

# The Associations of Experiencing the Covid-19 Pandemic with Religiosity and Spirituality: A Cross-Sectional Study in Czech Adults



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# Introduction

The Covid-19 pandemic affected the psychological health and well-being of the population all around the world [1][2].

Most of the harmful effects of the pandemic can be regarded as risk factors in the development of anxiety, depression, stress, or panic disorders [3]–[5].

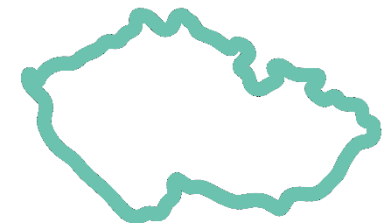
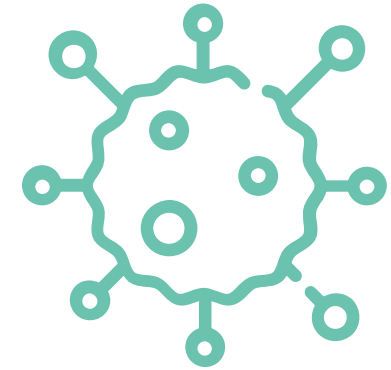
Infectious diseases and a pandemic can represent highly traumatic experiences for some individuals and lead to posttraumatic stress disorder and chronic psychological distress [6].

Religiosity and spirituality (R/S) in general can help people to deal with difficult life situations [7]–[9]. In the context of the pandemic, R/S can positively affect health, alleviate suffering, minimize the consequences of social isolation [10] and reduce the negative impact of the COVID-19 pandemic, as well as stress [11].

Czech Republic is considered one of the most secular societies in the world, and most citizens do not report any religion affiliation [12][13]. Thus, Czech Republic represents a unique research area, because results in secular countries might differ from those in prevalently religious countries [14].

# Purpose

For a more detailed assessment of the effect of R/S on experiences during the pandemic, we decided to explore the associations between R/S and selected variables measuring emotional and behavioural changes, and changes in personal relationships during the first outbreak of the COVID-19 pandemic in the secular environment of the Czech Republic.



# Participants and procedure

## online survey

Anonymous online survey conducted in the Czech Republic during the Covid-19 pandemic in **April 2020**

## balanced data

A specialized agency collected data to achieve a **balanced sample** close to national characteristics regarding gender and age

## final sample

The final sample comprised **1,434 Czech adult** respondents (age 18 years and over, mean age = 48.32, SD = 16.44, 49.65% female)

## exclusion criteria

1) inconsistencies in control questions relating to participants' religiosity (feeling the God's presence despite being non-religious) and 2) a uniform response pattern, i.e., answering a large number of items in the same way

## anonymous data

At the beginning of the survey, respondents were informed in a written form about the purpose of the study and the anonymous and confidential treatment of the data

# Measures

**Religiosity** was assessed by the question: “Would you call yourself a religious believer?”

*Possible answers were: Yes, I am a member of a church or religious organization; Yes, but I am not a member of a church or religious organization; No; No, I am convinced atheist.*

**Spirituality** was measured using the Daily Spiritual Experience Scale (DSES). For the present study, an adapted 15-item version of the scale validated in the Czech environment was used.

*DSES measures the frequency of common experiences of connection with transcendence in daily life.*

For the last analysis, a **composite variable** was created based on religiosity and spirituality variables: 1) Non-religious but spiritual, 2) Religious and spiritual, 3) Non-spiritual but religious, 4) Non-spiritual and non-religious.

# Measures

Experiencing the COVID-19 pandemic was introduced by the following question: “Has anything changed in your life related to the pandemic in the following areas?” followed by 23 items focusing on changes in participants’ lives during the COVID-19 pandemic:

a) life with a partner, children, and other people in the household

*For a) and b) the possible answers were: got worse; did not change; got better; the question does not concern me.*

b) feelings of loneliness, threat, fear and anxiety, helplessness, and hope, day structure

c) frequency of thinking about existential questions and religion, prayer, smoking or chewing tobacco, drinking alcohol, shopping, food consumption, sex, physical activities, reading, self-education, work, telephoning, online communication

*For c) the possible answers were: I perform this activity less frequently; frequency of this activity did not change; I perform this activity more frequently.*

# Key findings

The combination of religiosity and spirituality reinforced the positive impact on changes in experience and behaviour during the pandemic.

Spiritual respondents were more likely to report increased physical activity, sex, reading and self-education. Moreover, spirituality significantly reduced the decrease of hope (see Table 2 and the following slide).

Religiosity itself led to a lower risk of reporting a disrupted day structure and higher odds of feeling helplessness (see Table 1 and the following slide).

The combination of religiosity and spirituality led to an increase in the likelihood of more frequent physical activity, sex, reading and self-education. Concerning helplessness, fear and anxiety, the absence of spirituality increased these negative emotions. When combined with religiosity, spirituality reduced the odds of decreasing hope by 70% (see Table 3 and the following slide).



**Table 1** - Associations of religiosity and changes in relationships, emotions, day structure, thinking and behaviour during the Covid-19 pandemic adjusted for age, gender, and socioeconomic status (odds ratios and 95% confidence intervals)

Changes in relationships, emotions, day structure	Relationship with partner	Relationship with children	Relationship with others in household	Loneliness	Threat	Fear and Anxiety	Helplessness	A decrease of hope	A disrupted structure of a day					
Religiosity	1.16 (0.71-1.87)	0.98 (0.54-1.74)	1.05 (0.57-1.91)	1.25 (0.92-1.67)	1.01 (0.79-1.29)	1.12 (0.86-1.46)	<b>1.33*</b> <b>(1.02-1.73)</b>	0.84 (0.57-1.22)	<b>0.74*</b> <b>(0.58-0.95)</b>					
Changes in thinking and behaviour	Thinking about existential questions	Thinking about religion	Prayer	Smoking or chewing tobacco	Alcohol drinking	Shopping new things	Food consumption	Sex	Physical activity	Reading	Self-education	Work	Calls	Other forms of online communication
Religiosity	1.02 (0.79-1.31)	<b>11.2***</b> <b>(5.85-23.6)</b>	<b>12.9***</b> <b>(7.01-26.1)</b>	0.94 (0.60-1.44)	0.95 (0.61-1.46)	0.66 (0.32-1.25)	1.02 (0.74-1.40)	<b>1.74*</b> <b>(1.10-2.71)</b>	1.36 (0.99-1.86)	1.20 (0.93-1.56)	1.46 (1.06-2.02)	1.53 (1.09-2.14)	1.04 (0.80-1.34)	1.07 (0.84-1.37)

Notes: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

# Religiosity

We found that religious participants had 33% higher odds of deterioration of the feeling of helplessness. On the other hand, they were less likely to report the disrupted structure of the day, with OR = 0.74.

Moreover, religiosity was not associated with a lower frequency of health-related behaviours, such as alcohol drinking or smoking, during the COVID-19 pandemic.

**Table 2** - Associations of spirituality and changes in relationships, emotions, day structure, thinking and behaviour during the Covid-19 pandemic adjusted for age, gender, and socioeconomic status (odds ratios and 95% confidence intervals)

Changes in relationships, emotions, day structure	Relationship with partner		Relationship with children		Relationship with others in the household			Loneliness	Threat	Fear and Anxiety	Helplessness	A decrease in hope	A disrupted structure of a day	
Spirituality	0.78 (0.56-1.05)		1.01 (0.72-1.40)		0.84 (0.57-1.21)			1.05 (0.88-1.25)	1.05 (0.90-1.21)	0.97 (0.82-1.14)	0.94 (0.80-1.11)	<b>0.70**</b> <b>(0.53-0.91)</b>	0.99 (0.85-1.15)	
Changes in thinking and behaviour	Thinking about existential questions	Thinking about religion	Prayer	Smoking or chewing tobacco	Alcohol drinking	Shopping new things	Food consumption	Sex	Physical activity	Reading	Self-education	Work	Calls	Other forms of online communication
Spirituality	1.00 (0.86-1.16)	<b>2.00***</b> <b>(1.60-2.54)</b>	<b>2.89***</b> <b>(2.29-3.71)</b>	0.89 (0.67-1.16)	0.97 (0.73-1.26)	1.20 (0.80-1.73)	<b>1.22*</b> <b>(1.02-1.47)</b>	<b>1.30*</b> <b>(1.01-1.66)</b>	<b>1.29**</b> <b>(1.08-1.54)</b>	<b>1.26**</b> <b>(1.09-1.46)</b>	<b>1.56***</b> <b>(1.31-1.86)</b>	1.12 (0.93-1.36)	1.09 (0.93-1.26)	<b>1.25**</b> <b>(1.08-1.44)</b>

Notes: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

# Spirituality

Spiritual participants had a 30% lower risk of a decrease of hope. We found that during the COVID-19 pandemic, the odds of thinking about religion and prayer in spiritual individuals were approximately three-times higher than in non-spiritual people.

Spirituality was associated with increased food consumption, sexual activity, physical activity, reading, self-education, and using various forms of online communication during the COVID-19 pandemic, with odds ratios ranging from 1.22 (1.02–1.47) to 1.56 (1.31–1.86).

**Table 3** - Associations of different combinations of religiosity and spirituality with changes in relationships, emotions, day structure, thinking and behaviour during the Covid-19 pandemic adjusted for age, gender, and socioeconomic status (odds ratios and 95% confidence intervals)

Changes in relationships, emotions, day structure	Relationship with partner	Relationship with children	Relationship with others in household			Loneliness	Threat	Fear and Anxiety	Helplessness	A decrease of hope	A disrupted structure of a day
NS.NR	1	1	1	1	1	1	1	1	1	1	
S.R	0.81 (0.30-1.84)	1.13 (0.41-2.63)	0.70 (0.20-1.89)	0.96 (0.53-1.66)	0.65 (0.40-1.04)	0.59 (0.34-0.99)	0.87 (0.51-1.42)	0.30* (0.10-0.70)	0.66 (0.42-1.00)		
S.NR	1.01 (0.16-3.76)	2.76 (0.59-9.30)	0.72 (0.04-3.80)	0.76 (0.17-2.37)	0.81 (0.30-1.97)	1.03 (0.36-2.63)	0.82 (0.23-2.37)	0.47 (0.15-1.22)			
NS.R	1.19 (0.71-1.97)	0.97 (0.49-1.82)	1.10 (0.56-2.06)	1.30 (0.94-1.78)	1.13 (0.87-1.47)	<b>1.33*</b> <b>(1.00-1.76)</b>	<b>1.48**</b> <b>(1.11-1.96)</b>	1.01 (0.67-1.49)	<b>0.75*</b> <b>(0.57-0.98)</b>		

Changes in thinking and behaviour	Thinking about existential questions	Thinking about religion	Prayer	Smoking or chewing tobacco	Alcohol drinking	Shopping new things	Food consumption	Sex	Physical activity	Reading	Self-education	Work	Calls	Other forms of online communication
NS.NR	1	1	1	1	1	1	1	1	1	1	1	1	1	1
S.R	0.69 (0.43-1.09)	27.15 (13.15-60.67)	51.99 (25.28-118.59)	1.11 (0.52-2.15)	1.13 (0.53-2.19)	0.82 (0.24-2.15)	1.55 (0.93-2.51)	<b>2.69**</b> <b>(1.37-5.01)</b>	<b>2.11**</b> <b>(1.30-3.35)</b>	<b>1.57*</b> <b>(1.04-2.35)</b>	<b>2.38***</b> <b>(1.48-3.76)</b>	1.67 (0.95-2.81)	0.98 (0.63-1.49)	1.05 (0.69-1.59)
S.NR	1.17 (0.45-2.75)	24.45 (6.95-77.87)	36.96 (11.04-118.48)	1.67 (0.47-4.66)	<b>2.78*</b> <b>(0.94-7.19)</b>	2.76 (0.62-8.79)	1.67 (0.62-4.08)	2.21 (0.61-6.37)	1.05 (0.30-2.87)	2.18 (0.90-4.96)	<b>3.27**</b> <b>(1.28-7.71)</b>	<b>3.09*</b> <b>(1.14-7.56)</b>	1.65 (0.65-3.87)	1.24 (0.50-2.86)
NS.R	1.16 (0.88-1.53)	6.46 (3.14-14.33)	7.13 (3.41-16.35)	0.87 (0.52-1.41)	0.88 (0.52-1.44)	0.60 (0.26-1.25)	0.87 (0.60-1.25)	1.36 (0.80-2.25)	1.15 (0.79-1.64)	1.10 (0.82-1.46)	1.21 (0.83-1.75)	<b>1.55*</b> <b>(1.06-2.25)</b>	1.07 (0.81-1.42)	1.08 (0.82-1.41)

Notes: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . S.R = Spiritual and Religious; S.NR = Spiritual but Non-religious; NS.R = Non-spiritual but Religious. It was not possible to estimate Hope (S.NR) due to the low number of respondents in this category; the regression model did not converge. NS.NR = Non-spiritual and Non-religious.

# The Combination of Spirituality and Religiosity

Religious/spiritual respondents were less likely to report a worsening of their feeling of hope (a 70% decrease in the risks). In contrast, religious/non-spiritual participants were 1.48-times more likely to report a deterioration in their feeling of helplessness, 1.33-times more likely to report worsening feelings of fear and anxiety and less likely (by 25%) to report the disruption of the day structure.

In spiritual and religious participants, we observed higher chances of more frequent sex, physical activity, reading and self-education, with odds ratios ranging from 1.57 (1.04–2.35) to 2.69 (1.37–5.01).

## Conclusion

Our findings suggest that religiosity and spirituality have a positive effect during a pandemic. It appears to be a protective factor of negative emotions such as helplessness, fear and anxiety and hopelessness. These results confirm the role of R/S as a potential source of inner strength during difficult life situations.

The authors also point to an association between R/S and increased physical activity and sexual activity during a pandemic, and R/S also contributes to increased reading and self-education.

Both religiosity and spirituality separately had an impact on changes in experience and behaviour during a pandemic. The combination of R/S reinforced changes in some areas of feelings and behaviour during the pandemic (such as reducing the risk of feeling hopeless, helpless, fearful, or anxious, and increasing the likelihood of more frequent physical activity, reading, and self-education).

# Implications

Our study highlights the importance of exploring factors that may contribute to better mental health, especially during difficult life situations.





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