thus arriving at an appreciation of the balance between their personal and academic lives. It is also worth mentioning that indicators of emotional vulnerability were identified, such as certain feelings of insecurity in the face of constructive criticism, as well as limited concentration in environments containing triggers for distraction. In addition to this, the respondents report having few strategies for coping with stress, including a tendency to wait for the problem to disappear on its own.

These results call for the development of various institutional actions, as well as scientific studies, in order to identify and implement strategies that make it possible to reduce stress levels among university students, thereby generating, from the scientific field of education, diverse pedagogical strategies that contribute to an academic education with a human dimension, in which each of the areas of students' lives is attended to, so as to educate students who are able to make a difference in twenty-first-century society, thus innovating in education from a socioemotional perspective.

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