

Covid-19 and mental health: A study of social representations with university students

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Abstract

The objective was to apprehend the Social Representations (SR) of university students from a private Institution about Covid-19 and mental health. There were 294 participants, between 18 to 59 years old ($M = 27.43$; $SD = 6.05$). These participants submitted to a sociodemographic questionnaire and the Free Word Association Technique (stimuli: coronavirus and health mental), applied online. Process the data using the TRIDEUX-MOTS software through the Factor Analysis of Correspondence. The results pointed to consensualities between the “coronavirus” and “mental health” stimuli anchored in the psycho-emotional sphere, aimed at anxiety, fear, anguish, and sadness. These stimuli also share other nuclei of a meaning of SR, anchored in protective elements of mental health, faith, health, care, and family. Thus, understanding how SR from different groups in the face of this new phenomenon can help preventive actions to face the disease and preserve mental health.

Keywords: mental health; university students; social representation; pandemic.

Resumo

Covid-19 e saúde mental: um estudo de representações sociais com universitários. Objetivou-se apreender as Representações Sociais (RS) de estudantes universitários de uma instituição privada sobre Covid-19 e saúde mental. Contou-se com a participação de 294 participantes, entre 18 a 59 anos ($M = 27,43$; $DP = 6,05$), os quais foram submetidos a um questionário sociodemográfico e à Técnica de Associação Livre de Palavras (estímulos: coronavírus e saúde mental), aplicados de forma online. Processou-se os dados pelo software TRIDEUX-MOTS, por meio da Análise Fatorial de Correspondência. Os resultados apontaram para consensualidades entre os estímulos “coronavírus” e “saúde mental” ancorados na esfera psicoemocional, objetivadas por: ansiedade, medo, angústia e tristeza. Esses estímulos também compartilharam outros núcleos de sentido das RS, ancorados em elementos protetivos da saúde mental, sendo eles: fé, saúde, cuidado e família. Assim, compreender as RS de diferentes grupos diante deste novo fenômeno pode auxiliar ações preventivas de enfrentamento da doença e preservação da saúde mental.

Palavras-chave: saúde mental; estudantes universitários; representação social; pandemia.

Resumen

Covid-19 y salud mental: un estudio de representaciones sociales con estudiantes universitarios. El objetivo era apreender a las Representaciones Sociales (RS) de estudiantes universitarios de una institución privada sobre Covid-19 y salud mental. Póngase en contacto con la participación de 294 participantes, entre 18 y 59 años ($M = 27.43$; $SD = 6.05$), cuáles son los requisitos para el cuestionario sociodemográfico y la técnica de asociación de palabras libres (estímulos: coronavirus y salud mental), aplicaciones en línea. Procese los datos usando el software TRIDEUX-MOTS, a través del Análisis de Correspondencia de Factor. Los resultados mostraron consensualidades entre el “coronavirus” y los estímulos de “salud mental” anclados en la esfera psicoemocional, con el objetivo de: ansiedad, miedo, angustia y tristeza. Estos estímulos también comparten otros núcleos de significado SR, anclados en elementos protectores de la salud mental, son: fe, salud, cuidado y familia. Por lo tanto, comprender cómo la RS de diferentes grupos frente a este nuevo fenómeno puede ayudar a las acciones preventivas para enfrentar la enfermedad y preservar la salud mental.

Palabras clave: salud mental; estudiantes universitarios; representación social; pandemia.

At the international level, the disease Covid-19, caused by the new coronavirus, has been spreading globally and acquiring a pandemic character due to the damage it causes to the public health system, as well as the economic, social, and psychological impacts at global levels, being considered as the most significant public health emergency of international concern in recent years. In this regard, the World Health Organization (WHO) has declared the Covid-19 outbreak a public health emergency of international concern - the organization's highest level of alert, as outlined in the International Health Regulations, and characterized as a pandemic (WHO, 2020).

In this way, the daily life of various social groups has undergone numerous changes due to the primary measures recommended by the competent bodies to reduce the contagion speed, namely: isolation of the population at home; physical distance between people; wear masks; frequent hand washing, use of portable hand sanitizer, and avoidance of hand-to-face contact (Casella, Rainik, Cuomo, Dulebohn, & Di Napoli, 2020; Duan & Zuh, 2020; WHO, 2020).

The first cases of Covid-19 reported in China dated December 2019 (Schmidt, Crepaldi, Bolze, Neiva-Silva, & Demenech, 2020; Xiao, 2020; Wang, Pan, Wan, Tan, Xu, Ho et al., 2020), becoming a highly prevalent phenomenon in many countries around the world. According to WHO data, until May 29, 2020, 5,701,337 cases of the disease were registered in the world, with 107,740 new cases registered to the previous day, 357,688 deaths, and 4,354 new cases (WHO, 2020). According to the Brazilian context, until May 30, 2020, there were 465,166 registered cases of the disease, 26,928 new concerning the previous day, and 27,878 deaths, 1,124 new to the previous day (Ministério da Saúde, 2020). However, these numbers have increased significantly, as the June 29, 2021 summary from *Ministério da Saúde* (Ministry of health) (2021) points out, which indicates several 18,513,305 cumulative confirmed cases in the country and 515,985 cumulative deaths.

The disease caused by the new coronavirus is characterized by a picture similar to influenza syndromes, with symptoms such as fever and dry cough frequently associated and may evolve to respiratory distress (Q. Li, et al., 2020). The severe manifestations lead to a sudden and unexpected worsening of clinical conditions, especially in the elderly, immunocompromised patients or, who have associated chronic diseases (Villegas-Chiroque, 2020). Regarding Covid-19, it progresses to a level of a respiratory syndrome and can manifest in

mild forms, moderate to severe pneumonia, and severe acute respiratory syndrome (SARS). It can lead to sepsis and death (Casella et al., 2020).

Those who survive coronavirus can be identified, depending on the degree of severity manifested at the peak of the disease, by symptoms such as breathlessness, fatigue, loss of smell and taste, memory compromise. In addition, there are also psychological risks, similar to the various historical contexts surrounding the outbreak of infectious diseases (Torales, O'Higgins, Castaldelli-Maia, & Ventriglio, 2020).

Negative psychological repercussions can be present before, during, and after the illness; in this regard, WHO warned that the worsening due to the virus of the society's mental health could be related to the uncertainties caused by the disease, the risks of contamination, and the obligation of home isolation (Chatterjee, Malathesh, & Mukherjee, 2020). In the same direction, the UN has pointed to an emerging global mental illness crisis, as millions of people worldwide are surrounded by death and illness - and are still forced into isolation, poverty, and anxiety due to the Covid-19 pandemic.

In addition, there is already recent scientific evidence for this warning, for example, the study developed by Wang, Pan, Wan, Tan, Xu, Ho et al. (2020) with 1210 interviewees from 194 cities in China in January and February 2020. The data pointed out that 54% of interviewees rated the psychological impact of the Covid-19 outbreak as moderate or severe; 29% reported moderate to severe anxiety symptoms, and 17% reported moderate to severe depressive symptoms. In the same direction, Huang and Zhao (2020) pointed out that approximately 603 Chinese (18.1%) reported depressive symptoms. For these authors, the association with depressive symptoms may relate to the fear of being infected and the difficulty controlling the disease.

Using another study design, Wang, Pan, Wan, Tan, Xu, McIntyre et al. (2020) conducted a longitudinal study considering two moments: during the initial outbreak and the epidemic's peaks, four weeks later. The survey included 1738 participants from 190 Chinese cities (1210 participated in the first round, 861 in the second round, and 333 participated). The results indicated moderate to severe stress regarding anxiety and depression in 8.1%, 28.8%, and 16.5%, respectively.

These data do not restrict to the Chinese context, and there are also mental health implications for Indians, as pointed out in the study proposed by Roy et al. (2020), which aimed to find out the perception of

anxiety about the Covid-19 pandemic, with 662 interviewees. The results showed that more than 80% of the participants were concerned with the ongoing pandemic, 40% paranoid at the thought of contracting the new coronavirus infection, 72% worried about themselves and their relatives; 12% had sleeping problems; 41% claimed to feel afraid when someone in their social circle got sick. In addition, approximately 1/3 of the participants reported having bad social behavior due to the fear of contracting the virus, and a little more than half felt panic with the Covid-19 pandemic reports in print and electronic media in the previous week.

When considering the population of university students, the evidence of adverse psychological effects draws attention, for example, in the study developed by Maia and Dias (2020), with two samples of university students: the first composed of 460 subjects with a mean age of 20.14 years, and the other with 159 subjects with a mean age of 20.40 years. This research had as objective to explore the levels of anxiety, depression, and stress in Portuguese university students, comparing two distinct moments, that is, a regular period (2018 and 2019) and the pandemic period (between the suspension of classes and the decree of a state of emergency in Portugal). The results indicated that students who joined the study in the pandemic period had significantly higher levels of depression, anxiety, and stress when compared to those who joined the study in the average period.

In the same direction, Cao et al. (2020), to assess the mental situation of Chinese university students during the pandemic, surveyed a sample of 7,143 participants and found that 24.9% of university students were suffering from anxiety due to the Covid-19 outbreak. Of those, 0.9% experienced severe anxiety, 2.7% moderate, and 21.3% mild anxiety two weeks before the survey.

These findings reinforce the results of Wang, Pan, Wan, Tan, Xu, McIntyre et al. (2020b). According to these authors, being a student at Covid-19 times increases the chances of having symptoms of anxiety and depression. To Cao et al. (2020), the losses in the student's mental health are explained by some contextual issues such as academic adjustments and family, social isolation, postponement of lessons, insertion of remote learning methods, or even concern with future employment, reduction of interpersonal communication.

When considering the sample of university students in the private network, there is also the

aggravating economic factor since a significant number had a reduction in their income caused by unemployment. Therefore, they need to look for alternatives to afford the tuition fees or even cancel their course. In this way, the need for more empirical studies on this population is recognized, especially regarding the perspective of these social actors.

Thus, the present study is based on the Theory of Social Representations (TSR) as an analytical basis of knowledge shared by social actors (Moscovici, 2012). The TSR was developed by Serge Moscovici (1961) on his studies on Psychoanalysis presented in *La Psychoanalysis*. For this author, social representation is "*uma modalidade de conhecimento particular que tem por função a elaboração de comportamentos e a comunicação entre os indivíduos...*" (modality of a particular knowledge that is responsible for the development of behaviors and communication among individuals) (Moscovici, 2012). To be considered a form of practical knowledge, the RS was inserted in the study field of common sense knowledge (Spink & Carron, 1993).

This contribution was chosen. After all, it allows studying the relational complexity of particular situations through their social, psychological, and historical context because it highlights the importance of communication and social discourse. Thus, the TSR can contribute to the CORONAVIRUS study, allowing us to know how social representations affect social practices. Such evidence may subsidize the scientific knowledge and any educational and health actions directed to this population (Doise, 2001; Moscovici, 2012).

Based on these considerations, this study aimed to apprehend the Social Representations (SR) of university students from a private institution about Covid-19 and mental health. More specifically, it proposed to know the sociodemographic profile of the participants; to recognize the associative networks of the evoked contents, concerning to the stimuli "gender", "age", "schooling", "if you had Covid-19", and "if you know someone who had Covid-19"; and know the inter and intra-group consensual universe shared by participants regarding Covid-19 and mental health.

Method

Type of Study

It is a mixed quantitative and qualitative research, with an exploratory-descriptive approach, cross-sectional and non-probabilistic sample, taken by convenience.

Participants

This study included 294 university students from a private institution of the state of Paraíba, aged between 18 and 59 years ($M = 27.43$; $SD = 6.05$), the majority being women (79.9%). Of these, 99% said they were not affected by Covid-19; 84.4% said they had some relative with covid-19, and 54.8% pointed out they knew a close person who has had the disease. Furthermore, most of the interviewees highlighted that they had their routine completely changed (61.9%) and found it challenging to maintain a study routine (82.7%).

Instruments

We used the Free Association of Words Technique (TALP), improved by Jung in 1905 (Anzieu, 1979), and adapted to Social Psychology by Di Giacomo (1981). It is a projective technique that enables the recognition of the latent dimensions of social representations through the configuration of the constituent elements of the associative networks of the evoked contents concerning each stimulus or inductive word. Thus, this tool allows us to check implicit elements that would be unattainable or masked by the discursive productions of social actors (Abric, 1994).

In the present study, the inductive stimuli “coronavirus” and “mental health” were used.

Additionally, the university students answered a sociodemographic questionnaire containing questions about age, gender, if they have already been diagnosed with Covid-19, if any relative has already been diagnosed, if they know someone close to it. Illness, if routine has changed, and as well as if it is having difficulty maintaining a study routine.

Ethical Procedures and Data Collection

This search followed all the ethics standards mentioned by the Brazilian National Health Council, under Resolutions 466/12 and 510/2016. Students were invited to respond to a questionnaire via electronic form (Google Docs). For this, sharing on social networks like Instagram and WhatsApp was used. Furthermore, when starting the research, the interviewee was informed about the questionnaire to fill it, its voluntary and confidential nature. If they agreed to respond, the instrument was made available to the participant. It should be emphasized that, in the data collection, the IP number of the electronic devices used to answer the questionnaire (internet protocol) was controlled, being limited to a response by identifier. It should be noted that the sampling happened in April 2020.

Data Analysis Procedures

The data from the sociodemographic questionnaire were analyzed with the support of SPSS (version 21.0) for descriptive analyses (mean, percentage, standard deviation). The answers related to the sociodemographic questionnaire and the Free Word Association Technique; were coded and processed by the Tri-Deux-Mots software (Cibois, 1995) and analyzed using Correspondence Factor Analysis (CFA). This analysis highlights axes or factors that explain response modalities, which allow us to graphically observe the attraction and distance between fixed variables, in this study (“gender,” “age,” “schooling,” “if they have had Covid-19,” and “if they know someone who has had Covid-19”), and the opinion variables, which correspond to the words evoked by the subjects in front of the inductive stimuli (“coronavirus” and “mental health”).

Results and discussion

Correspondence Factor Analysis

It was used to apprehend the Social Representations of university students from a private institution about Covid-19 and mental health. The results were obtained by Tri-Deux-Mots processing, from two inducing stimuli (“coronavirus” and “mental health”), associated with fixed variables (“gender”, “age”, “education”, “had Covid-19”). A total of 2,905 words related to inductive stimuli were processed; 294 were different, of which 49 constituted the factorial plan. The words got an average factorial load equal to 20.40, based on the sum of loads (1000) divided by the total number of words in the plan (49). Table 1 presents the most important words associated with the inductive terms.

Based on the inductive stimulus “coronavirus”, it was possible to understand that the representational construction of this phenomenon occurred from elements that reflect the experience of new psychosocial arrangements and the incorporation of technical-scientific terms to common sense. In this sense, the participants conceptualized the coronavirus from the following aspects: it is a virus that has taken a pandemic proportion (*pandemic*), requiring the adoption of measures to prevent its spread, including *quarantine* and, whenever it is necessary to go out, wear *masks*. Due to its damage, this global problem has generated more and more *anxiety*, *anguish*, and *sadness* in *families*. *Faith* seems to be a vital element in facing this moment of *uncertainty* and *insecurity*.

Table 1. Evocations associated to the stimuli with the highest contributions per factor

Inductive Stimulus	Evocation	CPF1	CPF2
Coronavirus	Virus	-	89
	Pandemic	-	57
	Fear	-	49
	Faith	-	43
	Mask	39	-
	Family	38	-
	Uncertainty	-	36
	Anxiety	29	-
	Anguish	-	27
	Danger	23	-
	Quarantine	23	-
	Insecurity	20	-
	Sadness	20	-
	Suffering	199	-
Mental health	Bad	-	83
	Anguish	-	79
	Faith	76	-
	Missing	76	-
	Care	-	65
	Meditation	57	-
	Depression	-	53
	Fear	-	53
	Important	51	-
	Loneliness	32	-
	Panic	31	-
	Difficult	29	-
	Boredom	27	-
	Stress	-	23

Note. The values highlighted demonstrate greater contribution to the indicated factor.

Concerning the inducing stimulus “mental health”, it represented from the perspective of the quarantine period, a measure requested by the WHO to combat the proliferation of the virus. Thus, spending more time at home and, in the same environment, performing different activities, whether they are working, academic or domestic, such as adapting to their children’s education through remote classes, among others. Thus, this context has been characterized as tedious, complex, bad, and stressful. For some people, it has triggered psychological distress, anguish, fear, symptoms of depression and anxiety, panic disorder. Missing relatives and friends was another critical factor

mentioned, and meditation and faith are considered coping strategies.

Given these data, the SR Correspondence Factorial Plan prepared by university students from a private educational institution was analyzed from reading the modalities, evoked words, or semantic fields, distributed oppositely on the two axes or factors (Factor 1 and Factor 2) presented in Picture 1. These factors reveal similarities and distinctions in the content and at the SR structure. According to the relative distribution of the words in the factorial space, the explanatory power was 75.2% of the total variance, being distributed between Factor 1, with 31.5% (eigenvalue = 0.014), and Factor 2, with 43.7% of explained variance (eigenvalue = 0.012) (Picture 1), demonstrating statistical parameters with internal consistency and reliability, considering the research conducted within the scope of SR (Nóbrega & Coutinho, 2011).

According to Picture 1, in the first axis (F1), in the horizontal line, to the left of the factorial plane, evocations of the participants of the female genre with Complete Higher Education were evidenced. For this group, the stimulus “coronavirus” was targeted by the terms *mask*, *quarantine*, *caution*, *danger*, *chaos*, *insecurity*, *cure*, and *hope*, which seem to be anchored in the experience of adverse realities imposed by the pandemic situation, as well as in beliefs in overcoming this reality.

Thus, this group uses the words *mask* and *quarantine* to mention the disease prevention measures, linking with the main strategies for reducing the contagion rate by coronaviruses identified in the literature (Casella et al., 2020; Duan & Zuh, 2020;). It is worth highlighting the SR objectification process, in which the group starts to appropriate new elements that were not previously part of the daily life (*mask*, *quarantine*), making it familiar, an object (*coronavirus*) that starts to integrate the representational repertoire (Moscovici, 2012).

In this way, it is worth noting that the access to accurate information contributes to the SR to guide adaptive behaviors regarding this reality. On this aspect, a study found that to be a woman, a student has symptoms suggestive of Covid-19, and health problems were associated with higher rates of anxiety and depression. On the other hand, the availability of accurate information and the use of preventive measures, such as washing the hands, appeared to mitigate these effects (X. Li, et al., 2020). However, the dissemination of conflicting and contradictory information, mainly caused by

the fake news phenomenon, contributes to the construction of dysfunctional SR (Do Bú, Alexandre, Bezerra, Sá-Serafim, & Coutinho, 2020), as well as the feeling of

uncertainty, the low adherence to preventive behaviors, and, consequently, to the aggravation of the adverse effects of the Covid-19 pandemic.

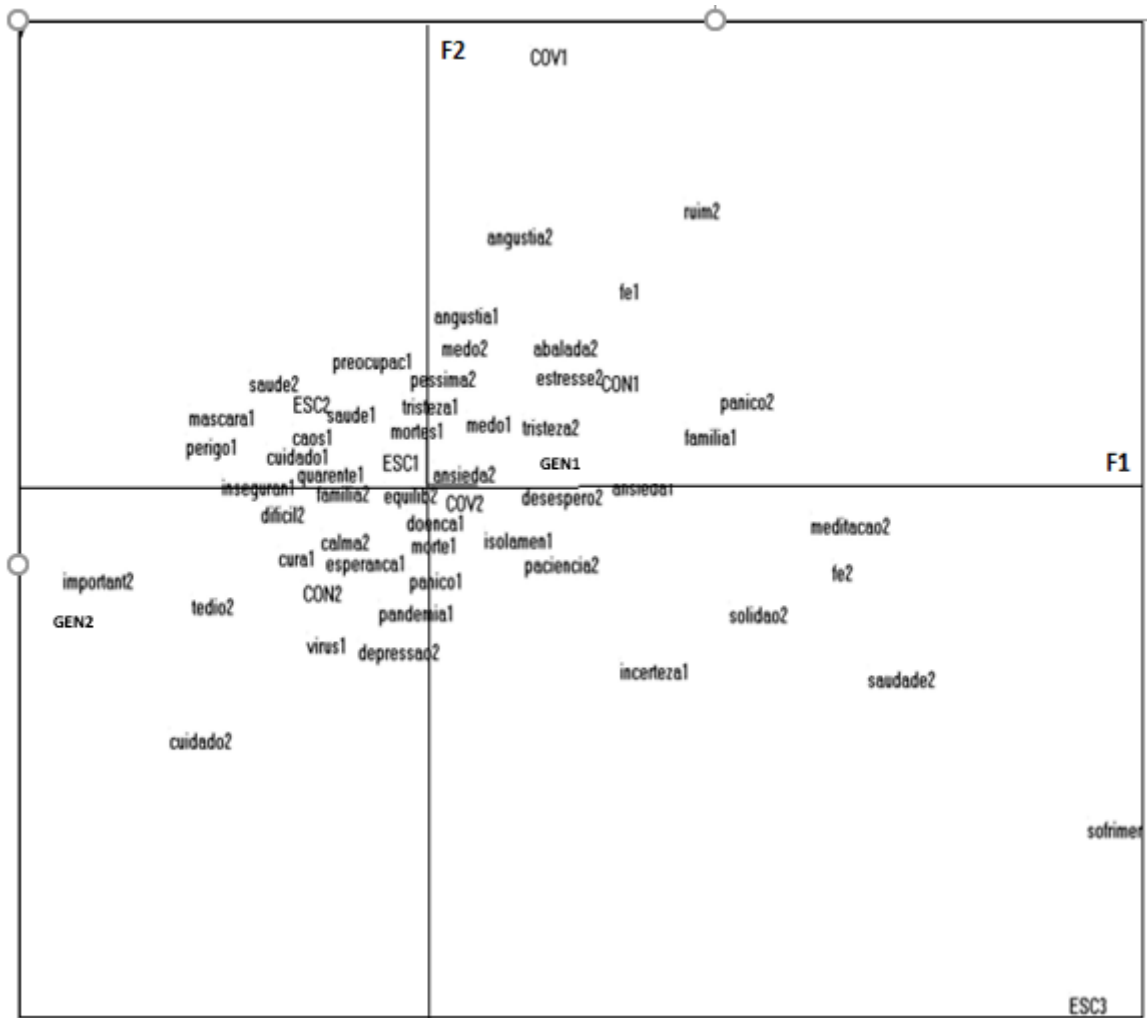


Figure 1. Factorial Correspondence Plan of the social representations of university students about coronavirus and mental health.

Note. Opinion Variables or Inductive Stimuli. The number at the end of each word means an association with: 1 = coronavirus; 2 = mental health; Fixed Variables (upper case): GEN1 (male); GEN2 (female); ESC1 (incomplete higher education); ESC2 (higher education); ESC3 (postgraduate); COV1 (had covid-19); COV2 (have not had covid-19); CON1 (knows who has had coronavirus); CON2 (don't know who has had coronavirus).

It is worth highlighting the terms *danger* and *chaos*, which reveal the specific moment experienced, a complex and uncertain scenario regarding treatment and immunization. In this way, the perception of being vulnerable to numerous threats seems to be related to a sense of incapacity to act. Thus, the element *insecurity* would represent the risk perception (the cognitive component) associated with fear (affective component) of contamination, which leads to the adherence or not to protective measures (the behavioral component)

(Guedes, 2012). Even within the uncertainty scenario regarding the treatment of Covid-19, the appearance of the terms *hope* and *cure is noteworthy*, meaning the participants' belief in the possibility of positive results. In this regard, objectification fulfill the purpose of turning an abstract reality, such as the treatment of Covid-19, into something cognizable, at least from the perspective of hope (Do Bú et al., 2020; Moscovici, 2012)

Still on the F1 axis, on the left side of the factorial plane, the words evoked by the female group for

the stimulus “mental health” are possibly anchored in the cognitive and relational dimensions, as well as in the experiences lived due to home isolation. About the critical objectifications, health, balance, and calm, which are guided by everyday interactions in the pandemic context, it is possible to notice a favorable attitude of this group concerning mental health when considering it *necessary*. In turn, the balance and calm of the term seem to have emerged as a possibility to cope with the psychological effects caused by home isolation.

As for the term *family*, it represents the importance of affective interactions for mental health.

In this perspective, the literature suggests that family support helps to overcome moments of crisis. On the other hand, the family can operate as a stressor agent, contributing to the worsening of the mental health of its members (Souza, Baptista, & Baptista, 2010). In this way, the competent agencies must consider the impacts of family relationships on the population’s mental health, especially in this context, in which home isolation is a necessary measure.

In turn, the elements of *difficulty* and *boredom* represent the psychological effects of pandemic containment measures, especially home confinement. Despite this issue, one study pointed out that this measure is related to psychological effects such as post-traumatic stress, confusion, and anger (Brooks et al., 2020). These results are alarming because the impacts on the population’s mental health tend to be long-lasting and more prevalent than the Covid-19 disease (Ornell et al., 2020; Schmidt et al., 2020). In addition, they highlight the importance of developing public policies focused on mental health care both during and after a pandemic.

In contrast, on the right of F1, evocations of male gender participants were evidenced. For this group, the stimulus “coronavirus” was targeted by the terms *anxiety* and *family*, anchored in the psycho-organic and relational sphere. It may indicate that some needed to return to the family and, in turn, administer a new support routine, or even face implications of the pandemic in the family in the economic, labor, and structural spheres, which can have triggered anxiety symptoms (Ahorsu et al., 2020; Cao et al., 2020). The male gender group also evidenced objectification about “mental health”, which was associated with *suffering*, *anxiety*, *despair*, *panic*, *loneliness*, *missing*. These terms were primarily anchored in negative emotional and psychological aspects. Nevertheless, objectification is anchored in protective psychological and spiritual aspects from the elements of *faith*, *meditation*, and *patience*.

Regarding the elements that associate mental health with negative aspects, it is observed that they corroborate findings from recent studies, which indicate that the pandemic has led individuals to various psychological sufferings, such as anxiety, panic, causing feelings of loneliness due to social isolation, missing (Ahorsu et al., 2020; Cao et al., 2020). Anxiety, which emerges in both stimuli, is noteworthy, confirming empirical evidence that points to high rates of anxious symptoms affected by college students in this period (Cao et al., 2020; Maia & Dias, 2020). The emergence of this term is expected since anxiety refers to a vague and unpleasant feeling of fear that manifests itself as discomfort or tension due to the anticipation of danger, of something unknown (American Psychiatric Association, 2014), feelings experienced by students in this period of the pandemic.

While negative emotional aspects are highlighted, on the other hand, the objections of university students point to positive coping strategies, which involve spiritual, psychological, and emotional issues (*faith*, *meditation*, and *patience*). Here it should be noted that spirituality is understood in a broader perspective, addressing questions about life, its significance, the relationship with the sacred, and the transcendent, what may or may not lead to or originate religious rituals and formation of communities.

Faith as a coping mechanism in times of helplessness, catastrophe, and life difficulties has been reported by theories and empirical research, which mention it as a way to strengthen resilience and improve quality of life (Corrêa, Holanda, & Olandoski, 2017; Trevisan & Borin, 2018). Meditation, in turn, can also be anchored in the aspect of spirituality or can indicate a technique to deal with the current crisis, as it seeks to increase awareness in the present moment, allowing people to be less reactive to unpleasant experiences (Behan, 2020; Zheng, Yao, & Narayanan, 2020). Despite this, Zheng et al. (2020) found that the daily practice of mindfulness could help people better cope with quarantine, reducing anxiety and improving sleep.

Finally, when it comes to patience, it can also go through spiritual or psychological issues. From a spiritual perspective, it appears as a consequence of developing this virtue through transcendental connection. As for a more psychological approach, patience falls within the positive psychology approach, being described as an adaptive regulation of negative emotions, which involves tolerating unpleasant long-term or short-term

situations (Schnitker, Houlberg, Dyrness, & Redmond, 2017). In short, it is found that college students, when faced with the pandemic reality, which involves frustrations, fears, and insecurities, can rely on spiritual and psychological systems to reassess their suffering. In other words, faith, meditation, and patience emerge as buffers for negative emotions, leading to better emotional regulation.

Regarding the second axis (F2), it is demarcated by the vertical line of the plane, where there are the idiosyncrasies present in the SR of social objects. In the upper part were located the evocations of the social actors who had incomplete Higher Education, had the Covid-19 and knew people who were also affected by the virus. The "coronavirus" was represented by objectification: *worry, sadness, fear, death, faith, health*. The elements are anchored in the psycho-organic and spiritual aspects. In this scenario, characterized by people in close contact with the disease, the concern, and sadness from the life instability, it is observed accentuating the fear of death. On the other hand, spiritual support – in this case, the faith – was essential to assist them in the treatment and health recovery.

At the time of the research, there were still no vaccines, or more incisive aspects for the treatment of Covid-19 that would bring a cure for the disease, the concerns related to the fear of death were very evident. Allied to this aspect, the increase in the number of deaths due to the coronavirus had grown considerably, as pointed out, during the period of the research, by the Ministry of Health, which indicated 5,466 deaths, a number that placed Brazil, at that time, in the second country in several deaths in the world. Considering the current context in which this number exceeds 500,000 deaths, this concern may have increased, even though the parallel advance of vaccines has mitigated it.

To Pimentel and Silva (2020) and Cao et al. (2020), emotions such as fear, worry, sadness, panic, among others, may occur when facing the imagined or actual proximity of being affected by Covid-19. In the case of this study, it should be noted that this fear was real once the participants were affected by the disease. The findings are also consistent with the studies of Asmundson and Taylor (2020) and Carvalho et al. (2020) by pointing out that the fear of being infected by a potentially fatal virus, of rapid dissemination, whose origins, nature, and course are still little known, ends up interfering with the psychological aspect of individuals. Thus, symptoms of depression, anxiety, and stress before the pandemic

have been identified in the general population (Wang, Pan, Wan, Tan, Xu, Ho et al., 2020a).

On the other hand, these participants found spiritual support in faith to overcome this difficult moment. Such evidence corroborates a study conducted in Spain to check the psychological impact of the Covid-19 outbreak in the population, and the results revealed spiritual well-being as the more significant protective factor for depression, anxiety, and post-traumatic stress disorder (González-Sanguino et al., 2020). For this same group, "mental health" was associated with anguish, fear, sadness, stress, sour, upset, and terrible, showing psycho-emotional aspects that have interfered in the mental health of the participants; these data corroborate with other researches, which has pointed the Covid-19 and measures to contain the pandemic as risk factors for mental health (Brooks et al., 2020). Studies have pointed out suicide (Goyal, Chauhan, Chhikara, Gupta, & Singh, 2020; Jung & Jun 2020).

Still, on-axis F2, below, was distributed the objectification of the postgraduate students who did not have nor knew anyone affected by Covid-19. This group targeted the "coronavirus" like *disease, virus, pandemic, isolation, uncertainty, death*. These representational elements are, above all, aligned to scientific knowledge once they express terms propagated by media from the initial scientific knowledge that we had on this public health problem (Do Bú et al., 2020; WHO, 2020).

Associated with that *isolation* was addressed in this axis referring to one of the primary measures adopted worldwide, which has been used as a control and prevention strategy to reduce the spread of the virus, as well as to avoid overcrowding in health systems (Faro et al., 2020). This measure, although necessary, has impacted people's lives, reflecting mainly on financial harm, social life, family stress, housing quality, and mental health (Bezerra, Silva, Soares, & Silva, 2020). Furthermore, the alarming number of deaths has generated a sensation of uncertainty about the time of social distance due to the lack of immunization to deal with the virus and its rapid spread, thus indicating the seriousness of the problem that the world population has faced (Do Bú et al., 2020).

In turn, the stimulus "mental health" was represented by postgraduate participants, through the terms *depression* and *caution*, elements anchored in the psycho-emotional and health spheres. Like the damage caused by the coronavirus, the impact on mental health has been noted at various levels of intensity and spread

(Pancani, Marinucci, Aureli, & Riva, 2020). The quarantine effect itself, with the measures of social distancing and isolation, as well as the whole panorama experienced worldwide, triggers or enhances socio-affective derangements and pre-existing psychological disorders, among them, the most common: anxiety and depression (Do Bú et al., 2020).

In this sense, care actions in mental health, both for the general population and health professionals, play a central role regarding the demands of Covid-19. Thus, among the proposals and guidelines adopted in several countries, in line with the needs of the current context, there are psychological services performed through online platforms and by telephone contact (Wang, Pan, Wan, Tan, Xu et al., 2020a), psychoeducation through booklets and informational materials (Weide, Vicentini, Araújo, Machado, & Enumo, 2020), as well as the support and guidance to health professionals to help manage some situations (adherence to the treatment of infected patients, frustration with patient losses, distancing from family members, work overload) (Schmidt et al., 2020).

Final considerations

The present study aimed to understand the Social Representations (SR) of university students from a private institution about Covid-19 and mental health. This approach, subsidized by the Theory of Social Representations, made it possible to analyze the phenomenon from a multifaceted perspective, which led to the knowledge of inter-and intra-group consensuallities. In this way, practical knowledge, built based on the thoughts, beliefs, values, feelings, and perceptions of the belonging group, became evident.

One can see that the “coronavirus”, being anchored in the physical/organic spheres, such as contagion, pandemic, death, and flu, is also understood from a psycho-affective perspective (isolation, sadness, and fear). Regarding the “mental health” stimulus, it is observed that it relies on the psychological, affective, and emotional impacts generated by the virus (anxiety disorders, mood disorders, stress, anguish, sadness).

It is noteworthy that, in the different axes of the CFA, consensual points were identified regarding the evocations about the two stimuli in question; among them are the terms: *anxiety*, *fear*, *anguish*, and *sadness*. Furthermore, both stimuli shared other nuclei of meaning concerning SR, which presented objectification

anchored in protective elements to cope with the disease and in mental health preservation, being them: *faith*, *health*, *care*, and *family*.

More specifically, in Factor 2, superior, it was observed that the group of students who had already had covid-19 and knew who had already been infected associated the “coronavirus” stimulus to representational elements that more latently evidenced the psychological effects of the disease (*anguish*, *worry*, *fear*, *sadness*). In contrast, in the lower factor 2, for the “coronavirus” stimulus, but now in the group of students who did not have the covid -19 and did not even know who had the disease, the evocations were related to disseminated scientific knowledge, mainly by the social media (*virus*, *disease*, *pandemic*, *isolation*, *uncertainty*, *panic*). This fact reflects the differentiation in the perception different groups have about the meanings attributed to the phenomenon faced worldwide. To access these groups, knowing how they are organized and what practices are being shared socially can assist in more effective actions that converge mental health prevention and disease control in different settings.

Given these findings, it can be said that as the pandemic spreads, its associated effects will continue to impact the mental health and well-being of collegians profoundly, and such implications may take weeks or months to become fully apparent. In this way, it is understood that the management of these impacts should not be reduced to psychologists and other health professionals only but to the health and education system as a whole. It is also worth mentioning that the universities should make efforts dedicated to helping students thrive in this crisis, for example, online psychological care, which has proven to be an alternative virtual tool for the impossibility of face-to-face contact.

As it is peculiar to any scientific investigation, some limitations are evident, such as using a non-probabilistic sample, applying only one instrument to apprehend the SR, and the participants being linked to a single private institution. Thus, we suggest caution when comparing these results to the other authors. For future studies, we suggest expanding the sample to include institutions from the public school system and the application of other instruments, such as an interview. It is also worth mentioning that the data from the present research comes from the initial period of the pandemic in the country, so that the changes that occurred, such as the worsening of the infection, the appearance of the vaccine, and expressive increase

in deaths, and the appearance of variants, may have changed some representations. This aspect suggests new studies considering the new dynamic of the actual disease, with its new characteristics.

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