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Hope and Psychological Well-Being during the Sanitary Crisis by COVID-19: A Study with Nursing Students

Esperança e Bem-Estar Psicológico durante a Crise Sanitária pela COVID-19: Estudo com Estudantes de Enfermagem

Esperanza y Bienestar Psicológico durante la Crisis Sanitaria por COVID-19: Estudio con Estudiantes de Enfermería

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Abstract

Aim: to analyze the relationship between hope and the psychological well-being of Portuguese nursing students during the COVID-19 pandemic crisis. **Method**: this is a descriptive-correlational study using an online questionnaire for data collection. 705 nursing students participated, with a mean age of 21.74 years (SD=4.44). The data collection instruments used were the Herth Hope Index (HHI-PT) and the Well-Being Manifestations Measure Scale (WBMMS). Descriptive and inferential statistics were used. **Results**: in the HHI-PT, the affective-behavioral domain had the highest mean score (3.30; SD=0.45), while in the WBMMS, it was the sociability domain, 3.64 (SD=0.77). There were moderate to strong correlations (0.383 <r <0.917) between the global and all domains of hope and psychological well-being (≤0.001). **Conclusion and implications for practice**: nursing students' hope and psychological well-being during the pandemic are variables that are positively correlated with each other. Strategies to promote mental health, to be implemented by educational institutions, must consider the association between these two variables.

Keywords: Hope; Psychologic Adaptation; Nursing Students; Distance Education; COVID-19.

Resumo

Objetivo: analisar as relações entre a esperança e o bem-estar psicológico de estudantes de enfermagem portugueses durante a crise pandêmica pela COVID-19. **Método:** estudo descritivo-correlacional, com recurso a questionário *online* para coleta de dados. Participaram 705 estudantes de enfermagem com idade média de 21,74 anos (DP=4,44). Os instrumentos de coleta de dados utilizados foram a Escala de Esperança de Herth (HHI-PT) e a Escala de Medida de Manifestação de Bem-Estar Psicológico (EMMBEP). Foi utilizada a estatística descritiva e inferencial. **Resultados:** na HHI-PT, o domínio afectivo-comportamental obteve a pontuação média mais alta, 3,30 (DP=0,45); no EMMBEP, foi o domínio sociabilidade, 3,64 (DP=0,77). Havia correlações moderadas a fortes (0,383 <r <0,917) entre o global e todos os domínios da esperança e bem-estar psicológico (≤0.001). **Conclusão e implicações para a prática:** a esperança e o bem-estar psicológico dos estudantes de enfermagem durante a pandemia são variáveis correlacionados positivamente entre si. As medidas de promoção da saúde mental, a implementar pelas instituições de ensino, devem ter em consideração a associação entre essas duas variáveis.

Palavras-chave: Esperança; Adaptação Psicológica; Estudantes de Enfermagem; Educação à Distância; COVID-19.

Resumen

Objetivo: analizar la relación entre la esperanza y el bienestar psicológico de los estudiantes portugueses de enfermería durante la crisis pandémica por COVID-19. **Método:** estudio descriptivo-correlacional mediante cuestionario *online* para la recogida de datos. Participaron 705 estudiantes de enfermería, con una edad promedio de 21,74 años (DE=4,44). Los instrumentos de recolección de datos utilizados fueron la Escala de Esperanza de Herth (HHI-PT) y la Escala de Medida de Manifestación de Bienestar Psicológico (EMMBEP). Se utilizó estadística descriptiva e inferencial. **Resultados:** en HHI-PT, fue el dominio afectivo-conductual el que obtuvo la puntuación promedio más alta, 3.30 (DE=0.45), en EMMBEP, fue el dominio de sociabilidad, 3.64 (DE=0.77). Hubo correlaciones de moderadas a fuertes (0.383 <r <0.917) entre el dominio global y todos los dominios de la esperanza y el bienestar psicológico (≤0.001). **Conclusión e implicaciones para la práctica:** la esperanza y el bienestar psicológico de los estudiantes de enfermería durante la pandemia son variables que se correlacionan positivamente entre sí. Las medidas de promoción de la salud mental, a ser implementadas por las instituciones educativas, deben tener en cuenta la asociación entre estas dos variables.

Palabras clave: Esperanza; Adaptación Psicológica; Estudiantes de Enfermería; Educación a Distancia; COVID-19.

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INTRODUCTION

The pandemic crisis caused by COVID-19, in world public health, has posed challenges to the scientific domains of health, namely in the clinical, political, social and academic areas. Associated with this reality and given the characteristics of this virus, all countries have alternated between different levels of social contention in favor of promoting public health and protecting everyone, such as the activities implemented in educational institutions[1].

The pandemic can be understood as a fortuitous crisis in the path of students practically all over the world. Mandatory confinement was used by several countries as a primary measure to contain the spread of the virus. Life in society was suspended, imposing a transformative process at all levels and that required Higher Education Institutions, in particular, to reinvent themselves under penalty of paralyzing what is their mission: teaching and learning. Moving from a one-to-one teaching-learning process in the classroom to an online reality, using electronic platforms, was a necessary response for continuity of students' teaching activity.

Studies prior to the pandemic have already identified nursing students as a group, with moderate to high levels of stress[2,3], which is one of the predictors of psychological well-being. Also, hope had already been associated with higher levels of well-being in college students[4]. If, prior to the pandemic, this evidence was already available, the post-COVID-19 scientific literature has shown that students experienced changes in their psychological well-being with depressive symptoms, stress and anxiety during the pandemic crisis[5,6].

Circumstances of social isolation and quarantine can be experienced experientially as a period of crisis for students, making mental health intervention more complex and difficult. For nursing students, there is the dimension of the nature of the course; if, on the one hand, there is concern about the impossibility of resuming clinical teaching and, consequently, delaying its completion, on the other hand, returning to practice places puts students at a greater risk of exposure to the virus. Thus, nursing students should deserve our particular attention in managing their psychological well-being and hope.

Hope can be understood as an emotion experienced by a future-oriented personal attitude[7] or an individual perception of self-efficacy in achieving realistic goals[8]. Psychological well-being, on the other hand, corresponds to the set of emotional resources that each individual has, contributing to a positive psychological functioning[9].

Based on the above, it appears that scientific knowledge about the negative impact of the COVID-19 pandemic on students' mental health has been frankly developed; however, the focus on the relationship between hope and psychological well-being in this population is limited. In this context, being aware of the impact on a personal, family, professional and social level that the adjustment to this situation of public health crisis requires, we carried out this study, which aimed to analyze the relationship between hope and psychological well-being of Portuguese nursing students during the pandemic crisis caused by COVID-19.

METHOD

This is a quantitative, cross-sectional descriptive-correlational study, using an online questionnaire (Google Forms) for data collection. The link to access the data collection instrument was sent to students via email sent by the academic secretariat of each institution. The study was carried out in six public and private Portuguese Higher Education Institutions. Data collection took place from 23 to 28 April 2020, when Portugal was experiencing a state of emergency and, therefore, mandatory confinement at home. The target population of the study consisted of 3003 students attending a Nursing Degree Course (NDC). A convenience sample was used, consisting of 705 students enrolled in the NDC, in the Higher Education Institutions involved that voluntarily accepted to fill out the online questionnaire and, therefore, participate in the study. As dependent variables, hope and psychological well-being were studied.

The Herth Hope Index (HHI-PT) was used[10], version translated and adapted to European Portuguese. The HHI-PT showed a high internal consistency in this study, with a Cronbach's alpha coefficient of 0.857, revealing reliability and measuring what is intended in this research. The HHI-PT is a one-dimensional scale that contains a total of 12 items[11]. Each item is organized according to a Likert-type scale, with a score varying between "1" and "4", in which 1 means "completely disagree" and 4 means "completely agree". This scale includes three domains, corresponding to HHI-PT subscales, namely in the cognitive-temporal, affective-behavioral and affiliative-contextual dimensions of hope. The cognitive-temporal dimension of hope (inner sense of temporality and future, which includes items 1, 2, 6 and 11); the affective-behavioral dimension of hope (positive interior availability and expectation, which includes items 4, 7, 10 and 12); and the affiliative-contextual dimension of hope (interconnection with oneself and with other people, which covers the remaining items, namely items 3, 5, 8 and 9)[12]. In this instrument, items 3 and 6 have inverted scores, with a total score varying between 12 and 48. The higher the score obtained, the higher the level of hope.

The Well-Being Manifestations Measure Scale (WBMMS) was translated into European Portuguese and adapted for university students[12]. Cronbach's alpha coefficient in this study was 0.948 for the global one, revealing high internal consistency.

The WBMMS consists of 25 items grouped into six domains: happiness, sociability, control, social involvement, self-esteem and balance. Each item is evaluated on a Likert-type scale, ranging from 1 "never" to 5 "almost always"; the sum of all items results in an overall score between 25-125, where higher values correspond to higher levels of psychological well-being.

Regarding sociodemographic variables, sex, age, curricular year and attendance at the NDC were studied. The questionnaire also included variables related to the quarantine experience imposed by the COVID-19 pandemic: quarantine days; times leaving from home; fear of oneself or a family member becoming infected. This variable was assessed using a Likert-type scale, where 1 corresponded to "no fear" and 5 to "extremely high fear" of

becoming infected. The sample was also characterized with regard to the distance learning experience through the questions: "On average, how many hours a day do you spend on the computer, in activities related to distance learning (classes, works, others)?" and "On days when you have classes, on average, how many hours do you watch a day?".

Satisfaction with life was also assessed by asking the participants, given the changes caused by the current pandemic, to rate their life at that time using a scale from 1 (worst possible life) to 10 (best possible life).

Before data collection, a pre-test was carried out with 10 students, with the purpose of evaluating the time spent in filling it out as well as the interpretation of the questions asked.

Data were treated using descriptive and inferential statistics using the software Statistical Package for Social Sciences, version 26.0. For descriptive statistics, we used central tendency and dispersion measures. In inferential statistics, we used several types of analysis, such as the Kolmogorov-Smirnov test with Lilliefors correction to determine variable normality, and Spearman's correlation coefficient (R), to determine the association between psychological well-being and hope, with continuous or ordinal characterization variables. The Mann-Whitney U test allowed us to verify whether there were differences between the mean values of psychological well-being and hope between male and female students. To identify whether there are differences in psychological well-being and hope among students from different years of the NDC, the Kruskal-Wallis test was used.

The investigation met the ethical principles of research in human beings, namely, that of autonomy, with refusal to participate being allowed. At the beginning of the questionnaire, information was provided to participants about the scope of the study, its nature, duration and methodology. The right to confidentiality was also respected throughout the research. An identification number was assigned to each participant, and the data was treated anonymously. This project was approved by the Institutional Review Board of *Universidade Católica Portuguesa* (Opinion 74).

RESULTS

According to Table 1, it was found that, of the 705 nursing students, 630 (89.4%) are female and 75 (10.6%) are male, with a mean age of 21.74 years (SD=4.44). It was found that 51.1% of students attended the 3rd and 4th years of a NDC.

The mean number of days that students were in quarantine was 44.48 (SD=8.08), with a median of leaving home of 5 times. They spent, on average, 6.5 hours a day (SD=3.40) working with computer resources, of which 3.94 hours (SD=1.96) corresponded to synchronous classes attended daily. Students are more afraid that their family members will be infected (mean=4.52: SD=0.75) than they are themselves infected (mean=3.34: SD=1.02). The mean satisfaction with life was 5.88 (SD=1.50).

According to Table 2. it was found that the mean scores of the domains of the psychological well-being scale are very similar, ranging from 3.17 (social involvement) to 3.64 (sociability).

Table 1. Sociodemographic characteristics of nursing students (n=705), Portugal, 2020.

Variables	Min	Max	M*	SD†	Med‡
Age (years)	18	52	21.74	4.44	21
Quarantine days	0	76	44.48	8.08	45
Leaving home during quarantine	0	84	7.410	8.39	5
Daily hours on the computer working	0	18	6.50	3.40	6
Daily hours of synchronous lessons	1	10	3.94	1.96	4
Fear of getting infected (1-5)	1	5	3.34	1.02	3
Fear of a family member getting infected (1-5)	1	5	4.52	0.75	5
Satisfaction with life (1-10)	1	10	5.88	1.50	6
	f§			%	
Course year (n=698)					
1st year	205			29.4	
2nd year	136			19.5	
3rd year	183			26.2	
4th year	174			24.9	
Sex					
Female	630			89.4	
Male	75			10.6	

M* - mean; SD† - standard deviation; Med ‡ - median; *f* § - absolute frequency.

Table 2. Global analysis of nursing students' psychological well-being and hope scales, Portugal, 2020.

Scales	Min	Max	M*	SD†	Med‡	CA§	K-S‖
Psychological Well-Being							
Domains							
Happiness HA (1-5)	1.13	5.00	3.26	0.75	3.25	0.890	≤.001
Sociability SC (1-5)	1.25	5.00	3.64	0.77	3.50	0.864	≤.001
Control CT (1-5)	1.00	5.00	3.35	0.75	3.33	0.886	≤.001
Social Involvement SI (1-5)	1.00	5.00	3.17	0.76	3.33	0.693	≤.001
Self-esteem SE (1-5)	1.00	5.00	3.35	0.72	3.25	0.817	≤.001
Balance BA (1-5)	1.33	5.00	3.45	0.78	3.33	0.731	≤.001
Mean score (1-5)	1.32	5.00	3.36	0.63	3.32	0.948	≤.001
Global scale (25-125)	33.00	125.00	83.97	15.71	83.00		
Hope							
Domains							
Cognitive-temporal CGT (1-4)	1.50	4.0	3.01	0.48	3.00	0.654	≤.001
Affective-behavioral ABE (1-4)	1.50	4.0	3.30	0.45	3.25	0.763	≤.001
Affiliative-contextual AFC (1-4)	1.25	4.0	3.09	0.50	3.00	0.597	≤.001
Mean score (1-4)	1.50	4.0	3.13	0.42	3.08	0.857	≤.001
Global scale (12-48)	18.00	48.00	37.60	5.07	37.00		

M*- mean; SD† - standard deviation; Med ‡ - median; CA § - Cronbach's alpha; K-S‖ - Kolmogorov-Smirnov test with Lilliefors correction.

The mean score of the scale was 3.36 (SD=0.63). Cronbach's alpha values revealed good internal consistency in all domains and in the global psychological well-being scale.

Regarding the hope scale, the affective-behavioral domain was the one with the highest mean score, 3.30 (SD=0.45). The global mean score of the scale was 3.13 (SD=0.42). The Cronbach's alpha of the domains ranged between 0.597 and 0.763, being 0.857 for the global scale, revealing acceptable results of internal consistency.

None of the domains, nor the global ones, of both scales presented a normal distribution with p-value ≤0,001 in the Kolmogorov-Smirnoff test with Lilliefors correction.

Through Table 3, a statistically significant correlation (p≤0,005) was found between the following sociodemographic variables and psychological well-being: leaving home, daily working hours on the computer, daily hours attending synchronous classes, fear of the family member becoming infected and satisfaction with life, the latter being a positive, moderate and statistically very significant correlation r=0.409 (≤0.001).

The correlation between sociodemographic variables and hope was statistically significant with the variables: leaving home during quarantine and satisfaction with life, which was positive and moderate r=0.343 (≤0.001). Age, quarantine days, fear of becoming infected, year of study and sex were not correlated with psychological well-being and hope (p-value>0.05).

From an analysis of Table 4, it can be seen that the domains and global values of the psychological well-being scale and the hope scale are associated with each other, with p-values ≤0,001 in all Spearman's correlations performed, being all positive and moderate to strong (.392< r <.917).

On the psychological well-being scale, it was found that happiness is the domain with the strongest correlation (r=0.917). In the hope scale, it is the affiliative-contextual domain (r=0.874) that presented the highest correlation.

In psychological well-being, correlations are stronger between happiness and sociability (r=0.694), between happiness and control (r=0.675), between control and self-esteem (r=0.632), and between balance and happiness. In the correlation between the domains of the two scales, it was found that happiness and self-esteem, as domains of psychological well-being, present a higher correlation intensity with the affiliative-contextual dimension (0.570< r <0.571) of hope.

Nursing students' psychological well-being and hope during quarantine showed a moderate to strong correlation (r =0.656, p≤0.001).

DISCUSSION

The pandemic is having repercussions on students' mental health in general[5] and, in particular, on nursing students[6]. The present research identified that students who spent more hours on the computer working and with a greater number of daily synchronous classes had statistically significant lower values of psychological well-being (p≤0.05). Despite the rapid

Table 3. Correlations between psychological well-being and hope with the sociodemographic characteristics of nursing students (n=705), Portugal, 2020.

Variables	Psychological Well-Being r(p)*	Hope r(p)*
Age (years)	-0.002(0.957)	0.036(0.340)
Quarantine days	-0.013(0.729)	-0.011(0.762)
Leaving home during quarantine	0.146(≤**0.001**)	0.122 (**0.001**)
Daily hours on the computer working	-0.089(**0.028**)	-0.009(0.827)
Daily hours of synchronous lessons	-0.089(**0.018**)	-0.031(0.438)
Fear of getting infected (1-5)	-.032(0.323)	0.011(0.761)
Fear of the family member getting infected (1-5)	-0.121(**0.016**)	0.053(0.163)
Satisfaction with life (1-10)	0.409(≤**0,001**)	0.343(≤**0.001**)
Course year	**p**†	**p**†
1st year		
2nd year	0.663	0.529
3rd year		
4th year		
Sex	**p**‡	**p**‡
Female	0.099	0.149
Male		

r(p)* - Spearman's correlation coefficient (significance test); **p**
† - Kruskal-Wallis (significance test); **p**‡ - Mann-Whitney U test (significance test).

adaptation of one-to-one teaching to online teaching, the truth is that Higher Education Institutions and their actors, for the most part, were/are still very imbued and committed to traditional forms of teaching/learning. This transition, which was expected to arise naturally in nursing education[13], emerged at the center of a pandemic crisis, having an impact on students' psychological well-being. The students participating in this study, like other university students, were faced with the imperative of changing the paradigm, from one-to-one to distance learning. Another result that emerged from this research was that the number of leaving home was positively correlated with a statistically significant increase in the students' levels of psychological well-being and hope (p≤0.05). This finding makes us reflect on the different models of confinement adopted, requiring a balance between maintaining mental health and safeguarding physical health and preventing the risk of infection in collective terms.

The results of this research revealed that students with the highest fear of their relatives becoming infected had statistically significant lower levels of psychological well-being (p≤0.05). Our findings are in line with a study carried out with university students in the United States[14], in which, of the 91% who reported being afraid of themselves or their relatives becoming infected, 1/3 were even more concerned, with the health of their relatives more vulnerable, such as elderly or pregnant individuals.

Yet another study, also carried out with higher education students, identified fear as one of the predictors of depression[15]. In turn, from an analysis carried out in a study developed with young adults in Turkey, it was suggested to encourage the sharing of common goals with other young people, interdependence

Table 4. Spearman's coefficients between nursing students' psychological well-being and hope, Portugal, 2020.

	Psychological Well-Being							Hope			
	HA	SC‡	CT§	SI‖	SE¶	BA**	Global psychological well-being	CGT‡‡	ABE§§	AFC‖‖‖	Global hope
HA†	1										
SC‡	.694*	1									
CT§	.675*	.654*	1								
SI‖	.527*	.463*	.473*	1							
SE¶	.682*	.617*	.632*	.525*	1						
BA**	.678*	.613*	.582*	.464*	.581*	1					
Global psychological well-being	.917*	.830*	.799*	.666*	.817*	.785*	1				
CGT‡‡	.570*	.466*	.565*	.489*	.571*	.439*	.629*	1			
ABE§§	.461*	.450*	.441*	.395*	.473*	.383*	.526*	.662*	1		
AFC‖‖‖	.526*	.450*	.450*	.392*	.515*	.421*	.569*	.617*	.670*	1	
Global hope	.593*	.517*	.552*	.487*	.589*	.473*	.656*	.866*	.872*	.874*	1

*Significant correlation for a .01 (2-tailed) level; HA† - happiness; SC‡ - sociability; CT§ - control; SI‖ - social involvement; SE¶ - self-esteem; BA** - balance; CGT‡‡ - cognitive-temporal dimension; ABE§§ - affective-behavioral dimension; AFC‖‖‖ - affiliative-contextual dimension.

and sociability as a way to reduce the levels of psychological maladjustment[16]. In this context, we emphasize that, in the sample of Portuguese nursing students, the domains of emotional well-being with the highest scores were precisely social involvement and balance, which can lead to the finding that they can be protective factors for psychological well-being in young adults. These data are supported by a study that identified greater social support with lower levels of depression and greater satisfaction with life[17]. Regarding satisfaction with life, there is also a positive correlation in our sample between psychological well-being (r=0.409; p≤0.001) and hope (r=0.409; p≤0.001).

The path in higher education per se emerges as a multiple transition process that reinforces stress, imbalances and a rigorous adjustment, requiring extra attention to enable a harmonious personal and professional development of students[3,4], their academic success and avoidance of morbidity in the mental health aspect.

Although the pandemic is a recent phenomenon, several studies have shown the negative impact on students' psychological well-being[5,6,14]. Our findings point to a mean of 83.97 (SD=15.71) on the psychological well-being scale (varies between 25-125), revealing an intermediate level.

With regard to the results arising from the assessment of hope, the affective-behavioral domain had higher scores. This domain reflects, from students' perspective, a set of feelings related to the goals that one intends to achieve the perception of well-being, uncertainty of anxiety, doubt, vulnerability, concern, anger, distress, and sometimes even despair[7,11].

The present study identified moderate to strong positive correlations (0.383< r <0.656) between the global and the various domains of the two scales (≤0.001), revealing the association between these two variables. The evidence available for this association during the pandemic is still scarce. However, some studies point to a decrease in anxiety[18] and improvement in mental health and subjective well-being[19] in individuals with higher levels of hope, corroborating our results.

College students have been identified as one of the population groups at risk with regard to the psychological impact of the pandemic and worse mental health[20-22]. Nursing students deserve our particular attention in managing their psychological well-being and hope. Maintaining mental health is essential for the progression of their personal and academic goals, but also for the future profession[23]. From this perspective, we consider it pertinent to consider the following aspects as implications of this investigation: individual, family and sociocultural vulnerability. All these aspects will have a significant potential to add to the experience of continued stress, and may change students' perception of their psychological well-being and hope.

FINAL CONSIDERATIONS AND IMPLICATIONS FOR PRACTICE

The findings point to a positive correlation between students' psychological well-being and their hope during mandatory confinement resulting from the pandemic crisis.

Associated with crisis situations, there is a potential for growth and development, which we admit may occur with some students. We believe that, for some, this will be a time of evolution, self-knowledge, self-discovery, learning, changing the world view, valuing communication, the relationship with the other and what surrounds them, expression of humility, solidarity, respect for the other, breaking the culture of immediacy, reflection and prioritization of values, an uplifting global development as a human being.

However, despite the potential costs, it is not an emergency scenario, the best context for this paradigm shift, the moment can be an opportunity for all actors involved in educational projects at the higher education level to rethink the nature of knowledge and essential knowledge for a knowledge society. We are convinced that the results obtained were influenced not only by the pandemic itself, but also by the changes that occurred in the sudden transition to distance learning, considering that neither teachers nor most students were prepared for this transition. The way in which one learns today and what the teacher's role should be in this whole process must be attended to.

The findings of this study may have implications in various areas of nursing practice. In teaching, the component of hope and fear management can be included in programs to promote psychological well-being for nursing students. In the research, the findings point to the potentiality of creating and validating intervention programs that include hope as a predictor of psychological well-being. At the care level, the results may lead us to question whether this correlation found in students cannot also be found in clinical populations, opening a path for promoting the mental health of certain vulnerable groups.

One of the limitations of this research may be the type and size of the sample, and it is not possible to extrapolate the data to other higher education students. Also, the fact that it is a descriptive-correlational study makes it impossible to affirm a causality between the established correlations. It is suggested to design similar studies with larger samples that include higher education students from other areas and also the replication of this study in a non-pandemic context.

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