

RESEARCH ARTICLE (ORIGINAL) 8

Nursing students' psychological well-being and coping during the COVID-19 quarantine

Bem-estar psicológico e coping em estudantes de enfermagem durante a quarentena pela COVID-19

Bienestar psicológico y afrontamiento (coping) en estudiantes de enfermería durante la cuarentena por la COVID-19

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Abstract

Background: The COVID-19 pandemic crisis has brought about changes in the lives of higher education students that may influence their psychological well-being.

Objective: To analyze the association between nursing students' coping strategies and their psychological well-being during the COVID-19 quarantine.

Methodology: Cross-sectional, descriptive-correlational study using a convenience sample of 136 students. Data were collected online using the Portuguese version of the *Échelle de Mesure des Manifestations du Bien-être Psychologique* and the Brief COPE.

Results: Students in the last years of their undergraduate studies used the instrumental support ($p = 0.015$) and emotional support ($p = 0.009$) coping strategies more often and had higher levels of psychological well-being ($p = 0.012$). Psychological well-being is associated with household income changes ($p = 0.024$), as well as with religion ($r = 0.36$; $p \leq 0.01$), positive reframing ($r = 0.47$; $p \leq 0.01$), and humor ($r = 0.37$; $p \leq 0.01$) coping strategies.

Conclusion: Students' coping strategies seem to be associated with their psychological well-being during the COVID-19 quarantine.

Keywords: adaptation, psychological; coronavirus; pandemics; quarantine; students, nursing

Resumo

Enquadramento: A crise pandémica da COVID-19 acarretou mudanças na vida académica dos estudantes do ensino superior, o que poderá afetar o seu bem-estar psicológico.

Objetivo: Analisar a relação entre estratégias de coping utilizadas e o bem-estar psicológico em estudantes de enfermagem durante a quarentena pela COVID-19.

Metodologia: Estudo transversal, descritivo-correlacional, utilizando uma amostra de 136 estudantes. Colheita de dados online, com recurso à Escala de Medida de Manifestação de Bem-estar Psicológico e à Brief COPE.

Resultados: Os estudantes dos últimos anos de curso utilizam mais frequentemente a estratégia de coping suporte instrumental ($p = 0,015$) e emocional ($p = 0,009$), apresentam ainda, maiores níveis de bem-estar psicológico ($p = 0,012$). As alterações no rendimento familiar estão associadas ao bem-estar psicológico ($p = 0,024$), assim como as estratégias de coping religião ($r = 0,36$; $p \leq 0,01$), reinterpretação positiva ($r = 0,47$; $p \leq 0,01$) e humor ($r = 0,37$; $p \leq 0,01$).

Conclusão: As estratégias de coping adotadas pelos estudantes parecem estar relacionadas com o bem-estar psicológico durante a quarentena.

Palavras-chave: adaptação psicológica; coronavírus; pandemias; quarentena; estudantes de enfermagem

Resumen

Marco contextual: La crisis provocada por la pandemia de la COVID-19 produjo cambios en la vida académica de los estudiantes de educación superior, que pueden afectar su bienestar psicológico.

Objetivo: Analizar la relación entre las estrategias de afrontamiento utilizadas y el bienestar psicológico en estudiantes de enfermería durante la cuarentena por la COVID-19.

Metodología: Estudio transversal, descriptivo-correlacional, con una muestra de 136 estudiantes. La recopilación de datos se realizó en línea mediante la Escala de Medición de la Manifestación del Bienestar Psicológico y el Brief COPE.

Resultados: Los estudiantes de los últimos cursos utilizan con más frecuencia la estrategia de afrontamiento apoyo instrumental ($p = 0,015$) y emocional ($p = 0,009$), y también tienen mayores niveles de bienestar psicológico ($p = 0,012$). Los cambios en los ingresos familiares se asocian con el bienestar psicológico ($p = 0,024$), así como con las estrategias de afrontamiento religión ($r = 0,36$; $p \leq 0,01$), reinterpretaçión positiva ($r = 0,47$; $p \leq 0,01$) y estado de ánimo ($r = 0,37$; $p \leq 0,01$).

Conclusión: Las estrategias de afrontamiento adoptadas por los estudiantes parecen estar relacionadas con el bienestar psicológico durante la cuarentena.

Palabras clave: adaptación psicológica; coronavirus; pandemias; cuarentena; estudiantes de enfermería



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Introduction

COVID-19, the disease caused by the novel coronavirus SARS-COV-2, quickly became a global public health problem and reached pandemic proportions.

The COVID-19 pandemic imposed many challenges and changes, including social isolation.

Higher education students, namely nursing students, started to take online classes and were unable to complete their clinical rotations. These sudden changes in habits and routines, the restriction of social contacts, coping with the fear of being infected or infecting loved ones, and managing the challenges of distance learning triggered various coping mechanisms that can improve (or not) students' psychological well-being. This study aimed to analyze the association between nursing students' coping strategies and their psychological well-being during the COVID-19 quarantine to identify the need to implement mental health promotion strategies.

Background

In recent months, research has intensified on the effects of the pandemic and social isolation on several aspects of health. When talking about mental health, there is a current tendency to focus on the positive concepts associated with it, such as happiness or psychological well-being. Psychological well-being can be considered an individual's subjective experience built throughout the life cycle and translated by a state of fulfillment of personal needs, satisfaction with life, experience of emotions, and capacity for continuous change/adaptation (Nogueira & Sequeira, 2020). According to humanistic values, an individual can identify how satisfied or happy he or she is and the available psychological resources (Monteiro et al., 2012).

The pandemic can cause stress, threatening psychological well-being (Afonso, 2020; Bao et al., 2020; Pestana et al., 2020; Sáez Alvarez et al., 2020). The psychological impact can be substantial and lasting (Brooks et al., 2020) and lead to substance abuse, stress, and depression (Wu et al., 2008). Each individual's assessment of this stressful situation will trigger an individual adjustment process, commonly referred to as coping (Silva et al., 2020). The set of stress management strategies used repeatedly by each individual constitute their coping style (Ribeiro & Rodrigues, 2004).

The quarantine period is full of situations of uncertainty, perceived lack of safety, and fear (Afonso & Figueira, 2020). The abundance of information in digital media, the economic difficulties associated with the rising unemployment rate worldwide, the difficulty in accessing specialized health resources, and negative social behaviors will negatively influence mental health (Afonso & Figueira, 2020), especially that of those who are most vulnerable. Higher education students are known to be vulnerable to a wide range of threats to their well-being (Monteiro et al., 2012; Nogueira & Sequeira, 2020). In the specific case of Portuguese nursing students, there is evidence

that, despite having a very good lifestyle, they have sleep disorders and poor stress management skills (Ferreira et al., 2017). During the current pandemic, students were faced with a situation of social confinement, of sudden transition to distance learning, of multiple challenges and changes. In this context, multiple stressors are threatening psychological well-being, and there is a lack of knowledge about the coping strategies used in this period and their association with perceived psychological well-being.

Research questions

Q1: Do the students' psychological well-being and coping strategies vary according to the year of undergraduate studies?

Q2: Do the students' psychological well-being and coping strategies vary according to household income changes?

Q3: Are the students' coping strategies associated with their psychological well-being?

Methodology

This cross-sectional, descriptive-correlational study was conducted in a higher education institution in the health area in Portugal. A convenience sample was used, consisting of 136 students who met the following inclusion criteria: being 18 years of age or older and enrolled in an undergraduate nursing program. Data were collected in April 2020 during the lockdown period (state of emergency) through an online questionnaire e-mailed by the institution's group of researchers.

The questionnaire included a set of questions about sociodemographic data and the conditions for academic activities during mandatory quarantine.

The Portuguese version of the *Échelle de Mesure des Manifestations du Bien-être Psychologique* ((Massé et al., 1998; Monteiro et al., 2012) was used to assess psychological well-being. The instrument was tested in Portugal in a population of higher education students, revealing good psychometric properties (Monteiro et al., 2012). It includes 25 items rated on a 5-point Likert-type scale, distributed across six subscales: Happiness, Sociability, Control of self and events, Social Involvement, Self-Esteem, and Mental balance, in addition to a total well-being score. The higher the total score, the higher the perceived psychological well-being. Concerning the scale's internal consistency, a Cronbach's alpha value of 0.943 was obtained for the total scale and 0.664-0.901 for the subscales. The coping strategies were assessed using the Portuguese version (Ribeiro & Rodrigues, 2004) of Brief COPE (Carver, 1997). This inventory includes 28 items that measure strategies implemented during the quarantine period (e.g., "during the past month, I've been getting emotional support from others"), with the following response choices: *I haven't been doing this at all*; *I've been doing this a little bit*; *often*; *I've been doing this a lot*. The items are distributed across 14 scales and include two types of coping. According to the authors, problem-fo-

cused coping tends to predominate when people feel that something constructive can be done. It includes the Active coping, Planning, and Instrumental support scales. In turn, emotion-focused coping tends to predominate when people feel that the stressor tends to persist, covering Emotional support, Positive reframing, Acceptance, Denial, and Religion. The instrument also includes the following dimensions: Self-blame, Venting, Self-distraction, Behavioral disengagement, Substance use (drugs/alcohol), and Humor. With the exception of Self-blame, all scales obtained good internal consistency values ranging from $\alpha = 0.663$ (Acceptance) to $\alpha = 0.969$ (Substance use). The Self-blame scale was not included. The Ethics Committee of the Institute of Health Sciences of the Portuguese Catholic University approved this study (no. 97/2020). All participants were informed about their right not to participate in the study and the possibility of withdrawing at any time.

Data were processed using IBM SPSS Statistics software, version 25, and analyzed through descriptive and inferential statistics. The differences in psychological well-being and coping strategies according to the year of undergraduate studies and household income changes were analyzed using variance analysis: One-Way ANOVA and Student's *t*-test for two independent samples, respectively. The association between the dimensions of Psychological Well-being and students' coping strategies was analyzed using Pearson's correlation coefficient, with a significance level of 5%.

Results

Of the 136 participants in the study, the majority were women (92.8%), with a mean age of 22 years ($SD = \pm 4.7$ years), distributed across four years of undergraduate studies (21.3% in the 1st year, 25.7% in the 2nd year, 22.1% in the 3rd year, and 30.9% in the 4th year). They remained on average 5.9h ($SD = \pm 3.6$) per day on the computer in distance learning activities (classes, assignments).

At the time of questionnaire completion, students had been in mandatory quarantine for 44.5 days ($SD = \pm 8.9$), having left home on average 6.7 days ($SD = \pm 6.9$). Most of them (96.4%) had not been infected with SARS-CoV-2, but 10.1% of them had someone from their household who had been infected with the virus. A significant reduction in household income due to the pandemic was reported by 46.4% of the students, while 13% of them did not answer this question.

Table 1 shows statistically significant differences in the following dimensions of psychological well-being: Happiness ($p = 0.003$), Control of self and events ($p = 0.001$), Mental balance ($p = 0.012$), and Total psychological well-being ($p = 0.012$), according to the year of undergraduate studies. Students in the 3rd and 4th years obtained the highest scores in these dimensions. In turn, 2nd-year students obtained the lowest mean scores in all dimensions of well-being and in Total psychological well-being.

Concerning coping styles, differences were also found depending on the year of undergraduate studies. Students in the 3rd and 4th years obtained higher scores in a type of problem-focused coping strategy - Instrumental support ($p = 0.015$), but also obtained higher scores in a type of emotion-focused coping strategy - Emotional support ($p = 0.009$).

Table 1*Differences in the dimensions of Psychological Well-Being and Coping, according to the year of undergraduate studies*

	Year of undergraduate studies								<i>F</i>	<i>p</i>
	1 st		2 nd		3 rd		4 th			
	<i>M</i>	<i>DP</i>	<i>M</i>	<i>DP</i>	<i>M</i>	<i>DP</i>	<i>M</i>	<i>DP</i>		
	<i>(n = 29)</i>		<i>(n = 35)</i>		<i>(n = 30)</i>		<i>(n = 42)</i>			
Psychological Well-Being										
Happiness	3.0	0.8	2.8	0.67	3.3	0.9	3.3	9.6	4.9	0.003
Sociability	3.5	0.7	3.2	0.6	3.6	0.8	3.5	0.8	2.3	0.08
Control of self and events	3.2	0.7	2.8	0.5	3.4	0.8	3.4	0.7	5.4	0.001
Social involvement	2.9	0.7	2.8	0.6	3.0	0.8	3.0	0.6	0.8	0.500
Self-esteem	3.2	0.6	3.1	0.7	3.4	0.7	3.1	0.8	0.9	0.410
Mental balance	3.1	0.8	3.1	0.5	3.7	0.9	3.4	0.8	3.8	0.012
Total PWB (mean score)	3.1	0.6	2.9	0.5	3.4	0.7	3.3	0.6	3.8	0.012
Coping										
Active coping	3.5	1.3	3.1	1.1	3.4	1.3	3.6	1.0	1.5	0.232
Planning	3.7	1.2	3.5	1.4	3.8	1.3	4.1	0.9	1.3	0.270
Instrumental support	2.4	1.7	2.5	1.6	3.1	1.8	3.5	1.5	3.6	0.015
Emotional support	2.7	1.7	2.9	1.7	3.9	1.6	3.6	1.3	4.0	0.009
Religion	1.6	1.7	1.4	1.8	2.0	2.0	2.2	2.1	1.4	0.238
Positive reframing	3.2	1.4	2.9	1.2	3.7	1.4	3.3	1.4	1.8	0.144
Acceptance	4.1	1.2	3.9	1.2	4.4	1.4	3.9	1.1	1.0	0.390
Denial	0.7	1.1	1.2	1.7	0.6	1.0	1.1	1.4	1.5	0.228
Venting	3.6	1.7	3.4	2.0	3.1	1.4	2.8	1.0	2.0	0.120
Self-distraction	4.1	1.8	3.2	1.5	3.6	1.8	4.0	1.2	2.3	0.085
Behavioral disengagement	1.0	1.1	1.3	1.6	0.7	1.4	0.7	1.1	1.9	0.133
Substance use	0.3	0.7	0.6	1.7	0.0	0.0	0.2	0.8	2.3	0.080
Humor	2.6	1.6	2.6	1.3	2.5	1.3	2.3	1.4	0.2	0.870

Note. *M* = mean; *SD* = standard deviation; *F* = One-Way ANOVA; *p* = *p*-value.

Concerning the association between household income changes and psychological well-being and coping (Table 2), students who reported a reduction in household income had lower mean scores in Sociability ($p = 0.008$), Control of self and events ($p = 0.003$), Self-esteem ($p =$

0.042), and total mean score (0.024). No statistically significant differences were found in the use of coping strategies between students who reported household income changes and those who did not report them.

Table 2*Differences in the dimensions of Psychological Well-Being and Coping, according to household income changes*

	No decrease in household income (n = 56)		Decrease in household income (n = 64)		t	p
	M	DP	M	DP		
Psychological well-being						
Happiness	3.2	0.7	3.0	0.8	-1.6	0.114
Sociability	3.6	0.7	3.3	0.8	-2.7	0.008
Control of self and events	3.4	0.7	3.0	0.7	-3.0	0.003
Social involvement	3.0	0.6	2.9	.96	-0.6	0.523
Self-esteem	3.3	0.7	3.1	0.6	-2.1	0.042
Mental balance	3.4	0.8	3.2	0.8	-1.4	0.181
Total (mean score)	3.3	0.6	3.1	0.6	-2.3	0.024
Coping						
Active coping	3.5	1.2	3.3	1.2	-1.0	0.320
Planning	3.9	1.2	3.1	1.7	-0.8	0.418
Instrumental support	2.6	1.7	3.1	1.7	1.7	0.099
Emotional support	3.2	1.6	3.4	1.8	0.8	0.429
Religion	1.6	1.9	2.0	2.0	0.9	0.366
Positive reframing	3.3	1.5	3.2	1.4	-0.5	0.642
Acceptance	4.0	1.1	4.0	1.2	-0.2	0.826
Venting	3.1	1.6	3.4	1.6	1.2	0.238
Denial	0.7	1.2	1.1	1.4	1.5	0.132
Self-distraction	3.6	1.6	3.7	1.6	0.4	0.702
Behavioral disengagement	0.89	1.4	1.1	1.3	0.8	0.458
Substance use	0.3	1.0	1.7	0.8	-0.9	0.349
Humor	2.5	1.4	2.6	1.4	0.5	0.655

Note. M = mean; SD = standard deviation; Student's *t*-test for two independent samples.

A statistically significant correlation was found between Psychological well-being and almost all of students' coping strategies, with the exception of Venting (Table 3). Happiness had a moderate, positive, and statistically significant correlation with Active coping ($r = 0.46$; $p < 0.01$) and an inverse correlation with Behavioral disengagement ($r = -0.42$; $p < 0.01$). Sociability was strongly correlated with Humor ($r = 0.72$; $p < 0.01$). Control of self and events

was moderately correlated with Active coping ($r = 0.46$; $p < 0.01$) and Planning ($r = 0.40$; $p < 0.01$).

The Social involvement subscale was moderately correlated with Active coping ($r = 0.50$; $p < 0.01$), Planning ($r = 0.42$; $p < 0.01$), and Religion ($r = 0.50$; $p < 0.01$). Humor had the highest correlations with Self-esteem ($r = 0.56$; $p < 0.01$), followed by Active coping ($r = 0.43$; $p < 0.01$), and Planning ($r = 0.40$; $p < 0.01$).

Table 3*Pearson's correlation coefficients between Psychological Well-Being and Coping*

Coping	Well-being	Happiness	Sociability	Control	Social involvement	Self-esteem	Mental balance	Total
Active coping		0.46**	0.32**	0.46**	0.50**	0.43**	0.35**	0.36**
Planning		0.29**	0.32**	0.40**	0.42**	0.40**	0.25**	0.26**
Instrumental support		0.26**	0.14	0.23**	0.24**	0.11	0.05	0.26**
Emotional support		0.33**	0.21**	0.32**	0.26**	0.32**	0.15	0.23**
Religion		0.21**	0.06	0.09	0.50**	0.16	0.04	0.36**
Positive reframing		0.33**	0.39**	0.33**	0.21**	0.37**	0.34**	0.47**
Acceptance		0.04	-0.04	0.02	0.32**	-0.01	0.09	0.34**
Venting		0.03	-0.11	0.08	0.08	-0.25**	-0.13	0.09
Denial		-0.17*	0.27**	-0.14*	0.02	0.08	-0.21	0.26**
Self-distraction		0.21*	-0.23**	0.26**	0.02	-0.32**	0.12	-0.29**
Behavioral disengagement		-0.42**	-0.04	-0.29**	0.26**	-0.03	-0.37	-0.20*
Substance use		-0.16	0.29**	0.04	-0.22**	0.21*	-0.16	0.13*
Humor		0.15	0.72**	0.20*	0.08	0.56**	0.08	0.37**

Note. *Significant correlation ($p < 0.05$); **Very significant correlation ($p < 0.01$).

Discussion

The COVID-19 pandemic unexpectedly entered students' lives, abruptly depriving them of contact with their peers, free expression of emotions, hobbies, and school routines, and often causing major household income changes. Together with the perception of lack of safety and fear, this new reality can trigger misadjusted behaviors (Afonso & Figueira, 2020). The results of this study reveal that students in the final years of their undergraduate studies use the Instrumental support coping strategy more often than 1st- and 2nd-year students, that is, it is easier for them to seek help and information about what to do. Another characteristic of the more experienced students is that they use emotional support more often, that is, they seek empathy or emotional support from someone. Understanding these results will allow investing in the gradual acquisition of skills, particularly relational skills, throughout the undergraduate nursing program. On the other hand, given the changes involved in entering higher education, young people starting their studies are usually more anxious and stressed (Luz et al., 2009). These authors believe that educational institutions should promote initiatives to teach adequate coping strategies and, consequently, improve students' mental health and academic performance. In the current pandemic situation, nursing students are experiencing a high level of psychological distress associated with the transition to online education, the fear of being infected (Nurunnabi et al., 2020), and the uncertainty about their future professional life (Huang et al., 2020). The results indicate that 2nd-year students have lower levels of psychological well-being, which can be justified in several ways. A study conducted with Portuguese nursing students obtained similar results, establishing an association with academ-

ic satisfaction (Nogueira & Sequeira, 2020). A recent study concluded that 2nd-year nursing students used fewer coping strategies than their other colleagues during the COVID-19 pandemic (Sheroun et al., 2020). One of the consequences of the pandemic has been the decrease in household income sources due to the economic crisis and the rising unemployment rate. The decrease in household income affected a large number of the students surveyed in this study (46.4%), being significantly associated with a lower level of psychological well-being. The literature has described the negative impact of economic difficulties on higher education students' mental health (Luz et al., 2009). The favorable economic situation was considered a protective factor for mental health during the current COVID-19 pandemic (Salameh et al., 2020). In this study, it became evident that, during quarantine, the decrease in household income had a significant impact on the students' socialization, control of self and events, and self-esteem. Almost all coping strategies (except venting) were associated with psychological well-being, which seems to suggest that nursing students were able to mobilize a wide variety of resources to cope with the stressful situation they were experiencing. These results are in line with those found in a study conducted in China that concluded that nursing students had a good psychological condition and skills to work under pressure, which allowed them to adequately adjust to the pandemic situation (Zhi et al., 2020).

If we examine the association between the coping strategies and psychological well-being in detail, we realize that students who easily give up or stop striving to achieve their goals (Behavioral disengagement) have more difficulties in being happy. Making jokes (Humor) about the stressor, in this case, the pandemic, was a strategy used to establish a relationship with others (Sociability) and strengthen

self-esteem, promoting psychological well-being. Planning and striving to overcome difficulties (Active coping) were key coping strategies to increase students' perception of control and, consequently, their psychological well-being. The increased participation in religious activities (Religion) seems to have contributed to motivating the students and setting objectives and ambitions. This result is in line with the extensive scientific evidence documenting the relevance of spirituality and faith, especially in limit situations. Despite the contribution provided here, this study had some limitations associated with the inability to generalize the results to the general population and the need to develop longitudinal studies on the impact of COVID-19 over time.

Conclusion

The safety restrictions involved in social distancing during the COVID-19 pandemic caused different levels of anxiety and greater psychological vulnerability. However, it is difficult to predict the onset of mental disorders due to large differences between individuals concerning resilience in adverse situations.

This study shows that students' coping strategies influenced their psychological well-being. On the other hand, the economic difficulties, such as those associated with the rising unemployment rate, can aggravate the negative impact of confinement on mental health.

The results of this study are an important contribution to clinical practice and academia due to the need for understanding this public health phenomenon. There is a need to develop mental health promotion strategies for higher education students, contributing to the development of skills to facilitate their adaptation to this new reality. Creating conditions for students to develop their coping strategies, especially 1st- and 2nd-year students who are adapting to higher education, will improve their psychological well-being in adverse situations.

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