



Generalized Anxiety, Optimism and Pessimism in Higher Education Students

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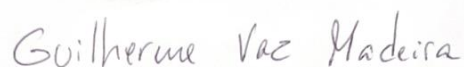
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A handwritten signature in black ink that reads "Guilherme Vaz Madeira". The signature is written in a cursive style and is centered on a light-colored rectangular background.

Agradecimentos

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Resumo

A ansiedade em estudantes do ensino superior tem sido estudada, sendo no entanto menos frequentes os estudos que analisem a sua relação com o otimismo disposicional, especialmente em Portugal. Este estudo tem assim como objetivo explorar a relação entre a ansiedade, otimismo e pessimismo em estudantes do ensino superior. A amostra é composta por 177 estudantes de instituições de ensino superior portuguesas, com idades compreendidas entre os 18 e os 39 anos ($M=22.69$ anos; $DP=4.35$), que responderam às versões portuguesas do *Life Orientation Test – Revised* (LOT-R) e da *Generalized Anxiety Disorder Scale* (GAD-7). Os resultados demonstraram que a média de ansiedade na amostra foi considerada ligeira, embora aproximadamente 38% da amostra relatasse níveis de ansiedade moderados a severos. Em relação ao otimismo disposicional, os participantes relataram maiores níveis de otimismo do que pessimismo. Não foram encontradas diferenças estatisticamente significativas na ansiedade, otimismo e pessimismo, considerando o género e a faixa etária. Verificou-se uma associação negativa e estatisticamente significativa entre ansiedade e otimismo e uma associação positiva entre ansiedade e pessimismo. Os resultados são discutidos bem como as suas implicações.

Palavras-chave

Ansiedade, otimismo, pessimismo, estudantes, ensino superior

Abstract

Anxiety in higher education students has been widely studied, however, its relationship with dispositional optimism has not been as investigated, especially in Portugal. This study aims to explore the relationship between anxiety, optimism and pessimism in a sample of higher education students. The sample was composed of 177 students from Portuguese higher education institutions with age ranging from 18 to 39 years ($M= 22.69$ years; $SD= 4.35$). Participants filled in the Portuguese versions of the Life Orientation Test – Revised (LOT-R) and Generalized Anxiety Disorder (GAD-7). The results showed that the sample's anxiety mean score was considered mild, although approximately 38% of the participants reported having moderated to severe anxiety levels. Regarding dispositional optimism, participants had higher levels of optimism than pessimism. No significant differences were found in anxiety, optimism, and pessimism, considering gender and age groups. The correlation between anxiety and optimism was found to be negative and statistically significant; anxiety and pessimism were positively and significantly correlated. The results as well as their implications are discussed

Keywords

Anxiety, optimism, pessimism, students, higher education

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Lista de Acrónimos

APA	American Psychiatric Association
DSM	Diagnostic and Statistical Manual for Mental Disorders
GAD-7	Generalized Anxiety Disorder - 7 item
LOT-R	Life Orientation Test-Revised
IHME	Institute for Health Metrics and Evaluation
EES	Estudantes de Ensino Superior
HES	Higher Education Students

Introdução

A presente dissertação apresenta-se como um requisito parcial para a obtenção do grau de mestre em Psicologia Clínica e da Saúde. A investigação integra um projeto mais alargado, designado “HI-RISK19+: Valores, crenças e comportamentos de risco dos estudantes do ensino superior em tempos de pandemia” e incide, especificamente, no estudo da ansiedade e otimismo disposicional em estudantes do ensino superior.

A saúde mental em estudantes do ensino superior (EES) tem causado cada vez mais preocupações devido ao aumento da prevalência e gravidade de perturbações psicopatológicas nesta população (Silveira et al., 2011). Fatores como o aumento das responsabilidades, deixar a casa dos pais, partilhar casa com novas pessoas, problemas financeiros, entre outros, contribuem para que esta fase da vida seja um período de grande vulnerabilidade, podendo levar ao aumento ou desencadeamento de perturbações psiquiátricas graves (Silveira et al., 2011).

As perturbações de ansiedade são as perturbações mais comuns em EES (Caldas De Almeida & Xavier, 2013; Seehuus et al., 2021). A ansiedade pode ser definida como a uma antecipação a uma ameaça futura (real ou apenas percebida), frequentemente associada a uma preocupação incontrolável, tensão muscular e estado de vigilância persistente, que leva a comportamentos cautelosos ou evitativos (American Psychiatric Association, 2013). A ansiedade em EES tem grandes implicações, principalmente no domínio cognitivo e psicossocial. Esta ansiedade pode causar mau desempenho académico, abandono escolar prematuro (Ameringen et al., 2003) e, em casos mais severos, o suicídio (Haas et al., 2003). O aparecimento e imprevisibilidade da pandemia COVID-19 causou a alteração dos comportamentos dos EES, o que provocou um impacto psicológico negativo, principalmente ao nível de ansiedade e depressão (Maia & Dias, 2020). Em Portugal, a sintomatologia ansiogénica aumentou significativamente durante todo o período de pandemia (de outubro de 2019 a março de 2021) (Conceição et al., 2021).

O otimismo disposicional é considerado como a “tendência generalizada, relativamente estável, a esperar bons resultados em todos os domínios da vida” (Scheier & Carver, 2018, p.1). Estudos têm demonstrado que o otimismo disposicional se apresenta positivamente associado ao bem-estar subjetivo (Genç & Arslan, 2021), à

autoeficácia (Umucu et al., 2018; Y. Yu & Luo, 2018), à gratidão (Bazargan-Hejazi et al., 2021; Biber et al., 2020) e às necessidades de autonomia e competência (Teuber et al., 2021). O otimismo é também um preditor de satisfação geral com a vida e de emoções positivas (Umucu et al., 2018; Y. Yu & Luo, 2018). Por outro lado, tem sido demonstrado que o otimismo se associa negativamente com sintomatologia psicopatológica (Chang et al., 2017; Hirsch et al., 2007; Nes & Segerstrom, 2006; Umucu et al., 2018; Williams, 1992), nomeadamente em EES (Monteiro et al., 2008).

A ansiedade em EES tem sido amplamente estudada (eg. Eisenberg et al., 2007; Jiang et al., 2020; Lee et al., 2021; Moreira de Sousa et al., 2018; Rith-Najarian et al., 2019; Simonetti et al., 2021; Ulrich et al., 2021), no entanto a sua relação com o otimismo disposicional não tem sido tão investigada. É então necessário explorar estas dimensões nos EES de modo a desenvolver e melhorar intervenções específicas, bem como desenvolver projetos que contribuam para uma menor incidência e prevalência de problemas de saúde mental nesta população.

O presente trabalho tem assim como objetivo geral explorar a relação entre ansiedade, otimismo e pessimismo numa amostra de EES. Em termos de organização, a dissertação encontra-se escrita em língua inglesa, em formato de artigo, cuja redação pretende aproximar-se de um trabalho para publicação, seguindo as normas propostas pela revista “*PSICOLOGIA*”. Assim, o artigo inicia-se com uma revisão da literatura/enquadramento teórico do estudo, seguindo-se a apresentação do método, resultados e discussão final.

No âmbito de parte do trabalho desenvolvido na dissertação, foi apresentada, no dia 3 de junho de 2022, uma comunicação em formato Poster, denominada de “Otimismo, Pessimismo e Ansiedade Generalizada em estudantes do ensino superior” (Madeira & Cunha, 2022), nas “*Las Conferências Internacionais em Psicologia Clínica e da Saúde da Universidade da Beira Interior*”.

Capítulo I – Generalized Anxiety, Optimism and Pessimism in Higher Education Students

Introduction

Higher education students are exposed to high stressors, such as sleep problems, anxiety, poor time management, and financial or relational problems (Hartson et al., 2021), which can lead to a poor psychosocial adjustment (Conley et al., 2018). It is known that optimism influences the way people approach those stressors and deal with them (Carver et al., 2010). Few studies in Portugal had analyzed the levels of anxiety in higher education students and their relationship with dispositional optimism.

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association [APA], 2013), anxiety is the anticipation of future threats and is frequently associated with uncontrollable worry, muscle tension, and vigilance toward a future threat (real or perceived as such), leading to careful or avoidant behaviors. When it comes to generalized anxiety disorder, the worry usually involves everyday life aspects, such as simple daily activities, timeliness, finances, health, etc. (Sadock et al., 2017). These issues may concern the person on a daily or weekly basis and can lead to social and professional impairment, as well as significant individual suffering (Figueira et al., 2020).

Anxiety disorders are the sixth largest contributor to non-fatal health loss globally (World Health Organization [WHO], 2017), and, in 2019 the percentage of the female population with some sort of anxiety disorder globally was 5%, while the male population was 3.09% (Institute for Health Metrics and Evaluation [IHME], 2019). Although these numbers are already high, in Portugal, they seem to be higher, since 11.2% of the female population and 6.6% of the male population have an anxiety disorder (IHME, 2019).

According to Scheier and Carver (2018), “dispositional optimism is the generalized, relatively stable tendency to expect good outcomes across important life domains” (p.1). When people see outcomes as attainable or reachable, they make more effort to reach their goals, even when it is difficult (Scheier & Carver, 1987). Optimistic people have this characteristic in all aspects of life, and they are not limited to

behavioral domains or contexts. The same occurs with pessimistic people: if a person is pessimistic, he/she tends to be pessimistic in all contexts or behavioral domains (Scheier & Carver, 1985). Optimism varies from person to person. Some people may see the glass half empty while others see the glass half full, but why? Some research on the development of optimism shows that genetics, negative events, parenting styles, and other environmental factors play a critical role in optimism (Forgeard & Seligman, 2012; Gillham & Reivich, 2004).

According to Nes and Segerstrom (2006), dispositional optimism was found to be positively associated with coping strategies that aim to eliminate, reduce, or manage stressors or emotions (approach coping strategies), and to be negatively associated with coping strategies that seek to ignore, avoid, or withdraw from stressors or emotions (avoidance coping strategies). Thus, the optimism trait can provide resources at a cognitive, contextual, and coping level that can promote better mental health (Carver et al., 2010), and generally it is an excellent protective factor and a predictor of better mental health (Burešová et al., 2020; Scheier et al., 2021; Yu et al., 2015). Also, it is negatively correlated with some psychiatric symptoms, such as depressive symptomatology, hopelessness, and suicidal ideation (Chang et al., 2017; Hirsch et al., 2007).

Anxiety and optimism in higher education students

Mental health issues are growing among college students (Seehuus et al., 2021). Anxiety in higher education students has been vastly studied. In a survey in Hong Kong, Lun et al. (2018) found that 54.4% of the students showed mild to severe anxiety symptoms. A study made in the United Kingdom reported that 46% of men and 17% of women enrolled in higher education screened positive for an anxiety disorder (Jenkins et al., 2020). The authors also found that women were more than four times more likely to screen positive for anxiety. Lee et al. (2021) showed that almost half of their sample (44.7%), composed of U.S. higher education students, had moderate to severe levels of anxiety.

Anxiety disorders have its onset in late adolescence and early adulthood, and so, can have big implications for higher education students (Figueira et al., 2014), for instance on cognitive and psychosocial domains. Ameringen et al., (2003) found that

anxiety disorders have a great impact on educational and academic achievement and can lead to premature dropout. Those issues could be explained by the uncertainty regarding academic achievement/ success, future careers, and social life during this period (Eshel et al., 2021). In a systematic review of literature, Silveira et al. (2011) synthesizes some other factors that can lead to anxiety disorders in higher education students. The authors highlighted leaving parents' house, sharing a new house with strange people, trying to meet parents' and own expectations, financial problems, peer competition, relational problems, and the need for integration with the peer group, difficulties with time management, ethnic and sub-cultural prejudice, higher awareness of self-identity and sexual orientation, sleep deprivation, managing work, study, domestic and family responsibilities, and concerns about finishing the course and getting a job as the main factors causing anxiety disorders un higher education students.

With the growth of mental problems, optimism tends to lower, as already mentioned (Chang et al., 2017; Hirsch et al., 2007; Kapıkıran & Acun-Kapıkıran, 2016; Umucu et al., 2018). In a study with higher education students in France, Saleh et al., (2017) found that most students in the sample had low levels of optimism. The study also revealed that men had higher levels of optimism than women. El-Anzi (2005) found similar results. In a sample of 400 higher education students, the researcher found that men had significantly higher levels of optimism compared to women, and in turn female students had higher levels of anxiety (El-Anzi, 2005). In college students, optimism can also be associated with higher levels of graduation, retention, motivation, less chances of dropping out, and higher grades (Nes et al., 2009), as well as higher levels of social creativity (uniquely solving social problems) (Zhan et al., 2021). In one study with higher education students in Portugal, Monteiro et al. (2008) found that dispositional optimism was negatively correlated with psychopathologic symptomatology and positively with well-being and academic performance.

The literature suggests that there is relation between optimism and anxiety. Several studies have shown that optimism is negatively associated with anxiety in higher education students, for instance in Ecuador (Gaibor-González & Moreta-Herrera, 2020), Kuwait (El-Anzi, 2005), and in China (Chen et al., 2021). In Portugal, studies that analyze the relation between these two variables are scarce, although recently Alves et al. (2022) reported that dispositional optimism negatively predicted general anxiety in

higher education students. Also, the authors found that higher optimism and lower general anxiety reduced students fear of COVID-19, and that optimism reduced fear of COVID-19 indirectly through the reduction of students' general anxiety.

This study aimed to analyze the levels of anxiety, optimism, and pessimism and to explore the association between these variables, in a sample of higher education students in Portugal. Specifically, the study aimed to 1) Describe the levels of anxiety, optimism, and pessimism in the participants; 2) Explore possible differences in anxiety, optimism, and pessimism considering age and gender; and 3) Analyze the association between optimism, pessimism, and anxiety.

Method

Participants

The sample was composed of 177 higher education students, mostly women (77.4%). The mean age of the participants was 22.69 years ($SD= 4.35$), ranging from 18 to 39 years. Regarding nationality, 89.8% of the sample is Portuguese. Concerning the attending University year, 29.9% of the respondents were taking a master's degree, 22.6% were attending the first year of University (Bachelor – Freshmen), 21.5% were attending the third year (Bachelor – Junior), 16.4% were attending the second year (Bachelor – Sophomore), and 9.6% were taking a Ph.D. Regarding the household during school semesters, there was a greater representation of students living with their parents or other relatives (41.8%) and in a house shared with friends or colleagues (29.9%). Table 1 describes in detail the sociodemographic information of the participants.

Table 1 - Sociodemographic characteristics of the participants.

		N	%	Mean	SD	Mode	Median
Age		177		22.69	4.35	21	21
	18-21	94	53.1%				
	22-25	51	28.8%				
	26-30	19	10.7%				
	31-34	7	4%				
	35-39	6	3.4%				
Gender							
	Men	40	22.6%				
	Women	137	77.4%				
Nationality							
	Portuguese	159	89.8%				
	Other	18	10.2%				
University year							
	Bachelor - Freshmen	40	22.6%				
	Bachelor - Sophomore	29	16.4%				
	Bachelor - Junior	38	21.5%				
	Masters	53	29.9%				
	PhD	17	9.6%				
Household during school semesters							
	Parents / Family house	74	41.8%				
	Student residence	23	13%				
	Alone	15	8.5%				
	House shared with friends/ colleagues	53	29.9%				
	Partner	12	6.8%				

Procedure

The data was collected from a sample of students from several higher education institutions in Portugal, who completed an online survey, shared by email and social media. Data were collected from February 2021 to May 2021. Participants were informed of the aim of the study, and ethical issues like confidentiality, anonymity and informed consent were assured. The study was performed following the Declaration of Helsinki regarding research on human participants and is part of a larger project (HI-RISK19+) approved by the Ethics Committee of the University of Beira Interior (CE-UBIPj-2020-096).

Instruments/ Measures

Life Orientation Test-Revised (LOT-R)

Dispositional optimism was assessed by the Portuguese version (Ribeiro et al., 2012) of The Life Orientation Test-Revised (LOT-R)(Scheier et al., 1994). In the validation study, Ribeiro et al. (2012) tested both a unidimensional and a bi-dimensional solution of the scale. In the present study the bidimensional solution was used. The scale is composed of 10 items (three that assess optimism, three that assess pessimism, and 4 filler items). Each item is categorized on a 5-point Likert scale where: 0: “strongly disagree”; 1: “disagree”; 2: “neutral”; 3: “agree” and 4: “strongly agree”. Higher scores in both dimensions indicate higher levels of optimism and pessimism (Ribeiro et al. 2012). In the present study, the internal consistency for the optimism subscale was .78, and for the pessimism subscale was .83.

Generalized Anxiety Disorder Scale (GAD-7)

The Portuguese version (Sousa et al., 2015) of the Generalized Anxiety Disorder Scale was used to assess general anxiety. This brief self-report scale was developed by Spitzer et al. (2006) for screening and assessing the severity of anxiety symptoms in the general population and it is composed of seven items, answered on a four-point scale where: 0: “not at all”; 1: “several days”; 2: “more than half the days” and 3: “nearly every day”. (Spitzer et al., 2006) The total score is calculated by adding all the points corresponding to the answers, with the scores ranging from 0 to 21. The cut-off points are 5, 10, and 15, which means people who score between 0 and 4 points have minimal

or normal levels of anxiety; people who score between 5 and 9 have mild levels of anxiety; people who score between 10 and 14 have moderate levels of anxiety and people who score between 15 and 21 have severe levels of anxiety (Spitzer et al., 2006). (Spitzer et al., 2006). In the present study, the internal consistency of GAD-7 was found to be excellent (Cronbach Alpha = .91).

Statistical Analysis

The statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS), v.28. For the sociodemographic characterization, several descriptive statistics were calculated. For the comparison of the means for groups, Independent Samples T Test and the One-way ANOVA Test were used. To explore the relation between optimism, pessimism, and anxiety Pearson correlations were performed. For the statistical analysis, the age variable was divided into 3 groups (18-21, 22-25, 26-39).

Results

Descriptive analysis

Percentages, means, and standard deviations for GAD-7 scores, considering cut-off points for anxiety levels, and LOT-R are presented in Table 2. The mean score of anxiety in the sample is considered mild ($M=8.31$; $SD= 5.8$), according to the cutoffs delineated by Spitzer et al. (2006). Considering each anxiety level, 33% of the students are considered to have minimal/normal levels of anxiety, 28.2% mild levels, 20.9% moderate and 17.5% severe levels of anxiety. Concerning the LOT-R, the participants showed higher levels of Optimism ($M = 6.96$) than Pessimism ($M = 5.17$).

Table 2 - Descriptive analysis of anxiety, optimism, and pessimism levels in the sample

	<i>N</i>	<i>M(SD)</i>	<i>Min.</i>	<i>Max.</i>
GAD-7 Score	177	8.31 (5.80)	0	21
Minimal/Normal	59 (33%) (14 Male, 45 Female)	2.44 (1.24)	0	4
Mild	50 (28.2%) (11 Male, 39 Female)	6.58 (1.39)	5	9
Moderate	37 (20.9%) (8 Male, 29 Female)	11.95(1.37)	10	14
Severe	31 (17.5%) (7 Male, 24 Female)	17.9(2.24)	15	21
LOT-R Score	177	13.79 (4.88)	0	24
Optimism	177	6.96 (2.57)	0	12
Pessimism	177	5.17 (2.74)	0	12

Group differences

No significant differences were found in anxiety, optimism, and pessimism scores, considering gender and age groups (Table 3).

Table 3 - Differences in anxiety, optimism and pessimism levels and total score: Gender and Age

	Variable	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t/F</i>	<i>p</i>
Gender						
Anxiety	Male	40	8.07	5.76	-.28	.78
	Female	137	8.37	5.84		
Optimism	Male	40	7.43	2.53	1.30	.19
	Female	137	6.82	2.27		
Pessimism	Male	40	4.88	2.71	.77	.44
	Female	137	5.26	2.75		
LOT-R (Total)	Male	40	14.55	4.66		.23
	Female	137	13.57	4.93		
Age groups						
Anxiety	18-21	94	7.72	5.25	1.04	.36
	22-25	51	9.10	6.16		
	26-39	32	8.75	6.72		
Optimism	18-21	94	7.04	2.66	.61	.61
	22-25	51	6.67	2.36		
	26-39	32	7.19	2.63		
Pessimism	18-21	94	4.88	2.74	.31	.31
	22-25	51	5.59	2.52		
	26-39	32	5.34	3.01		
LOT-R (Total)	18-21	94	14.16	4.96		.46
	22-25	51	13.08	4.35		
	26-39	32	13.84	5.41		

Correlations between anxiety and optimism

As shown in Table 4, the correlation between anxiety and optimism was shown to be negative, moderated, and statistically significant ($r = -.47$; $p < .001$); on the other hand,

the correlation between anxiety and pessimism was found to be positive, moderated, and statistically significant ($r=.43$; $p<.001$).

Table 4 - Pearson correlation matrix between anxiety, optimism and pessimism

Variables	M	1	2	3	4
1. Anxiety	8.31	---			
2. Optimism	6.96	-.47*	---		
3. Pessimism	5.17	.43*	-.69*	---	
4. LOT-R (Total)	13.79	-.49*	.91*	-.92*	---

* $p < .001$

Discussion

The present study aimed to analyze perceived anxiety, optimism, and pessimism, and to explore the association between these variables, in a sample of higher education students in Portugal.

Considering the levels of anxiety, the results show that, on average, the participants present a score on the anxiety scale that reflect a level considered mild (Spitzer et al., 2006). This finding is consistent with other studies that reported mild levels of anxiety among higher education students in Switzerland (Dratva et al., 2020), and in the United States of America (Lee et al., 2021; Ulrich et al., 2021). Nevertheless, other studies have found that most students in the sample reported having minimal/normal levels of anxiety (Cao et al., 2020; Saddik et al., 2020). It is important to address that in our study, although the mean scores are mild, nearly 38% of the participants have moderate to severe levels of anxiety. These values are lower than those found by Lee et al. (2021) but higher than those found by Bártolo et al. (2017), who found that approximately 24% of their sample reported having moderate to severe anxiety symptoms. It should be worth knowing that data collection period (February to May 2021) may have influenced our results. This period comprised not only an exam season, but due to the COVID-19 pandemic, students had recently experienced a second lockdown and transitions in their learning regimens (online/hybrid). Considering that GAD-7's instructions refer to how often the respondent was bothered by each symptom during the previous week, it may be possible that anxiety levels were heightened in this period. Regarding dispositional optimism, this study shows a tendency of participants to perceive higher levels of optimism than pessimism, which has also been shown in other

studies, for instance, in Germany (Hinz et al., 2017), and in Spain (Gustems-Carnicer et al., 2017).

The second objective was to explore possible differences in anxiety, optimism, and pessimism considering age and gender. By examining the GAD-7 and LOT-R scores, no differences were found in anxiety, optimism, and pessimism among men and women, as well as between age groups. These results contradict research that suggests that both older people and women report having higher levels of optimism (You et al., 2009) and that women score higher in GAD-7 (Alves et al., 2022; Howell et al., 2001). A possible explanation for our results may be due to differences between gender groups size, as well the distribution of ages by groups.

Finally, our results suggest an association between anxiety and optimism and pessimism in higher education students. It was found that students who perceived themselves as more anxious were also less optimistic and more pessimist. These results are consistent with other international (Hirsch et al., 2007; Kapıkıran & Acun-Kapıkıran, 2016; Umucu et al., 2018) and national (Alves et al., 2022) studies that suggest this same association between general anxiety and dispositional optimism.

This study has some limitations which should be noted. First, size and characteristics of the sample does not allow representativeness. The sample is mainly composed of women, which may have conditionate gender comparisons. Still, it should be noted that most people enrolled in higher education are women (Hansons et al., 2022; Dratva et al., 2020; Saddik et al., 2020), which probably reflects a common reality in higher education research. One other limitation is related to the method of data collection. The data was collected through an online survey, in a convenience sample, which does not allow to generalize to the population. As already mentioned, the results might have been affected by the time in which the data was collected. In the future, studies should focus on the negative long-term effects that the pandemic has had in higher education students, as well as investigate the coping strategies that this population uses. It may also be of interest to investigate the relation between anxiety and dispositional optimism in other populations, like in new graduates, elderly people, and minority communities.

This study contributes with empirical support to the understanding of the relationship between anxiety and dispositional optimism in higher education students.

Anxiety disorders have a great influence on academic achievement and can lead to dropout (Ameringen et al., 2003), thus, universities should provide resources to students to tackle anxiety and promote mental wellness. The study underlines the need to endorse and develop preventive programs that promote optimism and the development of specific interventions with higher education students to foster a better quality of life, well-being, and psychological adjustment in this population.

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