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# Spirituality, religiosity and mental health during the COVID-19 pandemic

## *Espiritualidade, religiosidade e saúde mental durante a pandemia de COVID-19*

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### Abstract

#### Objective

Depression and anxiety were disorders evidenced during the - Coronavirus disease19 pandemic. In this study, these conditions were evaluated as a function of Spirituality/Religiosity, as well as private prayer practices and attendance at religious spaces. Spirituality and religiosity have been widely investigated as health promoters.

#### Method

A sample of 1,293 participants completed the Beck Depression Inventory Primary Care, the State-Trait Anxiety Inventory, the Religious Spiritual Coping Brief Scale, and a sociodemographic questionnaire. The group was separated into Spirituality/Religiosity levels, prayer practices, and attendance at religious centers.

#### Results

An ANOVA concluded that those who pray alone daily develop lower anxiety traits ( $F(8,133) = 7.885, p < 0.001$ ) compared with individuals who pray once or twice a year. Participants who self-declared to be very spiritual exhibited fewer depressive symptoms ( $M = 2.57, SD = 2.88$ ) compared to non-spiritual participants ( $M = 4.29, SD = 4.07, p < 0.001$ ).

#### Conclusion

In summary, Spirituality/Religiosity can positively impact mental health.

**Keywords:** Mental health; Neurosciences; Psychology; Religion.

### Resumo

#### Objetivo

A espiritualidade e a religiosidade têm sido amplamente investigadas como promotoras de saúde. Depressão e ansiedade foram transtornos evidenciados durante a pandemia da doença

do coronavírus” 19. Neste estudo, essas condições foram avaliadas em função da espiritualidade e religiosidade, assim como práticas de oração privada e atendimento em espaços religiosos.

### **Método**

Uma amostra de 1.293 participantes completou o Inventário de Depressão de Beck na Atenção Primária, o Inventário de Ansiedade Traço-Estado, a Escala Breve de Enfrentamento Espiritual Religioso e um Questionário Sociodemográfico. O grupo foi dividido em níveis espiritualidade e religiosidade, práticas de oração e frequência em centros religiosos.

### **Resultados**

Uma ANOVA concluiu que aqueles que rezam sozinhos diariamente apresentam menores traços de ansiedade ( $F(8,133) = 7,885, p < 0,001$ ) em comparação com aqueles que rezam uma ou duas vezes por ano. Participantes muito espirituais apresentaram menos sintomas depressivos ( $M = 2,57, DP = 2,88$ ) do que os participantes não espirituais ( $M = 4,29, DP = 4,07, p < 0,001$ ).

### **Conclusão**

Em resumo, espiritualidade e religiosidade podem impactar positivamente a saúde mental.

**Palavras-chave:** Saúde mental; Neurociências; Psicologia; Religião.

At the end of January 2020, the World Health Organization decided to consider the Coronavirus Disease 2019 (COVID-19) pandemic a public health emergency of international concern (Lake, 2020). During great humanitarian tragedies, individuals have always had their mental health impacted by generalized anxiety, depression, phobias and substance abuse (Acierno et al., 2007).

In the 2010 census, conducted and published by the *Instituto Brasileiro de Geografia e Estatística* (Brazilian Institute of Geography and Statistics), almost 90% Brazilian people stated they belonged to some religion, and the relevance of this information is fundamental for an understanding of how much Brazil is considered a religious country (Monteiro et al., 2020).

The binomial Spirituality/Religiosity (S/R) has instruments that can be used to deal with crisis and stress situations (Ebadi et al., 2009; Schuster et al., 2001; Thuné-Boyle et al., 2006). Studies have reported the effects of this binomial physical and mental health, promoting higher levels of life satisfaction, well-being, sense of purpose, sense of life, hope and optimism and lower rates of anxiety, depression and substance abuse (Koenig, 2012).

The concepts of religion and spirituality are tied together. Religion represents the involvement of humans with the values, practices and beliefs of an institutional organization that dedicates to the divine (Mytko & Knight, 1999), while spirituality can be defined as a subjective experience that aims to connect with the essence of life and as central elements connectivity and the search for meaning (de Jager Meezenbroek et al., 2012).

For del Castillo (2021), the close relationship between health and spirituality has been demonstrated in current research. The author suggests that spirituality serves a critical purpose in life, and one of the spiritual values is to help people deal with life's stressors. People may consider themselves spiritual, but not religious; religious, but not very spiritual; neither one nor the other, or they may feel both spiritual and religious (Garssen et al., 2021).

According to Moreira-Almeida and Lucchetti (2016), a growing number of studies point to the S/R binomial as a predictor of health, helping to control mental disorders, such as anxiety and depression. For Mosqueiro et al. (2020), the S/R binomial can prevent and be useful in cases of mood disorders. According to Guilherme and Carvalho (2011), people with high levels of S/R face the same existential dramas as those without S/R, but the difference lies in the meaning that the first group gives to suffering. A systematic review indicated that religious involvement is not a protective factor against suicidal ideation, but that it is effective against suicide attempts (Lawrence et al., 2016).

Resorting to this binomial is a way to alleviate mental suffering from stressful events stimuli, such as those caused by the COVID-19 pandemic. The S/R practices can be adopted in the most different ways: individual praying, mantras, meditation, text reading, recitation, gratitude manifestations or frequenting temples, churches, *terreiros* and other settings for community prayer practices and search for spiritual help.

The resource offered by S/R beliefs to face suffering is called coping which consists of internal and external, behavioral, emotional and cognitive strategies or resources used to deal with stressful situations. Strategies involving S/R beliefs or faith are called religious/spiritual coping (Brito et al., 2016).

In catastrophic situations and calamities, people tend to approach the sacred Harper and Pargament (2015), and evidence suggests an increase in the search for religious resources in cases of natural disasters Bentzen (2019). According Coppin (2020), during the COVID-19 pandemic, prayer practices intensified. Google searches for the word prayer have gone up a lot since April 2020 and have doubled for every 80,000 new cases. In turn, the descriptors Allah, Mohammed and God also increased, which suggests that the pandemic stimulated religious coping Bentzen (2020).

Multiple factors can trigger the development of stress, such as changes in routine and reduced mobility, or limited information and financial crisis. Thus, this investigation will aim to assess the importance of the S/R binomial in the framework of the COVID-19 pandemic in Brazil, as well as to describe and review the S/R private practice and the increase or decrease in attendance at religious institutions. Secondly, the study will verify the possibility of S/R becoming an ally in preventing and combating the population mental health negative impacts that occurred at that time.

## Method

### Participants

The survey included 1,293 participants, mostly female ( $n = 931$ ; 71.9%), living in the Southeast ( $n = 768$ ; 59.4%) and the Northeast ( $n = 194$ ; 15.0%) regions of Brazil and, mainly, in the age group from 30 to 39 years ( $n = 393$ ; 30.4%), followed by 40 to 49 years olds ( $n = 320$ ; 24.7%). Participants' most frequently declared religion was Catholic ( $n = 488$ ; 37.7%), followed by Protestant ( $n = 231$ ; 17.9%), Spiritist ( $n = 208$ ; 16.1%) and African indigenous religions ( $n = 75$ ; 5.8%). Still considering this characteristics, some participants did not know how to report their religion ( $n = 99$ ; 7.7%) and others said they were agnostic ( $n = 32$ ; 2.5%). Finally, there were those who called themselves atheists ( $n = 80$ ; 6.2%). Regarding spirituality, most participants considered themselves moderately spiritual ( $n = 497$ ; 38.4%), others, very spiritual ( $n = 483$ ; 37.32%) and, finally, not very spiritual ( $n = 230$ ; 17.7%) or not spiritual at all ( $n = 84$ ; 6.49%). Table 1 presents the results obtained in more detail.

**Table 1**  
Demographic characteristics of participants

Explanatory variables	Total	
	<i>n</i> (1,293)	%
Region		
Southeast	768	59.4
North East	194	15.0
South	182	14.1
Midwest	78	6.0
North	71	5.5

1 of 2

**Table 1**  
Demographic characteristics of participants

2 of 2

Explanatory variables	Total	
	<i>n</i> (1,293)	%
Gender		
Female	931	71.9
Male	362	28.1
Age Group		
Up to 29 years	361	27.9
From 30 to 39 years old	393	30.4
From 40 to 49 years old	319	24.7
From 50 to 59 years old	169	13.1
60 years or older	51	3.9
Education		
Postgraduate studies	785	60.7
Higher Education	379	29.3
High school	120	9.3
Elementary School	9	0.7
Marital Status		
Single	635	49.1
Married	496	38.3
Widower	20	1.5
Others	142	11.1
Religion		
Catholic	488	37.7
Protestant	231	17.9
Spiritist	208	16.0
Atheist	80	6.2
African matrix religions	75	5.8
Agnostic	32	2.5
I don't know	99	7.7
I don't have	24	1.9
Others	56	4.3

## Instruments

The following instruments were used in the survey: Beck Depression Inventory (BDI-PC), State Trait Anxiety Inventory (STAI-T and STAI-S), Religious/Spiritual Coping Scale (Brief-RCOPE-14) and Sociodemographic Questionnaire.

Validated for the Brazilian context, the BDI-PC is a short screening scale, which consists of only seven items from the BDI-II – loss of interest, self-esteem, past failure, pessimism, sadness, self-criticalness, suicidal thoughts or wishes – all focused on depressive cognitions (Anunciação et al., 2019).

The STAI is used to measure the subjective aspects of anxiety and has two scales: STAI-State and STAI-Trait. The first scale measures transitory and adverse aspects of human contingency, while the second scale refers to emotional stability. The Reduced STAI-T-S Scale contains six items that are answered on a 4-point Likert-type scale based on how people generally feel and how anxious they are at the time. In our survey, the shortened version validated for the Brazilian context by Fioravanti-Bastos et al. (2011) was used.

The Brief RCOPE consists of a 14-item measuring scale on stress religious coping and is divided into two subscales, each consisting of seven items that identify clusters of positive and negative religious coping methods (Esperandio et al., 2018) was used.

The Sociodemographic Questionnaire was used to collect data on gender, age, religion, education level and region of Brazil. In order to map some of the characteristics of COVID-19, the questionnaire investigated aspects related to the quarantine and the symptoms of the disease in order to establish an association between this information and the results achieved by the instruments.

## Procedures

Data were obtained online exclusively. An instrument was developed in Google Forms, in which the participant could enter and answer the proposed questions indicating their agreement with the Free and Informed Consent Form. Contacts were made via email or through social networks, such as WhatsApp.

On average, participants spent about 15 minutes to answer all the questions. The data collected consisted of sociodemographic questions and instruments that will be described below. The collection was carried out between March and June 2021. No complaints were recorded from the participants. This investigation was approved by the Research Ethics Committee of the Catholic University of Petrópolis under nº 4.597.560.

## Data Analysis

Initially, the encoding format was verified and ensured as well as the absence of eventual errors. The variables were explored according to their level of measurement. The sociodemographic characterization was explored through frequencies and proportions as well as through their means and standard deviations.

Study participants were separated into two groups: participants who practiced private prayers and frequency of attendance at churches or at other religious spaces. The group of participants who never prayed alone nor went to church was labeled "Never". The group of participants who always prayed alone and always went to church was labeled "Always".

In addition, the participants were also separated into groups with regard to the levels of spirituality and religiosity presented. The "No Religious" labeled group included participants who said they were not religious and the "Very Religious" group gathered those who declared themselves to be very religious as stated in the sociodemographic questionnaire. Participants who considered themselves to be non-spiritual and those who said they were not very spiritual were grouped as "Not Spiritual", while those who said they were very spiritual entered the "Very Spiritual" group in the sociodemographic questionnaire.

The *t*-test was used to compare the means of the religious and spiritual groups and the symptoms of depression and anxiety. The one-way ANOVA was adopted to review the differences with regard to depression and anxiety between private prayer practices and attendance in religious spaces; finally, a correlation was established to verify the association between religiosity and spirituality. The data statistical analysis was performed using the IBM®SPSS® (version 26.0) and JASP programs.

## Results

Depression and anxiety symptoms were evaluated according to the characteristics of the individual prayer practices, and also according to visits to temples, terreiros, centers and community

prayer spaces. The one-way ANOVA showed significant differences in relation to individual prayer practices ( $F [8.1329] = 8.773; p < 0.001$ ). People who prayed alone showed fewer depression episodes ( $\Delta = -1.097; p < 0.05$ ) compared to those who said they never prayed. Attendance to religious institutions ( $F [6.133] = 7.907; p < 0.001$ ) was also significant. The group that resorted to community prayer exhibited fewer depression symptoms compared to the group of participants who never visited these spaces of prayer ( $\Delta = 1.787; p < 0.05$ ). Trait anxiety was lower among individuals who prayed alone daily ( $F [8.1330] = 7.885; p < 0.001$ ), compared to those who prayed once or twice a year ( $\Delta = -3.237; p < 0.001$ ).

The one-way ANOVA also detected a significant difference in connection with the development of anxiety according to praying practices ( $F [8.1330] = 3.547; p < 0.001$ ): anxiety was lower in the group that prayed alone every day compared to the group that used to pray twice a year ( $\Delta = 1.976; p < 0.001$ ). Participants who were anxious at the time, but who indicated a regular religious practice ( $F [6.1332] = 6.243; p < 0.001$ ), presented a significant positiveness as compared to those participants who did not follow such religious practices ( $\Delta = -1.636, p < 0.005$ ). Those who prayed alone had also significant anxiety outcome ( $F [8.110,464] = 7.885; p < 0.001$ ), when compared to those who never prayed ( $\Delta = 3.072; p < 0.005$ ).

The S/R coping strategy was also positive ( $F [6.409] = 73.469; p < 0.005$ ): the group with assiduous religious attendance yielded a more expressive result in terms of anxiety compared to the group with no religious attendance ( $\Delta = 3.072; p < 0.005$ ). As for the individual prayer practice included the S/R coping strategy, individuals who often prayed alone also experienced significant positive results ( $\Delta = 3.161; p < 0.005$ ). The results achieved are reported in Table 2.

**Table 2**  
Scale results according to religious characteristics

Scale/Type of practice	Group	M	SD	p	
BDI-PC	Private prayer	Never	3.72	3.75	0.001
		Always	2.63	3.17	
	Prayer in community spaces	Never	3.77	3.68	0.001
		Always	1.99	2.50	
STAI-T	Private prayer	Sometimes	13.88	3.98	0.001
		Always	13.16	3.67	
	Prayer in community spaces	Never	14.23	4.07	0.001
		Always	12.6	3.70	
	Private prayer	Sometimes	15.63	3.48	0.001
		Always	13.65	3.76	
STAI-S	Prayer in community spaces	Never	14.03	4.02	0.001
		Always	12.71	3.20	
PSC+	Private prayer	Never	1.12	4.40	0.001
		Always	4.28	6.56	
	Prayer in community spaces	Never	1.40	8.36	0.001
		Always	4.47	5.95	

Note: BDI-PC: Beck Depression Inventory PSC+: Positive Spiritual Coping.; STAI-S: State Trait Anxiety Inventory-State Anxiety; STAI-T: State Trait Anxiety Inventory-Trait Anxiety.

The group formed by religious people was evaluated in relation to their members' beliefs and attitudes towards social and religious situations. Indeed, this group showed consistency with regard to their religious beliefs, since they claimed to believe in God ( $t [544] = -16,054; p < 0.001$ ),

trust that spirituality is an important factor for well-being ( $t [547] = 10,186; p < 0.001$ ) and participate in religious and spiritual services ( $t [547] = -24,179; p < 0.001$ ). In turn, the group formed by people who said they are spiritual showed the same consistency and stated they believed that spirituality and religiosity are different subjects ( $t [795] = 3,969; p < 0.001$ ), that spirituality helps to develop well-being ( $t [795] = 13,127; p < 0.001$ ) as well as those who also pray alone ( $t [795] = -21711; p < 0.001$ ).

The comparison of groups formed by non-religious and religious people indicated that the aspects of depression, as well as the anxiety trait and positive religious/spiritual coping, present significant differences. People who considered themselves to be very religious had a lower mean on the BDI-PC ( $M = 2.38; SD = 2.67$ ) compared to those who said they were not religious ( $M = 3.47; SD = 3.73$ ).

Very religious people ( $M = 13.05; SD = 3.71$ ) also had lower anxiety traits than non-religious people ( $M = 13.96; SD = 4.04$ ) in STAI-T. As for coping, the "Very Religious" group ( $M = 4.53; SD = 0.95$ ) and the "Not Religious" group ( $M = 1.42; SD = 1.12$ ) also showed significant differences. Table 3 shows results that are different with regard to these aspects.

In Table 4, we can observe that the group of people who considered themselves to be very spiritual had a lower average in the BDI-PC ( $M = 4.29; SD = 4.07$ ). Very spiritual people ( $M = 13.11; SD = 3.73$ ) also showed lower anxiety traits compared to the less spiritual people ( $M = 14.57; SD = 3.87$ ) in the STAI-T. With regard to positive coping, the "Very Spiritual" group ( $M = 4.18; SD = 1.18$ ) and the "Little Spiritual" group ( $M = 1.85; SD = 1.35$ ) also showed significant differences.

Finally, a 0.518 ( $p < 0.001$ ) correlation was established on the potential link between religiosity and spirituality.

**Table 3**  
Scale results according to religious groups

Scale	Level of religiosity		Significance		Effect size	
	Nothing religious <i>M (SD)</i>	Very religious <i>M (SD)</i>	<i>t</i>	<i>p</i>	<i>d</i>	Classification
BDI-PC	3.47 (3.73)	2.38 (2.67)	3.908	< 0.001	0.34	Small
STAI-T	13.96 (4.04)	13.05 (3.71)	2.726	0.007	0.23	Small
STAI-S	13.75 (3.94)	13.47 (3.64)	0.853	0.394	0.07	Irrelevant
PSC+	1.42 (1.12)	4.53 (0.95)	-21.388	< 0.001	1.86	Great
NSC-	1.20 (0.70)	1.25 (0.48)	-0.805	0.422	0.08	Irrelevant

Note: BDI-PC: Beck Depression Inventory; NSC-: Negative spiritual coping; PSC+: Positive Spiritual Coping; STAI-S: State Trait Anxiety Inventory-State Anxiety; STAI-T: State Trait Anxiety Inventory-Trait Anxiety.

**Table 4**  
Scale results according to the spiritual group

Scale	Level of spirituality		Significance		Effect size	
	No spiritual <i>M (SD)</i>	Very spiritual <i>M (SD)</i>	<i>t</i>	<i>p</i>	<i>d</i>	Classification
BDI-PC	4.29 (4.07)	2.57 (2.88)	6.952	< 0.001	0.49	Small
STAI-T	14.57 (3.87)	13.11 (3.73)	5.295	< 0.001	0.38	Small
STAI-E	14.62 (3.96)	13.66 (3.85)	3.397	< 0.001	0.25	Small
PSC+	1.85 (1.35)	4.18 (1.18)	-20.310	< 0.001	1.44	Great
PSC-	1.30 (0.80)	1.18 (0.58)	2.117	0.035	0.18	Irrelevant

Note: BDI-PC: Beck Depression Inventory; NSC-: Negative spiritual coping; PSC+: Positive Spiritual Coping; STAI-S: State Trait Anxiety Inventory-State Anxiety; STAI-T: State Trait Anxiety Inventory-Trait Anxiety.

## Discussion

The present study investigated whether the S/R binomial was associated with health outcomes in the framework of the COVID-19 pandemic in Brazil. The results showed that people with high levels of S/R were significantly less impacted with respect to aspects of depression and anxiety. According to Koenig (2012), it is believed that individuals with high levels of S/R tend to present better results in terms of mental health, as they develop cognitive and behavioral mechanisms to face adversity throughout the life process. In addition, it was possible to verify that spirituality and religiosity are phenomena that, although connected, present a certain degree of independence.

The S/R binomial has been widely remembered as a coping instrument for mental suffering caused by stress and trauma, adopting the so-called spiritual coping as a strategy (Harrison et al., 2001). People can make positive or negative use of coping, since, according to Pargament et al. (1988), coping can have deleterious or positive consequences. The present survey aimed to highlight the positive use of spiritual coping much more than its negative use, demonstrating that the sample studied was composed of people who use their S/R beliefs in an adaptive way.

In this investigation, it was found that the way in which people pray and attend religious places tends to modulate their mental health conditions. The data point out that praying may always be associated with fewer episodes of depression and anxiety compared to non-praying. Regarding the potential effect of the S/R binomial, the results obtained partially converged with those of Lucchetti et al. (2020).

Similarly, it was also found that people who performed religious practices privately and in community spaces exhibited lower scores for depression and anxiety. For Scorsolini-Comin et al. (2020), the S/R binomial can be used both at a collective and individual level to face the adverse effects resulting from the pandemic. Attending community prayer spaces, such as temples, prayer houses, churches and *terreiros*, among others, proved to be a protective factor against depression and anxiety. People who said they always attended religious spaces exhibited lower scores for depression and anxiety compared to those who rarely or never visited religious settings. A large cohort study of US women ( $n = 89,708$ ) showed that assiduous religious attendance reduced by five times suicide odds (Vanderweele et al., 2016).

Our investigation points out the variables of the S/R binomial and of private and community prayer practices for positive outcomes during the pandemic (Koenig, 2020). According to Nicola et al. (2020), private prayer practices can promote benefits similar to those of practices in religious institutions, acknowledged in research as being the most positive.

There is evidence of psychological impairment in people with low S/R levels (Weber et al., 2017). We can observe that the results in relation to depression and anxiety are better in the group in which the S/R binomial is high. According to Gato et al. (2018), participation in community prayer is a social interaction that reduces sadness, anxiety, and depression.

Our study presented consistent results considering the participants' S/R beliefs, and found a positive relationship with the practice of community and individual prayer, similar to the results already reported by Astuti et al. (2015); Koenig (2012); Maria and Novais (2020).

A study reported by Weinberger-Litman et al. (2020), that reviewed the association between spirituality and religiosity during the pandemic and its importance to health did not find a significant relationship. The investigators recruited participants from specific and very religious traditions, which led to low statistical variability.

The limitations of the present study consist of a sample composed mostly of women, who tend to be more religious than men, and the levels of a high S/R presented may have been caused by this limitation; in addition, this study is cross-sectional and not a cause-and-effect study. Since Brazil is considered an extremely religious country, further studies are needed in different frameworks. Most of the population assessed had a graduate level, which may have impacted the result regarding the association between the negative effects of COVID-19 and S/R levels.

## Conclusion

The results obtained suggest that the S/R binomial is an efficient mechanism to deal with mental suffering, and the sample studied included a group that considers itself spiritual/religious and was benefited by this resource. Further studies will be important to emphasize similar results and in different contexts.

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## Contributors

A. V. SOUSA performed the data collection and analysis and wrote the article. L. ANUNCIACÃO assisted in data analysis and revised the article. J. LANDEIRA-FERNANDEZ supervised the survey and contributed to the analysis and writing of the manuscript.