

# COVID-19, Religion, and Health

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1. Introduction
2. Anxiety and the immune system
3. Religious faith and mental health
4. Religious faith and physical health
5. Religion and susceptibility to infection
6. Recommendations
7. Conclusions
8. Further resources

# Anxiety, Stress and the Immune System

1. Many are anxious now over the coronavirus
2. There is indeed much to be anxious over, given the health consequences of becoming infected
3. But, the more anxious, the more vulnerable to infection
4. Anxiety, fear, stress (especially chronic stress) – all of these weaken the immune system
5. The immune system is the primary way that the physical body protects itself from infection, particularly viral infection

# Religion as a Coping Behavior

1. Many persons turn to religion for comfort during times of stress, and many are stressed right now.
2. Religious faith has the potential to help with whatever situation a person is facing, including risk of infection with the coronavirus and, if one becomes infected, dealing with the infection. This is been so for thousands of years and through many pandemics.
3. Reading religious scriptures can bring peace and may reduce fear and anxiety.

# Psalm 91

He who dwells in the shelter of the Most High will rest in the shadow of the Almighty.  
I will say of the LORD, "He is my refuge and my fortress, my God, in whom I trust."  
Surely he will save you from the fowler's snare and from the **deadly pestilence**.  
He will cover you with his feathers, and under his wings you will find refuge; his  
faithfulness will be your shield and rampart.  
You will not fear the terror of night, nor the arrow that flies by day,  
nor the **pestilence that stalks in the darkness**, nor the **plague that destroys at midday**.  
A thousand may fall at your side, ten thousand at your right hand, but **it will not come  
near you...**

If you make the Most High your dwelling-- even the LORD, who is my refuge--  
then **no harm will befall you, no disaster will come near your tent**.  
For he will command his angels concerning you to guard you in all your ways;  
they will lift you up in their hands, so that you will not strike your foot against a stone.  
You will tread upon the lion and the cobra; you will trample the great lion and the serpent.  
**"Because he loves me," says the LORD, "I will rescue him; I will protect him,** for he  
acknowledges my name.  
He will call upon me, and I will answer him; **I will be with him in trouble,** I will deliver him  
and honor him.  
**With long life will I satisfy him** and show him my salvation."

# **Religious Coping – does it help?**

What is the scientific evidence?

# Review of the Research 1887 to 2020

*Handbook of Religion and Health*  
(Oxford University Press, 2001, 2012,  
2021, forthcoming)

*Religion and Mental Health: Research &  
Clinical Applications*  
(Academic Press, 2018)

Koenig, H. G., Al-Zaben, F., & VanderWeele, T. J. (2020). Religion and psychiatry: Recent developments in research. *British Journal of Psychiatry Advances*, <https://doi.org/10.1192/bja.2019.81>

# Depression

The most common emotional disorder in the world, especially among those who are sick.

Religious involvement is related to:

Less depression and faster recovery from depression  
**272 of 444 studies** (61%) [67% of best studies]



# JAMA Psychiatry

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## Neuroanatomical Correlates of Religiosity and Spirituality

### A Study in Adults at High and Low Familial Risk for Depression

Lisa Miller, PhD<sup>1,2</sup>; Ravi Bansal, PhD<sup>2,3</sup>; Priya Wickramaratne, PhD<sup>2,4,5</sup>; Xuejun Hao, PhD<sup>2,3</sup>; Craig E. Tenke, PhD<sup>6</sup>; Myrna M. Weissman, PhD<sup>2,4,5</sup>; Bradley S. Peterson, MD<sup>2,3</sup>

[\[+\] Author Affiliations](#)

JAMA Psychiatry. 2014;71(2):128-135. doi:10.1001/jamapsychiatry.2013.3067.

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## ABSTRACT



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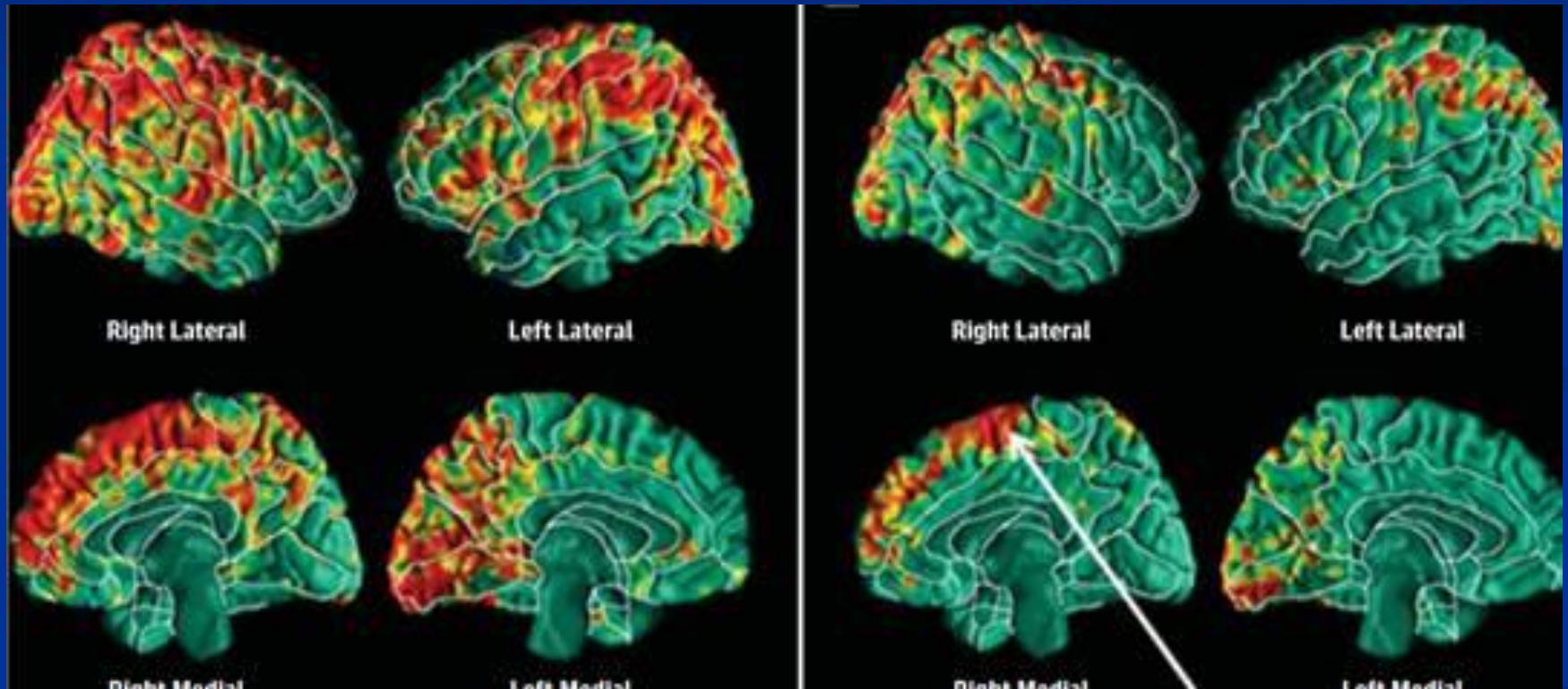


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Sign in

# Religion/Spirituality and Cortical Thickness: A functional *MRI* Study

Areas in **red** indicate reduced cortical thickness



Religion NOT very important

Religion very important

*Citation:* Miller L et al (2014). Neuroanatomical correlates of religiosity and spirituality in adults at high and low familial risk for depression. JAMA Psychiatry 71(2):128-35

# Alcohol Use/Abuse/Dependence

(systematic review)

Religious involvement is related to:

Less alcohol use / abuse / dependence  
240 of 278 studies (86%)

[90% of best designed studies]

# Well-being and Happiness

(systematic review)

Religious involvement is related to:

Greater well-being and happiness  
256 of 326 studies (79%)

[82% of best]

Lower well-being or happiness (3 of 326 studies, <1%)

# Meaning, Purpose, Hope, Optimism

(systematic review)

Religious involvement is related to:

Greater meaning and purpose

42 of 45 studies (93%)

[100% of best]

Greater hope

29 of 40 studies (73%)

Great optimism

26 of 32 studies (81%)

\*All have consequences for recovery from illness\*

# Research on Religion and **Physical Health**

# Religion and Health Behaviors

(critical for protection from coronavirus infection,  
and for recovery for those who become infected)

# Better Health Behaviors

(systematic review)

Religious involvement is related to:

- More exercise/physical activity  
(25 of 37 studies) (68%)
- Healthier diet (13 of 21 studies (62%)
- Less cigarette smoking (122 of 135 studies) (90%)
- Lower weight (7 of 36 studies) (19%)  
Heavier weight (14 of 36 studies) (39%)





# Immune Functions

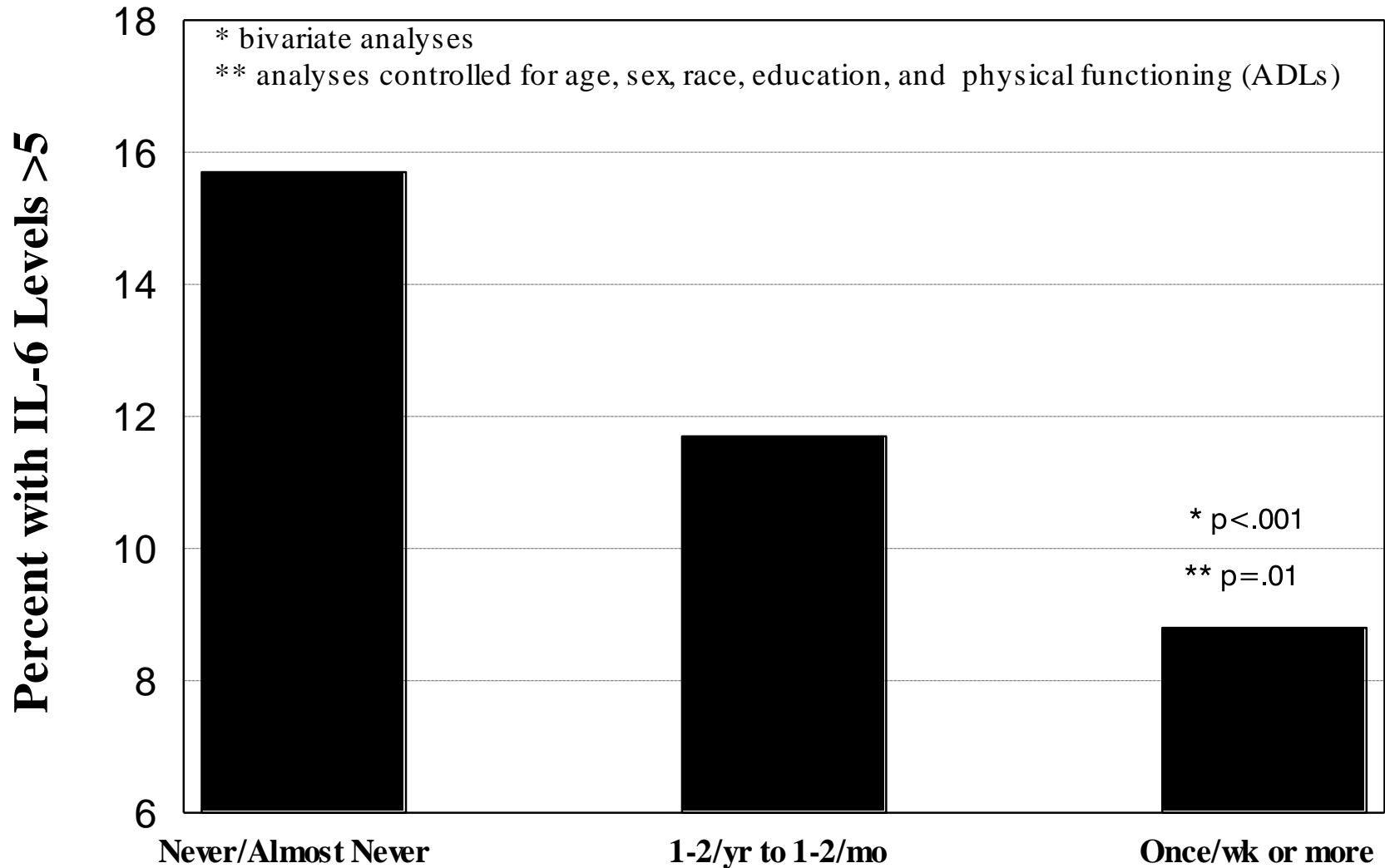
(systematic review)

Religious involvement is related to:

Better immune functions  
(14 of 25 studies) (56%)

# Serum IL-6 and Attendance at Religious Services

(1675 persons age 65 or over living in North Carolina, USA)



**Frequency of Attendance at Religious Services**

**Citation:** International Journal of Psychiatry in Medicine 1997; 27:233-250

# Replication

Attending religious services more than once weekly was a significant predictor of lower subsequent 12-year mortality and elevated IL-6 levels ( $> 3.19$  pg/mL). Mortality was lower by 68% (OR=0.32, 95% CI = 0.15-0.72;  $p < .01$ ) and **likelihood of having high IL-6 levels was reduced by 66% (OR=0.34, 95% CI = 0.16-0.73,  $p < .01$ ) among weekly attendees**, compared with those never attending religious services. Results were independent of covariates including age, sex, health behaviors, chronic illness, social support, and depression.

Lutgendorf SK, et al. Religious participation, interleukin-6, and mortality in older adults. Health Psychology 2004; 23(5):465-475

# Other studies on immune function

- Kurita, A., Takase, B., Shinagawa, N., Kodani, E., Okada, K., Iwahara, S., ... & Atarashi, H. (2011). Spiritual activation in very elderly individuals assessed as heart rate variability and plasma IL/10/IL-6 ratios. *International Heart Journal*, 52(5), 299-303.
- Woods, T. E., Antoni, M. H., Ironson, G. H., & Kling, D. W. (1999). Religiosity is associated with affective and immune status in symptomatic HIV-infected gay men. *Journal of Psychosomatic Research*, 46(2), 165-176.
- Sephton, S. E., Koopman, C., Schaal, M., Thoresen, C., & Spiegel, D. (2001). Spiritual expression and immune status in women with metastatic breast cancer: an exploratory study. *Breast Journal*, 7(5), 345-353.
- Ironson, G., Stuetzle, R., Fletcher, M. A. (2006). An increase in religiousness/spirituality occurs after HIV diagnosis and predicts slower disease progression over 4 years in people with HIV. *Journal of General Internal Medicine*, 21 Suppl 5, S62-68.
- Dalmida, S.G., Holstad, M.M., Dilorio, C., Laderman, G (2009). Spiritual well-being, depressive symptoms, and immune status among women living with HIV/AIDS. *Women & Health* 49(2-3), 119-143.
- Ironson, G., Stuetzle, R., Ironson, D., Balbin, E., Kremer, H., George, A., ... & Fletcher, M. A. (2011). View of God as benevolent and forgiving or punishing and judgmental predicts HIV disease progression. *Journal of Behavioral Medicine*, 34(6), 414-425.

# Religiosity and Susceptibility to Infection

- Merchant, A. T., Pitiphat, W., Ahmed, B., Kawachi, I., Joshipura, K. (2003). A prospective study of social support, anger expression and risk of periodontitis in men. *Journal of the American Dental Association*, 134(12), 1591-1596.
- Tully J. Viner RM. Coen PG. Stuart JM. Zambon M. Peckham C. Booth C. Klein N. Kaczmarek E. Booy R (2006). Risk and protective factors for meningococcal disease in adolescents: matched cohort study. *British Medical Journal* 332(7539):445-50
- Callen, B. L., Mefford, L., Groër, M., & Thomas, S. P. (2011). Relationships among stress, infectious illness, and religiousness/spirituality in community-dwelling older adults. *Research in Gerontological Nursing*, 4(3), 195-206.
- Kagimu M, Guwatudde D, Rwabukwali C, Kaye S, Walakira Y, Ainomugisha D (2012). Religiosity for HIV prevention in Uganda: A case study among Christian youth in Wakiso district. *African Health Sciences* 12 (1):17-25
- Bagheri, J., Shayan, N., Bagheri, M. M., & Heidari, M. (2019). Relationship of Spirituality with Morbidity and Mortality in Patients with Coronary Artery Disease undergoing CABG Surgery at Shariati Hospital. *Journal of Research on Religion & Health*, 5(1), 76-86.
- Kremer H, Ironson G, Kaplan L, Stuetzle R, Baker N, Fletcher MA (2015). Spiritual coping predicts CD4-cell preservation and undetectable viral load over four years. *AIDS Care* 27(1):71-79
- Ironson, G., Henry, S. M., & Gonzalez, B. D. (2020). Impact of stressful death or divorce in people with HIV: A prospective examination and the buffering effects of religious coping and social support. *Journal of Health Psychology*, 25(5), 606-616.

# Controversy over Religious Gatherings

## On the one hand:

Onsite religious gatherings will increase risk of virus spread

Religious gatherings involve close contact fellowship (shaking hands, standing close, hugging, laughing), close sitting/standing, and loud praying, singing – all increasing virus transmission

Religious rituals involving physical contact (Eucharistic ritual, particularly in Catholics; kissing of icons, kissing priest's hand in Greek Orthodox Christianity)

Masks are often not worn

## On the other hand:

Benefits of religious involvement

Benefits of religious socialization (and socializing in general)

# Are Religious Persons More Compliant with CDC Recommendations?

One study used first-party geo-behavioral data collected through mobile phone operating systems, global positioning systems, and Wi-Fi signals to assess changes in the average median distance traveled by approximately 15,000,000 devices over eight weeks (February 24–April 13, 2020)

**Findings:** religious states tend to exhibit *higher* average mobility scores and *slower* average declines in mobility. Findings also suggest that state stay-at-home orders have a *weaker* impact on mobility in more religious states. State stay-at-home orders have a *weaker* impact on mobility in more religious states

Hill, T. D., Gonzalez, K., & Burdette, A. M. (2020). The blood of Christ compels them: State religiosity and state population mobility during the coronavirus (COVID-19) Pandemic. *Journal of Religion and Health*, in press  
(<https://doi.org/10.1007/s10943-020-01058-9>)

# Religiosity and COVID-19 Infection and Mortality

## Risk of Infection:

Expect lower rate (if wearing masks, not gathering, etc.)

But.... only study has examined this (next slide)

## Death Rate (or Medical Complications) among those Infected:

Unknown

## Miscellaneous

Israeli Jews (67% secular or non-religious) have 5 times the infection rate of Israeli Arabs (87% Muslim) (n=331,594 (March 31-May 1); same pattern across all SES groups

In Ghana, Muslims have higher “risk perception” than Christians ( $p < 0.001$ )



# Religiosity and COVID-19 Infection (self-report)

Online survey of 419 American Orthodox Jews, 67% in New York/New Jersey area on March 29-April 22, 2020

## Findings:

Contact with a suspected or confirmed infection was correlated with higher intrinsic religiosity:  $M_{diff} = .60$ ,  $t(415) = 2.86$ ,  $p = .004$ ,  $d = .28$ , higher trust in God:  $M_{diff} = .72$ ,  $t(392) = 2.42$ ,  $p = .02$ ,  $d = .24$ , and lower mistrust in God:  $M_{diff} = .42$ ,  $t(390) = 2.60$ ,  $p = .01$ ,  $d = .26$ .

**Personal infection** was associated with higher intrinsic religiosity:  $M_{diff} = .59$ ,  $t(416) = 2.26$ ,  $p = .02$ ,  $d = .22$ , and higher trust in God:  $M_{diff} = .77$ ,  $t(395) = 2.07$ ,  $p = .04$ ,  $d = .21$ .

“Having someone close to you with a suspected or confirmed infection” was positively associated with greater intrinsic religiosity:  $M_{diff} = .58$ ,  $t(416) = 2.72$ ,  $p = .007$ ,  $d = .27$ , and higher trust in God:  $M_{diff} = .60$ ,  $t(395) = 2.01$ ,  $p = .046$ ,  $d = .20$ .

Pirutinsky, S., Cherniak, A.D., Rosmarin, D.H. (2020). COVID-19, mental health, and religious coping among American Orthodox Jews. Journal of Religion and Health, in press

# Recommendations for COVID-19 Pandemic

1. **Develop your personal religious faith**; it can make a difference
2. **Care for the emotional and physical needs of your neighbor.** We know about what Moses and Jesus said regarding “love your neighbor as yourself”. But the Muslim Hadith also emphasized this principle: according to the *Mishkat*, the Prophet said, "God has no mercy for the one who has no mercy for the people." In fact, the Prophet said that the Angel of Revelation (Gabriel) was so insistent on emphasizing the good treatment of neighbor that Muhammad thought that the neighbor might become a legal inheritor! Likewise when a man came to the Prophet and asked him how he could know if he was a good man or not. The Prophet replied, “Find out from your neighbors what they think of you.”
3. When possible, do all of this remotely, given the technology that is now available
4. Don't be reckless (wear mask, social distance, wash hands), and be very careful when gathering with others (avoid if possible)
5. Stay in good physical health (next slide)

# Stay in Good Physical Health

1. Exercise
2. Obtain 7-8 hours of sleep per night
3. Control weight
4. Vitamin D
5. Other nutraceuticals (vitamin C and E, Zinc, probiotics)
6. Hydrate (1 liter water + lemon juice + Airborne tablet; twice daily)
7. Spend time developing your religious faith, the best protection of all, both in this life and the next

# Conclusions

1. Fear and anxiety are common today due to the COVID-19 pandemic
2. This fear and anxiety weakens the immune system, making us more vulnerable to infection by the virus
3. All of the religious traditions promise that those who are devout in their devotion and practice will be protected, one way or the other
4. Religious involvement (RI) is related to better mental health, better coping with stress, less anxiety, and less fear, and improves these aspects of health over time
5. RI is also related to better health behaviors and better physical health, better immune function, and less susceptibility to infection
6. Work on staying safe and healthy during Covid-19 pandemic, and use your religious faith and practices to protect you (but don't be reckless)

# Further Resources

Koenig, H. G. (2020). Ways of protecting religious older adults from the consequences of COVID-19. *American Journal of Geriatric Psychiatry* 28:7 (2020) 776–779

Koenig, H. G. (2020). Maintaining health and well-being by putting faith into action during the COVID-19 pandemic. *Journal of Religion and Health*, online, <https://doi.org/10.1007/s10943-020-01035-2>

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# Spirituality & Health Research

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Methods  
Measurement  
Statistics  
and Resources

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Harold G. Koenig, MD

# Summer Research Workshop

August 9-13, 2021

Durham, North Carolina

5-day intensive research workshop focus on what we know about the relationship between spirituality and health, clinical applications, how to conduct research, and how to develop an academic career in this area. Faculty includes leading spirituality-health researchers at Duke, Yale University, Emory, and elsewhere.

- Strengths and weaknesses of previous research
- Theological considerations and concerns
- Highest priority studies for future research
- Strengths and weaknesses of measures of religion/spirituality
- Designing different types of research projects
- Primer on statistical analysis of religious/spiritual variables
- Carrying out and managing a research project
- Writing a grant to NIH or private foundations
- Where to obtain funding for research in this area
- Writing a research paper for publication; getting it published
- Presenting research to professional and public audiences; working with the media

**Partial tuition Scholarships are available**

**If interested, contact Dr. Koenig: [Harold.Koenig@duke.edu](mailto:Harold.Koenig@duke.edu)**



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## Welcome

The Center was founded in 1998, and is focused on conducting research, training others to conduct research, and promoting scholarly field-building activities related to religion, spirituality, and health. The Center serves as a clearinghouse for information on this topic, and seeks to support and encourage dialogue between researchers, clinicians, theologians, clergy, and others interested in the intersection.



SEEKING TO UNDERSTAND SPIRITUALITY, HEALTH, AND HUMAN FLOURISHING

## Mission

The five main goals of the Center are to:

- Conduct research on religion, spirituality and health
- Train those wishing to do research on this topic
- Interpret the research for clinical and societal applications
- Explore the meaning of the research for pastors and theologians
- Discuss how theological input can advance the research



## Upcoming Events

16th Annual 5-day Spirituality and Health Research Workshop (August 12-16, 2019)

Monthly Research Seminars

## Recent News

[Religion and Mental Health Review \(new\)](#)

[Resources on Moral Injury](#)

[Special Issue on Moral Injury in \*Frontiers in Psychiatry\*](#)

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# Response to Questions in Chat