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Sociodemographic and Behavioral Factors Associated with Psychological Well-Being in a Brazilian Academic Community During the COVID-19 Pandemic

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ABSTRACT – This study aimed to identify sociodemographic and behavioral factors associated with the psychological well-being of university students at two distinct moments during the first year of the COVID-19 pandemic. It is an observational study with a cross-sectional design and convenience sampling, involving 2,808 university students who responded to a virtual form. The data were analyzed using descriptive and inferential statistics (Pearson's chi-square test, multiple binomial logistic regression with a significance level of 5%), after conducting normality tests. The results suggest negative impacts of the pandemic on the mental health of university students. A history of previous psychiatric alterations, having children, and having experienced financial difficulties were among the factors that contributed to the maintenance of some dimensions of psychological well-being.

KEYWORDS: COVID-19, Mental Health, Universities, Health Psychology

Fatores Sociodemográficos e Comportamentais Associados ao Bem-Estar Psicológico em uma Comunidade Acadêmica Brasileira Durante a Pandemia de COVID-19

RESUMO – Este estudo procurou identificar fatores sociodemográficos e comportamentais associados ao bem-estar psicológico de universitários em dois momentos distintos, durante o primeiro ano da pandemia de COVID-19. Trata-se de um estudo observacional, com desenho transversal e amostragem por conveniência, com 2.808 estudantes universitários que responderam a um formulário virtual. Os dados foram analisados por meio de estatísticas descritivas e inferenciais (teste Qui-Quadrado de Pearson, regressão logística binomial múltipla com nível de significância de 5%), após realização de testes de normalidade. Os resultados sugerem impactos negativos da pandemia na saúde mental dos universitários. Histórico de alterações psiquiátricas prévias, ter filhos e ter passado por dificuldades financeiras foram alguns dos fatores que contribuíram para a manutenção de algumas dimensões do bem-estar psicológico.

PALAVRAS-CHAVES: COVID-19, Saúde Mental, Universidades, Psicologia da Saúde

The COVID-19 pandemic (coronavirus disease – 2019) began in the province of Wuhan, China, in December 2019 and has become one of the most serious and complex public health problems in human history, requiring substantial changes in social, economic, and individual dynamics, particularly through the implementation of physical and social distancing measures to contain the spread of the virus (Moura et al., 2022).

In this scenario, the routine and patterns of social interaction have been disrupted, leading to an urgent need to address aspects that affect mental health and psychological reactions such as anxiety, fear, and stress, as well as the emergence and/or worsening of other psychiatric symptoms (e.g., insecurity, lack of control, depression, and exacerbation of pre-existing psychiatric conditions) (Noal et al., 2020; Rocha et al., 2021). Besides the direct and immediate effects,



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studies indicate the negative mid- to long-term impacts of the pandemic on mental health, particularly regarding symptoms of depression, stress, and anxiety (Kwong et al., 2021; Santo et al., 2021).

The negative factors that compromise the mental health of the population can be socioeconomic, with consequences that extend beyond the social context. For example, the decrease or loss of family income due to the pandemic, food insecurity, and uncertainties regarding access to and utilization of healthcare services during the public health emergency (Duarte et al., 2020). Furthermore, there is evidence in the literature that levels of depression and anxiety have increased during the pandemic compared to the pre-pandemic period (Barros et al., 2020; Cha et al., 2022; Maia & Dias, 2020).

During the pandemic, there has been a significant increase in anxiety levels and a decrease in psychological well-being among various social groups (Kwong et al., 2020). For example, a study with a sample of adolescents and young individuals showed similar results to those observed in the general population, revealing high levels of anxiety, depression, and stress (Binotto et al., 2021). The results of the study indicate that age is an important factor in determining mental illness, as younger individuals had a 6% higher risk of experiencing minor mental disorders during the pandemic compared to older individuals (Duarte et al., 2020).

In the context of the pandemic, the education sector was one of the most affected by the consequent social distancing measures, as teachers, students, and the administrative body have had to continue their educational activities remotely while also seeking to ensure means of survival amid uncertainties about the success and completion of academic tasks and fear of the disease (Vazquez & Pesce, 2022).

In general, even in the pre-pandemic period, the mental health and well-being of university students were already recognized as important and urgent public health challenges, with high rates of depression and suicide (Barbosa et al., 2020; Maia & Dias, 2020; Sheldon et al., 2021). Although these rates are lower than those in the general population, they have been increasing even before the pandemic (Maia & Dias, 2020; Gunnell et al., 2020) and have been exacerbated with the progression of COVID-19, amplifying the risks and detrimental effects on the mental health of this social group (Lee et al., 2021).

A study conducted by Li et al. (2021) during the pandemic indicated an increase in the prevalence of depressive and anxious symptoms among Chinese university students, highlighting a higher prevalence of symptoms after the first wave of COVID-19 in mid-March 2020. However, it is also important to investigate the risk factors for the mental health of this social segment during the COVID-19 pandemic. As such, some studies have emphasized the need to investigate protective factors and coping strategies, highlighting the strategies used by different groups to cope with stressful events (Lourenço et al., 2021; Palma et al., 2022).

In this regard, the findings of Scorsolini-Comin et al. (2021) suggest that maintaining work and study routines and religiosity may offer a lower risk to mental health during the pandemic. The same can be said about the absence of a history of common mental disorders, which facilitates effective coping with crises, positive reappraisal, and problem-solving (Mota et al., 2021; Santo et al., 2021).

In this context, a construct that stands out in Psychology, particularly in Positive Psychology, is well-being, which can undergo a process of scientific analysis (Seligman, 2019) when examined from two conceptions: hedonic and eudaimonic, both related to the notion of happiness. The former perspective suggests that well-being involves overall life satisfaction and the experience of more emotions, often referred to as subjective well-being (SWB). The latter perspective is based on the humanistic theories of Rogers and Maslow, suggesting that happiness is intrinsically related to the pursuit of a meaningful life and self-actualization, highlighting psychological well-being (PWB) (Ryff, 1989).

In the 1980s, most researchers approached well-being based on dimensions related to happiness, life satisfaction, and positive affect, without giving prominence to essential aspects of well-being (Ryff, 2014). Different psychological perspectives identified overlapping themes in the attribution of meaning to what it means to be a self-actualized, individuated, fully functional, or ideally developed human being (Ryff, 2014). These were the common points that supported the studies conducted by Carol Ryff on one of the possible coping factors in the current context highlighted in the literature, psychological well-being (Ryff, 2014).

According to Ryff (2014), six basic components of well-being are identified from the eudaimonic perspective, rooted in philosophical concepts related to the pursuit of "knowing oneself" and "becoming what one is", which merged with the humanistic conception of self-actualization and culminated in scientific studies encompassing the attribution of meaning, self-actualization, and human effort (Ryff, 2008).

Thus, the dimensions assessed by Ryff (1989) and formulated based on theories of mental health, clinical psychology, and lifespan development are (1) Positive relations with others (e.g., developing warm relationships with others, caring for the well-being of others, and being empathic); (2) Autonomy (e.g., self-determination and independence, resistance to social pressures to think and act, self-evaluation based on personal criteria); (3) Environmental mastery (sense of control and competence in managing the environment, the ability to choose and create own contexts that satisfy personal needs and values); (4) Personal growth (self-perceived growth and expansion, developing one's potentials); (5) Purpose in life (having a sense of purpose in the present and future, having life goals and objectives); (6) Self-acceptance (positive attitudes towards oneself, self-acceptance, and feeling good about the past).

These dimensions represent characteristic evolutionary tasks of healthy development and are indicators of quality of life and well-being (Machado et al., 2013). Thus, the investigation of well-being and protective aspects have been highlighted as important elements capable of identifying and developing the best internal resources for maintaining security and facilitating understanding of possible coping strategies for individuals facing disadvantages in the context of the pandemic (Noronha et al., 2021).

Given that the pandemic has reduced well-being indicators and directly impacted the lives of university students, examining how individuals function psychologically in response to the demands of their lives based on the eudaimonic notion through Ryff's dimensions (1989; 2014),

which posits that well-being comes from the realization of human potential, can enhance knowledge about mental health and help understand the psychological alterations manifested during the pandemic among university students (Blasco-Belled et al., 2022).

Therefore, the present study aims to identify sociodemographic and behavioral factors associated with psychological well-being among students at a higher education institution in the Brazilian Midwest at two distinct moments during the first year of the COVID-19 pandemic. The analysis will involve examining the relationships between the variables (sociodemographic and behavioral) and each dimension of the psychological well-being measure.

METHODS

Study Type

This is an observational study with a cross-sectional design and convenience sampling, conducted using a survey management application via an online form (Google Forms).

Study setting

The study was conducted with the university community of a federal public university located in the Brazilian Midwest. It was chosen for being one of the largest higher education institutions in the region and one of the five Brazilian institutions that did not interrupt their activities since the beginning of the pandemic, adopting emergency remote teaching (ERT).

Study participants

Study participants included members of the university community, including students, faculty, and administrative staff, who were at least 18 years old. Participants were recruited for the study at two distinct time points during the year 2020, separated by a 6-month interval. The first recruitment of participants took place in March-April, and the second in September-October 2020. Since it was a cross-sectional study with two waves, participants from the first wave could also participate in the second wave. All those who accepted the invitation and were willing to answer the online questionnaire were considered.

Data collection instrument

An online questionnaire was used to collect sociodemographic data (e.g., religion, sex, age, education

level, etc.) and information about attitudes and behaviors during the early months of social distancing (e.g., adherence to distancing recommendations, adherence to ERT, financial difficulties, substance use, etc.). The questionnaire was developed and structured by the authors through several meetings and discussions.

The Psychological Well-being Scale (PWBS), developed by Ryff and Essex (1992) and translated and validated for the Brazilian context by Machado et al. (2013), was included in the questionnaire. The scale consists of 36 items, divided into six subscales that assess the dimensions of psychological well-being (Positive relations with others – Item 7: I feel that I gain a lot from my friendships; Autonomy – Item 8: I tend to worry about what other people think of me; Environmental mastery – Item 3: In general, I feel I am in charge of the situation in which I live; Personal growth – Item 22: I believe that I have grown a lot as a person over time; Purpose in life – Item 5: I believe I have goals and purposes in my life; and Self-acceptance – Item 6: In general, I feel confident and positive about myself).

The items are responded to on a six-point Likert scale, ranging from "strongly disagree" (1 point) to "strongly agree" (6 points). The measures showed satisfactory indicators of precision (composite reliability – positive relations with others = 0.82; autonomy = 0.70; environmental mastery = 0.76; personal growth = 0.84; purpose in life = 0.83; self-acceptance = 0.83).

Procedures and Ethical Aspects

The data were collected online through a self-completed electronic form. Anonymity, confidentiality of information, and the free and voluntary nature of participation were ensured, guaranteeing the right to withdraw from the study without any consequences. Upon accessing the virtual form, participants indicated their consent to participate by signing the Informed Consent Form (ICF) before proceeding to respond to the data collection form, following the recommendations outlined in the National Health Council's (CNS) Resolutions 510/2016 and 466/2012. Participants were advised to download a copy of the ICF in PDF format after agreeing to participate in the study. The study was approved by the National Research Ethics Committee (CONEP), under protocol No. 3.971.653.

Data Analysis

In this study, only student data were included; hence, data from administrative staff and faculty were excluded from the analysis. The data from each moment were separately organized, coded, and tabulated using the Microsoft Excel® software. Open-ended responses were grouped and categorized. Subsequently, the data from each time point were separately analyzed using the Statistical Package for the Social Sciences (SPSS) software (IBM®).

In the present analysis, the scores of each of the six subscales or dimensions of the PWBS constituted the dependent variable (continuous quantitative), and they were summarized using measures of central tendency and dispersion, in addition to assessing the normality of the distribution using the Shapiro-Wilk test, which showed non-normality (p=0.000) of the score distribution. Nevertheless, binary logistic regression modeling does not require the dependent variable to follow a normal distribution to evaluate its association with independent variables.

Note that the higher the score on each subscale of the PWBS, the better the level of well-being, and vice versa. Therefore, subsequently, the scores of each subscale were arbitrarily categorized into two levels: ≥4 points (high score – outcome = 1) and <4 points (low score – outcome = 0), with the latter being the reference category. The arbitrariness in choosing the cutoff point for categorization is due to the absence in the literature of validated cutoff points for interpreting the instrument. Furthermore, the categorization was adopted considering the requirements for binomial logistic regression modeling.

The independent variables were described using frequencies (absolute and relative) and, when indicated, by the minimum and maximum values, as well as measures of central tendency and dispersion. Using the reference category

'low score – outcome = 0', bivariate association tests were performed between the dichotomous response variable of the PWBS and the independent variables, using Pearson's chi-square test. Independent variables that showed an association with the response variable with a p-value \leq 0.20 were included in the multiple binomial logistic regression model. Those with a p-value between 0.20 and 0.25 were considered adjustment variables and were equally included and tested in the logistic regression model.

In the multiple modeling, the stepwise regression technique was used for the automatic selection of statistically significant variables. First, the forward selection was used, followed by backward elimination. The second technique was chosen for its better performance values (Nagelkerke R-squared) in the accuracy test (Hosmer-Lemeshow) and greater explanatory power of the model (classification table; overall percentage). In the end, twelve regression models were generated, one for each of the six subscales at each of the two moments of the study.

In the first moment of the study, March-April, 27 independent variables were tested, namely: occupation; age (categorized); risk group; having children; race/skin color; religion; moved from home town/state to study at the university; cohabitation; fear of being infected; COVID-19 symptoms; lack of social contact; use of social media to reduce isolation; financial difficulties; use of controlled medication; drug use (the question did not differentiate between legal and/or illegal drugs); current emotional state compared to that prior isolation; previous psychiatric disorders; engagement in activities that promote well-being; internet access; adherence to isolation recommendations; frequency of social interactions with peers before isolation; frequency of interactions during isolation; receipt of university grant/aid; sex; marital status; remote household activity; length of affiliation with the university.

In the second moment, September-October, 29 independent variables were included in the analysis. Four new variables were added: academic/professional performance during isolation; mood changes; domestic violence during social isolation; and perception of information about the pandemic disseminated through radio, TV, newspapers, social and electronic media, etc. However, the following variables included in the first moment of the study were excluded in the second moment: engagement in activities that promote well-being and previous psychiatric disorders.

RESULTS

In the first moment, data from 1,309 students were included in the study, with the majority being female (67.1%), mean age of 25 years, single (80.9%), who indicated not having children (85.3%), and practicing or having a religious affiliation (65.8%). In the second moment, data from 1,499 participants were analyzed in the study, with the majority

being male (60.8%), mean age of 26 years, single (73.8%), without children (80.5%), and practicing or having a religious affiliation (65.2%).

Most participants, both in the first (97.5%) and second (85.6%) moment of the study, reported having three or more social interactions per week before the social distancing

measures due to the COVID-19 pandemic. After the implementation of social distancing measures, the report of having three or more social interactions per week had dropped to less than half, 42.3% in March-April, and registered an even greater decrease, 17.5%, in September-October.

Most participants, 65.2% and 61.0% in the first and second moments, respectively, indicated that their emotional state worsened with the social distancing measures imposed due to the pandemic. However, 6.9% in the first moment and 6.5% in the second moment reported an improvement in their emotional state during the isolation period compared to the immediate period before the isolation measures. It was also found that approximately one-third of participants reported using psychotropic medications in both the first and second-

time points of the study, 28.3% and 29.1%, respectively. Nearly half of the participants, in both the first and second time points, 48.3% and 47.6%, respectively, reported drug use (without differentiating between legal and/or illegal drugs). For further details, refer to Table 1.

The average scores of the "Personal Growth" subscale of the PWBS were noteworthy, being 5.14 and 5.24 in the first and second moments, respectively. The scores for "Environmental Mastery" were 3.23 in the first moment and 3.52 in the second moment. For more details, please refer to Table 2.

Based on the data from the first moment, reporting previous psychiatric disorders (compared to not reporting), having children (compared to not having children), experiencing

Table 1 Sociodemographic characteristics of the study participants according to the study phase, 1st Moment (April/March) and 2nd Moment (August/September), 2020.

Variables		1st Moment	2nd Momen
variables		n (%)	n (%)
	Male	425 (32.5%)	912 (60.8%)
Sex	Female	878 (67.1%)	587 (39.2%)
	Other	06 (0.5%)	
	18 to 19 years	214 (16.3%)	101 (6.7%)
Age	20 to 24 years	674 (51.5%)	753 (50.2%)
Age	25 to 29 years	190 (14.5%)	279 (18.6%)
	Over 30 years	231 (16.7%)	366 (24.5%)
Marital status	Married, common-law marriage, and others	251 (19.2%)	393 (26.2%)
Maritai status	Single and others	1058 (80.8%)	1106 (73.8%
CLUL	Yes	192 (14.7%)	293 (19.5%)
Children	No	1117 (85.3%)	1206 (80.5%
	Black	557 (42.6%)	671 (44.8%)
Race/Skin color	White	691 (52.8)	769 (51.3%)
	Indigenous	16 (1.2%)	18 (1.2%)
	Yellow	45 (3.4%)	41 (2.7%)
D. F	Yes	861 (65.8%)	977 (65.2%)
Religion	No	448 (34.2%)	522 (34.8%)
	Yes	1252 (95.6%)	1454 (97%)
Internet access	No	57 (4.4%)	45 (3.0%)
	<3x per week	33 (2.5%)	216 (14.4%)
Frequency of social interactions before isolation	≥3x per week	1276 (97.5%)	1283 (85.6%
	<3x per week	755 (57.7%)	1236 (82.5%
Frequency of social interactions during isolation	≥3x per week	554 (42.3%)	263 (17.5%)
	Yes	632 (48.3%)	714 (47.6%)
Drug use?	No	677 (51.7%)	785 (52.4%)
	Same	348 (26.6%)	490 (32.7%)
	Better	90 (6.9%)	95 (6.3%)
Self-perceived emotional state	Worse	854 (65.2%)	914 (61.0%)
	Other Answers	17 (1.3%)	
	Yes	371 (28.3%)	436 (29.1%)
Use of psychotropic medications?	No	938 (71.7%)	1063 (70.9%)

Table 2
Average scores obtained by participants in the domains of the PWBS in the two research moments, 1st Moment (April/March) and 2nd Moment (August/September), 2020.

V:	1s	t Moment	2nd Moment					
Variables —	Mean	Standard Deviation	Mean	Standard Deviation				
Positive Relations	3.86	1.07	4.20	1.02				
Autonomy	3.90	1.01	4.09	0.96				
Environmental Mastery	3.23	1.22	3.52	1.26				
Personal Growth	5.14	0.77	5.24	0.87				
Purpose in Life	4.20	1.18	4.35	1.23				
Self-Acceptance	3.90	1.28	4.04	1.35				

financial difficulties (compared to not experiencing financial difficulties), and living with friends/in shared housing or with family members and/or partners (compared to living alone) were the factors predominantly associated with high scores in the dimensions of the PWBS. However, having children was not associated with only one dimension of the PWBS, namely "Purpose in Life". Experiencing financial difficulties was not associated with two dimensions, "Autonomy" and "Environmental Mastery". For more details on the variables associated with PWB in each domain, please see Table 3.

In the second moment, data analysis indicated that being single (compared to being married or in a similar situation), belonging to a high-risk group for severe forms of COVID-19 (versus not belonging to a high-risk group), reporting mood changes during the pandemic (versus not reporting), feeling well-informed about the pandemic (compared to not

feeling well-informed), reporting a worsening of emotional state during the pandemic (versus reporting no change or improvement), and using social media to reduce the sense of isolation (compared to not using it for that purpose) were the factors most frequently associated with high PWB scores. In at least five dimensions of the PWBS, high PWB scores were associated with reporting mood changes (Self-Acceptance, Autonomy, Environmental Mastery, Purpose in Life, Positive Relations with Others); feeling well-informed about the pandemic (Self-Acceptance, Autonomy, Personal Growth, Purpose in Life, Positive Relations with Others); and reporting a worsening of emotional state during the pandemic (Self-Acceptance, Autonomy, Environmental Mastery, Purpose in Life, Positive Relations with Others). For more details on the variables associated with PWB in each domain, please see Table 4.

Table 3 Factors associated with high scores of PWB (\geq 4) on the Psychological Well-Being Scale (PWBS – 1st Moment).

Independent variables	Self-Acceptance		Autonomy		Personal Growth		Environmental Mastery		Purpose in Life		Positive Relations with Others	
	O.R	p	O.R	p	O.R	p	O.R	p	O.R	p	O.R	p
Drug use? (Yes)	0.755	.025					0.562	.000	0.684	.004		
Use of psychotropic medications? (Yes)	0.708	.015							0.745	.042		
Self-perceived emotional state: Worse=0			0.530	.0003					0.568	.0431		
Same=1 Better=2 Other=3	0.364	.0003	0.532	.0121					0.337	$.000^{3}$		
Had previous psychiatric alterations? (Yes)	0.462	.000	0.641	.000	0.476	.001	2.574	<.001	0.582	.000	0.543	.000
Have children? (Yes)	2.278	.000	1.559	.009	2.011	.064	1.569	.010			1.769	.001
Sex (male)	1.500	.003					1.484	.004				
Experienced financial difficulties? (Yes)	0.701	.010			0.506	.003			0.766	.058	0.758	.033
Use of social media to reduce the feeling of isolation? (Yes)	1.642	.025			2.327	.004			2.340	.000		
Lives: Alone=0 Friends/Fraternity/Sorority and the likes=1 Partner and/or family members=2	**	.0300	1.675 1.352	.011 ¹			1.713 2.038	.039 ¹	1.689	.0312		

Table 3 *Cont.*

Independent variables	Self-Acceptance		Autonomy		Personal Growth		Environmental Mastery		Purpose in Life		Positive Relations with Others	
	O.R	p	O.R	p	O.R	p	O.R	p	O.R	p	O.R	p
Miss social contact? (Yes)			0.688	.016								
Fear of being infected High fear=2 None or little=1			1.378	.0311								
Receives grant/aid? (Yes)			1.352	.023					1.428	.020		
Frequency of social interactions before isolation (≥3x per week)					2.555	.073					3.275	.005
Frequency of social interactions during isolation (≥3x per week)											1.251	.054
Had to move to study at UFMS? (Yes)					1.671	.040					0.807	.078
Maintains social isolation measures? (Yes)					3.341	.002						
Has a religion? (Yes)							1.454	.011	2.067	.000		
Felt any COVID-19 symptoms? (Yes)							0.515	.001	0.692	.022	0.639	.004
Occupation: Just study=0 Studies and works=1							1.339	.0361	1.394	.0181		
Race/Skin color: Black=0 Yellow=1 White=2 Indigenous=3									12.846	.0212		
Engaged in home-based activity? (Yes)									1.350	.036		

Note. OR= Odds Ratio; p=p-value; -- This variable is not present in the results of the domain results; ** constant value. The superscript numbers in p (p-value) indicate the category of the variable that was associated with high scores.

Table 4 Factors associated with high scores of PWB (\geq 4) in the Psychological Well-being Scale (PWBS – 2nd Moment).

Independent variables	Self-Acc	Self-Acceptance		Autonomy		Personal Growth		Environmental Mastery		Purpose in Life		itive tions Others
	O.R	p	O.R	p	O.R	p	O.R	p	O.R	p	O.R	p
Drug use? (Yes)							0.750	.016				
Marital status (Single)			0.658	.005			0.587	.000	0.626	.016	0.743	.047
COVID-19 Risk Group? (Yes)			0.788	.069	0.570	.031	0.690	.005	0.587	.000		
Use of psychotropic medications? (Yes)	0.761	.057										
Mood alterations? (Yes)	0.507	.000	0.668	.001			0.517	.000	0.569	.000	0.625	<.001
Experienced domestic violence? (Yes)	0.691	.059			0.363	.001			0.676	.053		
Feels well informed about the pandemic? (Yes)	0.689	.018	0.677	.010	0.309	.000			0.560	.000	0.669	.043
Self-perceived emotional state: Same=0 Better=1 Worse=2	0.412	.0002	0.556	.0002			0.356	$.000^{2}$	0.485	$.000^{2}$	0.666	.0072
Academic performance during isolation? Same=0 Better=1 Worse=2	0.635	.006²					0.399	.0002	0.564	.0022		

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Table 4 *Cont.*

Independent variables	Self-Acceptance		Autonomy		Personal Growth		Environmental Mastery		Purpose in Life		Posi Rela with (
	O.R	p	O.R	p	O.R	p	O.R	p	O.R	p	O.R	p
Religion (Yes)	1.548	.001							1.791	.000	1.282	.055
Time at UFMS (More than 11 months)	0.730	.082							0.669	.043		
Race/Skin color Yellow=0 White=1 Indigenous=2 Black=3			0.635 1.984	.006 ²								
Fear of being infected? Some=0 A lot=1 None=2 Little=3	0.719	.0171					1.571	.017³				
Children (yes)									1.622	.033		
Sex (male)			0.719	.012								
Experienced financial difficulties? (Yes)	0.566	.000					0.708	.008	0.773	.072		
Use of social media to reduce the feeling of isolation? (Yes)	1.881	.002			0.677	.011			1.826	.004	1.649	.010
Miss social contact? (Yes)			0.691	.037							1.419	.033
Receives grant/aid? (Yes)									1.590	.010		
Frequency of social interactions before isolation $(\ge 3x/\text{week})$	0.677	.024										
Frequency of social interactions during isolation $(\ge 3x/\text{week})$	1.387	.053									1.473	.027
Maintains social isolation measures? (Yes)							2.408	.003				
Felt any COVID-19 symptoms? (Yes)									0.716	.016		

Note. OR= Odds Ratio; p= p-value; -- This variable is not present in the results of the domain results; ** constant value. The superscript numbers in p (p-value) indicate the category of the variable that was associated with high scores.

DISCUSSION

The condition of unemployment and the decrease in financial income during the COVID-19 pandemic have been identified in the literature as important contributors to mental health impairments among university students and the general population (Duarte et al., 2020; Teodoro et al., 2021). This negative effect occurs mainly because it generates insecurity and uncertainty regarding access to healthcare services in case of illness and basic means of survival such as food, housing, water, and electricity (Duarte et al., 2020; Teodoro et al., 2021). However, despite the well-known harmful effects of financial difficulties and the presence of previous psychological alterations, in this study, these factors were not associated with low scores of psychological well-being but rather with high scores of psychological well-being, suggesting a protective association.

Regarding the opposite effect of financial difficulties on psychological well-being, this could be a characteristic finding of the pandemic period for some individuals. This may indicate that some people attributed greater significance to emotional aspects (e.g., social interaction and support, being close to family members and loved ones, staying at home, etc.) at the expense of financial elements. Therefore, in a context marked by illness, pain, fear of death, loss of family members, and insecurity/uncertainty about one's own life, it is possible that financial difficulties took a secondary place in the hierarchy of needs and priorities, and these values were emphasized over others involving financial aspects (Dwivedi, 2021).

In the same direction, individuals diagnosed before the pandemic with psychological alterations, such as common mental disorders, showed a higher frequency of mental health impairments during the social distancing imposed by the COVID-19 pandemic, such as signs of anxiety, depression, and stress (Baptista & Martins, 2022; Teodoro et al., 2021). However, in this study, the opposite was observed: this group had high scores of PWB. This can be explained by the fact that, in general, individuals with common mental disorders tend to receive more medical and psychological assistance, which can strengthen psychological defense and coping mechanisms and ultimately favor PWB (Gomes et al., 2020).

These results can also be explained by other studies, including those with which they corroborate, which found that people who experienced social distancing with their families had better mental health indicators (Gaudenzi, 2021; Schönffeldt & Bücker, 2022). Although social distancing increased feelings of loneliness and insecurity, placing individuals who live alone in a vulnerable situation, it also increased certain forms of support, such as health and solidarity (Schönffeldt & Bücker, 2022). Conversely, residing with other people can promote a sense of security and support in the face of the adversities imposed by the pandemic (Gaudenzi, 2022).

The physical and social distancing measures and the transition to remote learning, along with the uncertainties and fears of the pandemic, contributed to a scenario conducive to increased consumption of psychoactive substances (Garcia & Sanchez, 2020; Lima, 2020). Therefore, possibly due to the psychological effects of the pandemic, studies have found high use of psychoactive substances among the university population (Queiroz et al., 2021), although this population already had high rates before the pandemic (Candido et al., 2018). Psychoactive substances, alcohol being the most common, have been frequently used to alleviate the burden of university life. Furthermore, the use of drugs, both legal and illegal, has been found in the literature to be associated with symptoms of depression and anxiety (Barbosa et al., 2020; Beneton et al., 2021; Silva et al., 2019), regardless of the temporal directionality of the association.

It is important to note that during the COVID-19 pandemic, there was an increase in the consumption of psychoactive substances in various groups (Lima, 2020; Salerno et al., 2021), with a significant increase in the university population's consumption of legal drugs, especially tobacco and alcohol, and illegal drugs, primarily marijuana (Gritsenko et al., 2020; Lechner et al., 2020; Salerno et al., 2021). The same can be said for the use of psychotropic medications, with or without a medical prescription, whose increase has been reported in the literature to be associated

with increased psychological distress during the pandemic (Fontes et al., 2022; Silva et al., 2022).

Like other investigations, the present study found that most participants reported a self-perceived worsening of their mental health during the pandemic (Barros et al., 2020; Cha et al., 2022; Gritsenko et al., 2021). The pandemic equally contributed to the exacerbation of pre-existing psychological symptoms, in light of an abruptly imposed scenario, such as the measures adopted for remote work and learning (Torres et al., 2021). However, high scores of PWB were observed in the 'Personal Growth' dimension, which can be explained by considering that crisis events and experiences of suffering can equally contribute to resilience as well as reflections on topics such as finitude and the meaning of life, which are essential for personal growth (Machado & Bandeira, 2012; Torres et al., 2021).

The literature has shown that the situation imposed by the pandemic has contributed to self-awareness and the development of new strategies for personal and collective care in the university community, associated with hope for positive outcomes of the pandemic (Lourenço et al., 2021; Machado & Bandeira, 2012; Reicher & Bauld, 2021).

As observed in this study, high scores in the dimensions of PWB were present even in groups commonly associated with negative mental health and PWB outcomes. These findings suggest the importance of considering individuals' capacity to develop coping strategies that minimize the effects of adversities on their PWB, even in contexts of intense suffering such as the COVID-19 pandemic (Santo et al., 2020; Panourgia et al., 2021). Thus, it points to another scenario for interventions in Psychology that, in addition to addressing aspects that compromise mental health, should also include the development of strategies and the strengthening of factors that promote mental health in the population (Scorsolini-Comin et al., 2021).

It is important to highlight that this does not mean neglecting the damage to mental health and well-being, but rather considering other aspects of the pandemic experience that can contribute to the construction of strategies based on protective factors for mental health (Lourenço et al., 2021; Noronha et al., 2020; Palma et al., 2022). These actions can reinforce the contributions of Positive Psychology to the challenges of public health (Noronha et al., 2020), as they can be strategic for the development and strengthening of mental health programs for the university population, which even before the pandemic already had mental health statistics and psychoactive substance use considered as public health problems.

FINAL CONSIDERATIONS

The results of this study add to other findings in the literature that point to the impacts of the COVID-19 pandemic and possibly the consequent effects of social distancing

measures on the mental health of university populations. Factors associated with high scores of psychological well-being during the pandemic were identified, such as reporting previous psychiatric alterations, having children, experiencing financial difficulties, and living with friends/roommates or family members.

The identification of factors associated with high scores of psychological well-being can contribute to the design of mental health intervention strategies that go beyond illness-related aspects and strengthen coping strategies for the effects of the pandemic among university students and other social groups. In this perspective, Positive Psychology presents important contributions to support the development of prevention and psychological treatment/rehabilitation strategies essential in the context of health emergencies.

Although the results fulfill the general objective of the research, the study is not without limitations. The use of self-report measures, as well as those collected online, can be influenced by social desirability bias as well as intentional response distortion, in an attempt to portray a healthy individual image. The convenience sampling nature limits the generalization of the findings beyond the included participants. Despite these limitations, the results found, which corroborate some data available in the scientific literature of the area, allowed for the assessment

of indicators of psychological well-being among university students and the identification of potential determinants of psychological well-being.

Finally, the composition of the two samples in this study proportionally reflects the university population of the study location and, to some extent, the profile of the Brazilian university population, both in terms of sociodemographic profile and the main challenges related to mental health and use of psychoactive substances. Overall, the data point to the heterogeneity of the investigated groups, as well as to the importance of considering psychosocial and economic factors as determinants of psychological well-being during the COVID-19 pandemic.

Future research could focus on building explanatory models that consider variables beyond demographic and behavioral indicators. Qualitative studies, which are currently scarce, are suggested to deepen the understanding of the experience of the pandemic, its impacts, and the coping strategies that influence mental health. Similarly, longitudinal studies on psychological indicators are recommended to track the psychopathological impacts of the pandemic and its consequences with determinants from different dimensions.

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