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Prevalence of Emotional Distress and Use of Maladaptive Emotional Regulation Strategies among University Students

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Los estudiantes universitarios suelen experimentar malestar psicológico por diversas razones, como la transición a la edad adulta y los nuevos desafíos que conlleva esta etapa. Como resultado, es común que presenten síntomas como ansiedad, depresión y somatizaciones. Se ha sugerido que las estrategias de regulación emocional tienen una relación significativa con estos síntomas psicológicos. No obstante, la mayoría de los estudios sobre esta relación se han centrado principalmente en la población adulta. Este fue un estudio exploratorio descriptivo cuyo objetivo fue describir el estado de salud mental de estudiantes universitarios a partir de una muestra de 556 participantes. Además, se examinó el uso de diferentes estrategias de regulación emocional. Se utilizaron varios cuestionarios para medir la sintomatología psicológica (PHQ-9, GAD-7 y PHQ-15) y las estrategias de regulación emocional (PSWQ-A, RRS-B, CERQ-18 y ERQ). Los resultados obtenidos revelaron una alta presencia de malestar psicológico entre los estudiantes y un alto uso de algunas estrategias de regulación emocional desadaptativas como la preocupación, la supresión emocional o la rumiación. Parece que los alumnos con mayor sintomatología son las mujeres y los del primer y último curso. Estos resultados podrían ayudar a desarrollar programas preventivos para esta población centrados en los diferentes factores de riesgo sociodemográficos y las principales estrategias de regulación emocional implicadas.

Prevalencia de malestar emocional y uso de estrategias de regulación emocional desadaptativas en estudiantes universitarios

R E S U M E N

University students often experience psychological distress for various reasons, such as the transition to adulthood and the new challenges this stage brings. As a result, it is common for them to present symptoms like anxiety, depression, and somatization. It has been suggested that emotional regulation strategies have a significant relationship with these psychological symptoms. However, most studies on this relationship have primarily focused on adult populations. This was an exploratory descriptive study that aim to explore the mental health status of university students based on a sample of 556 participants. Additionally, the use of different emotional regulation strategies was examined. Several questionnaires were used to measure psychological symptoms (PHQ-9, GAD-7 and PHQ-15) and emotional regulation strategies (PSWQ-A, RRS-B, CERQ-18 and ERQ). The results revealed a high presence of psychological distress among students and a high use of certain maladaptive emotional regulation strategies such as worry, emotional suppression, and rumination. It appears that the students with the highest symptomatology are women and those in their first or last year of study. These findings could help develop preventive programs for this population, focusing on different sociodemographic risk factors and the key emotional regulation strategies involved.

Palabras clave:

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Introduction

Youth is a transitional stage to adulthood during which individuals undergo significant changes in their social environment, potentially increasing their vulnerability to adverse situations (Culatta & Clay-Warner, 2021). Consequently, the mental health of university students has become a focal point of research. It has been found that factors such as academic overload (e.g., exams), time management challenges, and shifts in social environments can be key sources of stress and emotional difficulties for students (Restrepo et al., 2020). Consequently, it is likely that these populations present a high rate of emotional disorders, defined as a tendency to experience frequent intense negative emotions and a negative reactivity to them (Bullis et al., 2019). Among these emotional states depressive and anxious disorders are the most common. Depression is defined as low mood, anhedonia, feelings of worthlessness, and other somatic symptoms, while anxiety is described as a physical and psychological overreaction (DSM-5, 2013). The prevalence of depression, anxiety, and stress among university students has been reported as 75%, 88.4%, and 84.4%, respectively (Asif et al., 2020). Similarly, a meta-analysis by Shaffique et al. (2020) confirmed that 80% of university students experience anxiety and depressive symptoms, underscoring the importance of studying this population and identifying the factors that contribute to their emotional distress.

On this basis, sociodemographic factors also play a role in emotional well-being. Studies indicate that being female and within the 18-25 age range is associated with a higher likelihood of experiencing emotional symptoms or disturbances (Muñoz-Navarro et al., 2020). Furthermore, the academic year of students can affect their mental health, as they face new demands, increased competition, rapid changes, and concerns about future unemployment (Martínez-Otero, 2014). These factors highlight the need for targeted interventions to support university students' mental health during this critical period.

On the other hand, research has suggested that maladaptive emotional regulation strategies (those ineffective attempts to change the way one feels) are linked to emotional symptoms (Aldao et al., 2014; Hernández-Ballester et al., 2023). While most studies on emotional regulation strategies have focused on adults, some findings also demonstrate a connection between maladaptive strategies and emotional symptoms in young people (Gómez-Ortiz et al., 2016). Given the well-established link between maladaptive emotional regulation and psychological distress in adults (Aldao et al., 2014), it is essential to examine these strategies in younger populations, particularly university students, who encounter unique stressors during this transitional phase. Specifically, the use of maladaptive strategies such as catastrophizing (tendency to imagine the worst things that could happen), rumination (repetitive and passively focused cognitive response style to discomfort), and self-blame (feeling that we have not been able to solve something that we thought we controlled) has been associated with increased anxiety, with catastrophizing emerging as the strongest predictor of both anxiety and depression (Dominguez-Lara, 2017). Additionally, emotional suppression has been found to negatively impact efforts to improve mood, thereby exacerbating depressive symptoms (Gómez-Ortiz et al., 2016).

For this reason, in order to explore and describe mental health of university students, the following objectives are proposed: a) to observe the symptoms of emotional disorders (anxiety, depression and somatization) in university students; b) to analyse the extent to which students have tendencies to maladaptive emotional regulation strategies; c) analyse whether these symptoms and strategies are related to the age, gender, course or grade in which they are enrolled. It is hypothesized that women and younger

individuals will have higher symptomatology and greater use of maladaptive regulation strategies. It is hoped that this study will provide a more comprehensive view of the mental health and emotional regulation processes used by university students, in order to identify areas of intervention and support needed to promote their emotional well-being.

Method

Participants

We included all participants as long as they completed all the questionnaires. The sample was composed of 556 participants with a mean age of 19.9 years ($SD = 2.2$). All of them were university students, from 1st to 4th year of elementary education, psychology or labour relations (undergraduate degrees). Most of them belonged to the first or the second year (the 74.7%). Similarly, we obtained more participants from psychology (44.4%) and elementary education degree (48%) than from labour relations (7.6%). Regarding gender, the percentage of women was significantly higher than that of men, with 419 women and 137 men. Table 1 details the sociodemographic characteristics of the subjects.

Instruments

Clinical variables

Depressive symptoms. The *Patient Health Questionnaire-9* (PHQ-9) (Kroenke et al., 2002) assesses the 9 DSM-IV depression criteria over the past two weeks. It uses a 4-point Likert scale from 0 to 3 (0 = never, 1 = several days, 2 = more than half the days, 3 = nearly every day). A score of 10 or higher suggests major depression. Severity levels are: 0-4 (minimal), 5-9 (mild), 10-14 (moderate), 15-19 (moderately severe), and 20 or more (severe). The PHQ-9 shows high internal reliability ($\alpha = .89$).

Anxiety symptoms. The *Generalized Anxiety Disorder-7* (GAD-7) (Spitzer et al., 2006) is a 7-item scale measuring symptoms of Generalized Anxiety Disorder (GAD) based on DSM-IV criteria, over the past two weeks. It uses a 4-point Likert scale from 0 to 3 (0 = not at all, 3 = nearly every day). Scores range from 0 to 21, with 10 or more indicating anxiety. Severity levels are: 5 (mild), 10 (moderate), and 15 (severe). The GAD-7 shows high internal reliability ($\alpha = .92$) and adequate test-retest reliability ($\rho = .83$).

Somatic symptoms. The *Patient Health Questionnaire-15* (PHQ-15) (Kroenke et al., 2002) assesses 15 somatic symptoms, 13 specific and 2 related to sleep problems and fatigue from the PHQ-9, over the past four weeks. It uses a 3-point Likert scale from 0 to 2 (0 = not at all bothersome, 2 = very bothersome). Scores range from 0 to 30, with a cut-off of 10 or higher indicating significant somatic symptoms. Severity levels are: 0-4 (none), 5-9 (mild), 10-14 (moderate), and ≥ 15 (high). The PHQ-15 has acceptable internal reliability ($\alpha = .80$) and adequate test-retest reliability ($\rho = .75$).

Emotional Regulation Strategies

Worry. The *Penn State Worry Questionnaire-Abbreviated* (PSWQ-A) (Meyer et al., 1990; Sandín et al., 1999) is a shortened version with 8 items assessing the tendency to worry. It uses a 5-point Likert scale. Higher scores indicate a greater tendency to worry. It has excellent internal reliability ($\alpha = .92$).

Rumination. The *Ruminative Response Scale-Brooding* (RRS-B) (Hervás, 2008; Nolen-Hoeksema, 1991) measures melancholic

rumination, defined as passive, critical thoughts about one's mood. It consists of 5 items on a 4-point Likert scale. Higher scores indicate a greater tendency to ruminate. It has good internal reliability ($\alpha = .79$).

Self-blame and catastrophizing. The *Cognitive Emotion Regulation Questionnaire-18* (CERQ-18) (Garnefski & Kraaij, 2006) assesses cognitive emotion regulation strategies through 18 items across 9 subscales. The self-blame and catastrophizing subscales measure the tendency to blame oneself and perceive situations as extremely threatening. Both show good internal reliability: self-blame ($\alpha = .68$) and catastrophizing ($\alpha = .81$).

Emotional suppression. The *Emotion Regulation Questionnaire* (ERQ) (Gross & John, 2003; Cabello et al., 2013) assesses emotional regulation through two subscales: cognitive reappraisal (6 items) and emotional suppression (4 items). It uses a 7-point Likert scale, where higher scores indicate more frequent use of these strategies. The ERQ has good internal reliability ($\alpha = .83$).

These instruments were chosen due to their strong psychometric properties and relevance to the target population. The PHQ-9, GAD-7, and PHQ-15 are easy to apply and widely validated tools that reliably assess depression, anxiety, and somatic symptoms in both adults and young people. Additionally, the PSWQ-A, RRS-B, CERQ-18, and ERQ provide comprehensive measures of emotional regulation strategies which are critical in understanding how students cope with stress and emotions.

Procedure

Within the framework of an educational innovation project approved by the Human Research Ethics Committee of the University of Córdoba (CEIH-22-20), this study is composed of an incidental sample. It was an exploratory descriptive study that aim to improve the knowledge about the prevalence of emotional distress and the use of maladaptive emotional regulation strategies in university studies. The subjects were informed about the characteristics of the study during school hours in various subjects and grades, and were invited to participate voluntarily and anonymously. After obtaining a signed informed consent, the participants filled in the questionnaires electronically in Google Forms after scanning the QR provided. The data were collected over two academic years, from September 2021 to November 2022, by researchers independent of those who analysed them, to prevent bias. With regard to the treatment of missing values, as it was a large number of participants, it was decided not to calculate dummy values to provide more reliable data, but this meant that in some variables the total sample of 556 people was not reached.

Statistical analysis

First, the presence of outliers was verified using a box plot, and some subjects were eliminated. Subsequently, descriptive statistics were performed using the SPSS v.25 program (IBM). The assumptions of normal distribution were confirmed with Kolmogorov-Smirnov. To explore the association of sociodemographic variables with clinical symptoms and maladaptive emotional regulation strategies, Student's t-tests, ANOVAs, and Pearson's correlation coefficient were performed. When significant differences were observed in variables from more than 2 groups, multiple comparison Tukey analyses were performed.

Results

Severity of symptoms and emotional regulation strategies present in university students.

The PHQ-15 questionnaire showed a mean of more than 10 points, indicating in general, the existence of moderate somatic symptoms in the students. Similarly, the proportion of participants with clinical symptoms, regardless of their severity, rises to 72.2% (see Table 1 for more details). The PHQ-9 questionnaire showed an average of less than 10 points, indicating the presence of minimal depressive symptoms in the students. Likewise, the proportion of participants with clinical symptomatology, regardless of their severity, rises to 70.1% (see Table 1 for more details). The GAD-7 scale showed an average of less than 10 points, which indicates the presence of mild anxiety symptoms in the students. Similarly, the proportion of participants with clinical symptoms, regardless of their severity, rises to 66.4% (see Table 1 for more details). Maladaptive emotional regulation strategies have moderate values, which suggests their high presence among students. The results indicate that the strategies of worry and emotional suppression are the most commonly used. Likewise, a high presence of melancholic rumination was found, while catastrophizing is present in a moderate way among university students compared to the previous strategies (see Table 1 for more details).

Table 1. Sample characteristics (N = 556)

	M(SD)	n (%)
Sociodemographic Factors		
Age	19.9 (2.2)	
Gender		
Male		137 (24.6)
Female		419 (75.4)
University Degree		
Elementary education		267 (48)
Psychology		247 (44.4)
Labour relations		42 (7.6)
Academic year		
First year		225 (40.5)
Second year		190 (34.2)
Third year		55 (9.9)
Fourth year		86 (15.5)
Clinical variables		
Somatoform symptoms	9.57 (4.94)	
Insignificant		77 (13.8)
Mild		191 (34.4)
Moderate		148 (26.6)
Severe		78 (11.2)
Depressive symptoms	7.56 (4.53)	
Insignificant		163 (29.3)
Mild		234 (42.1)
Moderate		108 (19.4)
Severe		48 (8.6)
Anxious symptoms	7.16 (4.78)	
Insignificant		187 (33.9)
Mild		202 (36.3)
Moderate		121 (21.8)
Severe		46 (8.3)
Maladaptive strategies.		
Worry	24.51 (7.94)	
Rumination	11.72 (3.55)	
Self-blame	6.20 (1.93)	
Catastrophizing	5.64 (2.11)	
Emotional suppression	13.05 (4.39)	

Table 2. Association between sociodemographic factors and symptoms.

Variables	Worry		Rumination		Self-blame		Catastrophizing		Suppression	
	Statistical	<i>p</i>	Statistical	<i>p</i>	Statistical	<i>p</i>	Statistical	<i>p</i>	Statistical	<i>p</i>
Age	<i>r</i> = -.03	.432	<i>r</i> = -.09	.029	<i>r</i> = .03	.570	<i>r</i> = -.13	.002	<i>r</i> = -.07	.089
Gender	<i>t</i> = 7.66	.000	<i>t</i> = 5.61	.000	<i>t</i> = -0.42	.671	<i>t</i> = 3.92	.000	<i>t</i> = -2.86	.004
Degree	<i>F</i> = 1.28	.278	<i>F</i> = 0.45	.639	<i>F</i> = 0.58	.563	<i>F</i> = 0.31	.734	<i>F</i> = 1.11	.330
Course	<i>F</i> = 3.91	.009	<i>F</i> = 2.86	.036	<i>F</i> = 0.42	.738	<i>F</i> = 3.77	.011	<i>F</i> = 2.17	.091

Relationship between sociodemographic variables and students' emotional state

The results indicate that no significant differences were found between the age of the participants and the presence of clinical symptoms, therefore, age does not have a significant impact on the manifestation of clinical symptoms (see Table 2 for more details). Gender shows significant differences across all analysed clinical variables, with women exhibiting notably greater symptomatology. Women had a significantly higher mean of somatoform symptoms ($M = 10.64$, $SD = 4.85$) compared to men ($M = 6.49$, $SD = 3.7$). They also showed a significantly higher mean of depressive symptoms ($M = 7.82$, $SD = 4.5$) compared to men ($M = 6.75$, $SD = 4.56$). As for anxious symptoms, women will also score significantly higher ($M = 7.65$, $SD = 4.76$) compared to men ($M = 5.59$, $SD = 4.57$). The results indicate that only significant differences were found between titrations (grades) for depressive symptoms. Multiple comparison analyses revealed that no significant differences ($p = .981$) were found among elementary school students ($M = 7.37$; $SD = 4.46$) and psychology ($M = 7.45$; $SD = 4.60$). However, there are significant differences ($p = .024$) between elementary and secondary school students ($M = 9.3$; $SD = 4.27$) and among psychology and occupational studies ($p = .033$). These data suggest that students in the workplace have greater depressive symptoms compared to elementary and psychology students. The course students are in seems to be relevant only when it comes to anxious symptoms. Specifically, multiple comparison analyses revealed that there were only significant differences among first-year students ($M = 7.93$; $SD = 4.61$) and second-year students ($M = 6.61$; $SD = 4.68$) in terms of anxious symptoms (see Table 2 for more details).

The results show that age is associated with several maladaptive emotional regulation strategies in the sample studied. Specifically, a negative and significant association was found between age and the presence of rumination and catastrophizing. This indicates that as age increases, the presence of rumination and catastrophizing decreases, and vice versa. However, age does not seem to show a significant relationship with the tendency to blame oneself, worry, and emotional suppression.

Gender is associated with the presence of maladaptive emotional strategies, with significant differences between men and women regarding their use. Thus, women would have higher levels of worry ($M = 25.86$; $SD = 7.72$) than men ($M = 20.22$; $SD = 7.33$). Women would also have higher levels of rumination ($M = 12.14$; $SD = 3.49$) than men ($M = 10.29$; $SD = 3.41$). Similarly, women would also tend to catastrophize ($M = 5.81$; $SD = 2.12$) somewhat more than men (M

$= 5.04$; $SD = 2.05$). However, men suppress their emotions more ($M = 14.71$; $SD = 5.13$) than women ($M = 13.17$; $SD = 5.52$).

The three degrees analysed (elementary, psychology and labour) do not present significant differences with respect to the use of maladaptive regulation strategies. However, the academic year of the students seems to affect concern and rumination. For concern, in the multiple comparison analyses, it can be seen that, statistically ($p < .05$), first-year students are more concerned ($M = 26.97$; $SD = 7.54$) than second-year students ($M = 23.52$; $SD = 8.02$) and those in the third ($M = 22.79$; $SD = 8.08$).

However, first-year students worry the same as fourth-graders ($p > .05$). On the other hand, it is observed that first-year students ($M = 12.18$; $SD = 3.41$) show significantly more rumination ($p = .04$) than those in third grade ($M = 10.79$; $SD = 3.06$). The rest of the comparisons showed no significant differences (see Table 3 for more details).

Discussion

Firstly, in relation to the state of mental health of university students, this study shows a high presence of emotional distress. Although participants did not reach severe clinical thresholds, the emotional burden they experience is significant, which increases the likelihood of facing more severe emotional difficulties in the future (Vizoso-Gómez & Arias-Gundín, 2016). This supports the perception that mental health problems in university students are a problem of current relevance (Bruffaerts et al., 2018). The presence of general psychological distress such as somatization, anxiety, or depression is common among university students (Hakami, 2018). In addition, these symptoms can act as predictors of poor academic performance (Sobowale et al., 2018). Our study highlights high scores in this symptomatology, underlining its importance, as it is usually associated with burnout and cognitive and behavioural problems. These factors, in turn, can lead to academic burnout, high emotional exhaustion, depersonalization, and low feelings of personal fulfilment related to their academic work (Arbabisarjou et al., 2016). When comparing these results with those obtained in other Spanish universities (Blanco et al., 2021; Ramón-Arbués et al., 2020), the number of students with symptoms of anxiety disorders and depression is higher at the University of Cordoba. The coexistence of these symptoms supports those models that try to explain different symptoms by common mechanisms, highlighting a high level of negative affectivity, a feeling of uncontrollability of events, and attention focused on negative interpretations of the symptoms (Dagleish, 2020).

Table 3. Association between sociodemographic factors and maladaptive emotional strategies

Variables	Somatoform Symptoms		Depressive Symptoms		Anxious Symptoms	
	Statistical	<i>p</i>	Statistical	<i>p</i>	Statistical	<i>p</i>
Age	<i>r</i> = .01	.757	<i>r</i> = -.05	.304	<i>r</i> = -.03	.427
Gender	<i>t</i> = 8.91	.000	<i>t</i> = 2.60	.010	<i>t</i> = 4.47	.000
Degree	<i>F</i> = 1.95	.143	<i>F</i> = 3.73	.025	<i>F</i> = 0.30	.740
Course	<i>F</i> = 0.29	.831	<i>F</i> = 1.29	.278	<i>F</i> = 3.02	.029

Secondly, the results indicate that students tend to use maladaptive emotional regulation strategies, such as emotional worry and suppression, together with melancholic rumination, although at more moderate levels. The transition to adulthood implies new circumstances for which the usual coping responses may no longer be sufficient, so the adaptation of more adaptive strategies is required, since the previous ones can become maladaptive and be related to a high psychopathology (Aldao & Nolen-Hoeksema, 2010; Aldao et al. 2010). However, catastrophizing is the most significant predictor of anxiety and depression (Domínguez-Lara, 2017). The results of this research contradict the evidence provided by Domínguez-Lara (2017), since the young participants experience and process the phenomenon of catastrophizing in a more moderate way.

Lastly, the relationship between sociodemographic variables and the emotional state of students shows that age does not exhibit relevance with the presence of clinical symptoms, but it does with certain strategies of maladaptive emotional regulation. However, young age (18 - 25 years) is associated with a higher probability of experiencing symptoms and/or emotional alterations (Muñoz-Navarro et al., 2020), since in this age period, mental health problems absent in previous stages, such as mood and anxiety disorders, tend to emerge with a particular intensity (Harrington, 2002). The first and the last year of university, according to our research, acquires considerable relevance. This could be explained by the changed students have to deal with in that concrete years, such as the transition from high school to university, facing academic pressure derived from jobs and exams, lack of close family support, and economic factors, and the challenge of a new moment in life after their last year (Trigueros et al., 2020). In this line, previous research have already confirmed that the academic year affects concern and rumination, especially in the beginning and the end of their period as students (Martínez-Otero, 2014).

Although the university context seeks to equitably promote the skills and competencies of both genders (Ordorika, 2015), the results of this study reveal a higher prevalence of symptomatology in women compared to men. It is important to note that the selected sample, which is predominantly female, may increase vulnerability in this group (Tran et al., 2017). Despite this, studies carried out at the international level (Lun et al., 2018; Paula et al., 2020) support the trend of a higher prevalence in women. The gender here deserves special attention, since there is evidence that suggests that it plays a significant role in symptoms and mental illnesses (Gaibor-González & Moreta-Herrera, 2020). In fact, the differential expression of alterations, more external in men and more internal in women (Berlin et al., 2012; Boson et al., 2019), highlights the higher incidence and intensity of psychological alterations in women, among other factors (Jerez-Mendoza & Oyarzo-Barría, 2015).

Limitations

Regarding the limitations of this study, the sample is not equated according to gender, which makes it impossible to evaluate whether the results are maintained with a more balanced distribution. On the other hand, it would also be relevant to be able to verify the presence of emerging adulthood in non-university youth, such as young people who work, or who do not study or work. This would allow us to characterize the factors that influence the mental health of this little-studied group, since the present study does not delve into them, and the presence of clinical symptoms does not establish a linear or exclusive relationship between these symptoms and the problems

associated with academic stress and the demands of university life. Future research could be oriented towards longitudinal studies, with the purpose of examining the incidence of mental health disorders and possible trajectories associated with their appearance during the university stage.

Conclusion

On the one hand, university students seems to face a notable prevalence of mental health symptoms like anxiety, depression and somatization, particularly females and those of the first and last academic year. On the other hand, it appears that worry, emotional suppression, and melancholic rumination were the most emotional regulation strategies used. These results might be useful to design mental health preventive interventions during university years, proving professional and social support to a vulnerable population. In addition, focusing on changing maladaptive emotional regulation strategies could lead to the development of the mentioned intervention programs to promote mental health in the university context as it has been done in elementary and secondary study levels with children and adolescents. Given the high prevalence of maladaptive strategies observed, interventions should focus on promoting cognitive reappraisal techniques, which have shown efficacy in reducing anxiety and depression (Gross & John, 2003).

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