Posted on 17 Apr 2023 — The copyright holder is the author/funder. All rights reserved. No reuse without permission. — https://doi.org/10.15200/winn.147221.15862 — This a preprint and has not been peer reviewed. Data may be preliminary.

Science AMA Series: I am Tyler VanderWeele, professor of epidemiology at the Harvard T.H. Chan School of public health and I study the health effects of religious service attendance; Ask My Anything!

HarvardChanSPH [1] and r/Science AMAs[1]

[1]Affiliation not available

April 17, 2023

Abstract

Hello, reddit! I am Tyler VanderWeele, professor of epidemiology at the Harvard T.H. Chan School of Public Health, and I study the mechanisms by which religion and spirituality affect health outcomes. A recent study I led found that women who attended religious services more than once per week were more than 30% less likely to die during a 16-year-follow-up than women who never attended. We found that attending religious services increases social support, discourages smoking, decreases depression, and helps people develop a more optimistic or hopeful outlook on life. You can read the study here. Another recent study found that women attending church services at least weekly were at five-fold lower risk for suicide, with an even larger effect for Catholics. You can read that study here. More information about the Harvard programs supporting this research can be found here and here. EDIT: Hi everyone, it's 11:00 a.m. ET and I'm here to answer your questions! And a reminder that we've posted the links to the full studies above. EDIT 2: It's 1:20 p.m. ET and unfortunately I have to sign-off. Thank you for all your great questions!

the
WINNOWER

REDDIT

Science AMA Series: I am Tyler VanderWeele, professor of epidemiology at the Harvard T.H. Chan School of public health and I study the health effects of religious service attendance; Ask My Anything!

HARVARDCHANSPH R/SCIENCE

Hello, reddit!
I am Tyler VanderWeele, professor of epidemiology at the Harvard T.H. Chan School of Public Health, and I study the mechanisms by which religion and spirituality affect health outcomes.
A recent study I led found that women who attended religious services more than once per week were more than 30% less likely to die during a 16-year-follow-up than women who never attended. We found that attending religious services increases social support, discourages smoking, decreases depression, and helps people develop a more optimistic or hopeful outlook on life. You can read the study here.
Another recent study found that women attending church services at least weekly were at five-fold lower risk for suicide, with an even larger effect for Catholics. You can read that study here.
More information about the Harvard programs supporting this research can be foundhere and here.
EDIT: Hi everyone, it's 11:00 a.m. ET and I'm here to answer your questions! And a reminder that we've posted the links to the full studies above.
EDIT 2: It's 1:20 p.m. ET and unfortunately I have to sign-off. Thank you for all your great questions!

READ REVIEWS

WRITE A REVIEW

CORRESPONDENCE:

DATE RECEIVED:
August 27, 2016

DOI:
10.15200/winn.147221.15862

ARCHIVED:
August 26, 2016

CITATION:
HarvardChanSPH , r/Science , Science AMA Series: I am Tyler VanderWeele, professor of epidemiology at the Harvard T.H. Chan School of public health and I study the health effects of religious service attendance; Ask My Anything!, *The Winnower* 3:e147221.15862 , 2016 , DOI: 10.15200/winn.147221.15862

Are there any alternatives to religion that you believe would result in similar effects, for example other types of community involvement or activities such as meditation?

itshappening99

Hi, /u/itshappening99, That is a good question: to what extent would this hold for other forms of social participation? There is certainly evidence that suggests that other forms of community involvement has an effect on health as well, though the size of the effect tends to be somewhat smaller than it is for service attendance. When we looked at religious service attendance itself, our analyses indicated that social support explains only about a quarter of the effect on longevity. Other mechanisms such as decreasing smoking, increasing optimism, and decreasing depression seemed important also. Meaning and purpose in life, and self-control, have also been suggested as other mechanisms but we did not have data on those in our data. Social support is thus important but it is not everything.

My speculation, though we do not yet have data on this, would be that groups that not only have social gatherings, but also have a shared sense of meaning, healthy behavioral norms, and a common vision for life would have a larger effect on mortality in follow-up than, say, merely showing up for a regular card game. Religious service attendance likely affects health not simply because of social support, but also because it potentially shapes so much of one's outlook, behavior, beliefs, and one's sense of life's

© et al. This article is distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use, distribution, and redistribution in any medium, provided that the original author and source are credited.

meaning and purpose.

I am less familiar with the literature on meditation. I know some of the research suggests an effect at least on positive psychological outcomes. I would be interested in studying this further.

With regard to social participation though, when we compared religious service attendance to other social measures, religious service attendance was the strongest predictor of subsequent mortality in follow-up. The results can be found in eTable 12 of the Online Supplement of the attendance-mortality paper. The protective association with mortality was fairly similar to being married and considerably stronger than the number of close friends, number of close relatives, having seen close relatives at least monthly, having seen close friends at least monthly, and number of hours spent in social group participation. Other forms of social participation certainly do matter and are beneficial but again the association with religious service attendance seems somewhat stronger.

Was there much differentiation between different types of religious services, or different religions?

Slappymcnuts

Because the sample was U.S. nurses the only comparisons for which we had enough data to make comparisons were Catholic versus Protestant. In general we found that the associations between service attendance and mortality in follow-up were quite similar for both groups. There have been other studies looking at Jewish groups in Israel, and folk religion and Buddhist populations in Taiwan. Those studies likewise found that religious service attendance was associated with lower mortality and the strength of the associations seemed fairly similar to what was in our study.

In our study on depression, the associations between religious service attendance and subsequent depression were likewise pretty similar for Catholics and Protestants. The one outcome where we found a difference was suicide. The association between religious service attendance and suicide was protective for both Catholics and Protestants but the association was stronger for Catholics. For Protestants those who attended services were about 3-fold less likely to commit suicide; for Catholics, those who attended services were about 20-fold less likely to commit suicide. My guess is that this is the outcome which will vary the most across religious groups.

marginal structural models with time-varying covariates

I have a master's degree in epidemiology, but I've never heard of this method of analysis. Could you say a bit about what it does?

sockalicious

Hi, /u/sockalicious, Sure, I would be happy to do so. I discussed earlier in my answer to /u/Wolfdoc the issue of “confounding” i.e. the concern that those who smoke for example might be less likely to attend services; we thus controlled for baseline smoking. I also mentioned that there were likely effects in both directions – those who smoke were less likely to attend, but those who attended religious service were subsequently less likely to smoke or more likely to give up smoking if they already smoked. The more technical language for this type of phenomenon is that prior levels of smoking are “confounders” for the effect of religious service attendance on mortality and subsequent smoking is a potential “mediator” for the effect of religious service attendance on mortality. If you want to control for confounding, you should control for prior levels of smoking; if you want to assess pathways and mechanisms then you examine levels of smoking subsequent to your attendance measure.

So, what happens if we want to look at the effect of religious service attendance over multiple times points considered together? This becomes more difficult because you have to take the feedback into

account. Marginal structural models are statistical techniques designed to do that. They were developed at Harvard in the Epidemiology Department (by my former doctoral advisor, James Robins, in fact) to address this issue. The paper in Epidemiology that presented these models has now, according to Google Scholar been cited over 2000 times! So they are becoming more widespread. They are considered by many to be state-of-the-art for assessing causal effects of variables that change over time. Since we were interested in assessing evidence for causality we thought it would be good to apply these as well and the associations did seem robust. We also used more conventional survival analysis models and the results were similar. With the marginal structural models though we could get at the associations with regular service attendance over longer periods of time. That is what is presented in Table 2 of the attendance-mortality paper. Those who attended regularly in both 1996 and 2000 were about 50% less likely to die in follow-up than those who did not. These are pretty large effects.

How do you conclude causality? Would not people with chronic diseases, or who engage in activities such as smoking and heavy drinking be less likely to attend social circles disapproving of this, and thus resulting in a self -selected group giving the same statistical results for different reasons?

WolfDoc

Hi, /u/WolfDoc, With data of this sort one generally cannot definitively demonstrate a cause-effect relationship, but one can provide evidence for it. We controlled for baseline behaviors like smoking and heavy drinking since it is indeed the case that those smoke or drink heavily are less likely to attend. But even controlling for the baseline behaviors, those who smoke or drink heavily and do still attend are more likely to subsequently cease smoking and drinking. The fact that we were able to control for so many of the potential common causes of service attendance and mortality helps strengthen the evidence.

Another difficult issue in addressing questions of causality is what is sometimes referred to as the possibility of “reverse causation” i.e. the possibility that only those who are healthy can attend services, so that attendance isn’t necessarily influencing health. Some prior studies on the topic were criticized for this possibility. We tried to address these concerns. The only way to sort through these issues is to measure repeatedly, over time, both religious service attendance, health behaviors, and health itself and see which changes precede which others. That we had data on both service attendance and health repeatedly over time helps provide evidence about the direction of causality. Even when controlling for all of that, the analyses found that those who attended religious services regularly were about 30% less likely to become depressed, about 5-fold less likely to commit suicide, and about 30% less likely to die in the 16-year follow-up. We cannot be certain about causality, but we can provide evidence, and here the evidence seems quite strong.

Are you planning to perform research dedicated to comparing churchgoers to other community members who meet regularly?

Whenever people make claims about religious services and claim benefits I wonder how much of that is just bound to a sense of community.

Edit for clarity: ie When you meet up regularly with people, they may tell you "you should stop smoking" etc etc. It isn't just the SENSE of community.

These studies seem incomplete to me without matched pairs like that.

DyngusMaster

Hi, /u/DyngusMaster, It would indeed be interesting to do such a direct comparison. One could for

instance compare those who only attend religious services and not other social groups, to those who attend only other social groups and not religious services, to those who attend both religious services and other social groups, to those who attend neither religious services nor other social groups. I can look to see how much, and how good, the data on other social groups is within the Nurses' Health Study.

Mr. VanderWeele, thanks for the AMA! You noted some health benefits that you have found correlated to religion or being a part of a religious community. Are there any negatives? Thanks!

OKAnimus

Hi, /u/OKAnimus, That is a good question. There is some evidence that religious participation may be associated with higher depression rates for unwed mothers, and that negative interactions at church can lead to higher levels of psychological distress. One study in the UK suggested that children of minority religions at schools may be at higher risk of suicide. I think research of this type is very important as well because it indicates where religious groups, or the broader community or schools, have extra work to do to support those in need and create more hospitable environments.

Why did you choose to focus solely on women? Will there be a follow up that looks at men?

Defenserocks285

Hi, /u/Defenserocks285, The Nurses' Health Study, where we had the data on religious service attendance over time, was a study of only women. That was why the studies we published on religious service attendance focused on women. Prior studies have also found, for men, an association between religious service attendance and lower mortality, but the best evidence to date seems to suggest that the association, while present, may not be as strong for men as it is for women.

Dear Dr. VanderWeele, what got you originally interested in these types of studies?

phd_dude

Hi, /u/phd_dude, Well, I have worked in public health and epidemiology for some time. The focus of much of my research is on the development of new statistical methods for assessing causation and for distinguishing association from causation. I also do a lot of work on assessing mechanisms with empirical data and statistical methods and have even written a book on the topic.

Religious faith has always been an important part of my life. Some years ago, I began to wonder if there was any literature on the intersection between my work in public health and topics of religion or faith. Much to my surprise there were hundreds of studies published on the topic. The associations between religious participation and health seemed to be pretty well established but two big open questions in the literature were: (i) is the relationship causal? and (ii) if so, what are the mechanisms? So it turned out that the open questions coincided exactly with the focus of my methodological work and I started looking for good datasets to carry out more rigorous analyses.

During my third year on faculty at Harvard a colleague pointed me to the Nurses Health Study data. He said he thought that there was a question on religious service attendance that no one had ever really used. Sure enough, it was there and it was measured repeatedly every four years. The perfect dataset was essentially waiting for me right here. The papers were the result of that work. We were able to provide pretty strong evidence for causality (again, one can generally not definitively prove causality with observational data, only provide varying strengths of evidence, as per my reply to wolfdoc) and we

were also able to identify some of the important mechanisms such as social support, smoking, depression, and optimism. We will be looking at meaning and purpose in life and self-control as potential mechanisms using other data (as these were not in the Nurses Health Study dataset). So it ended up being a wonderful confluence of my interests, expertise, and the data that was available.

Do you plan to investigate why religion has the effect it does in improving health outcomes? That is to say, what about religion contributes to a higher likelihood of beating cancer?

Is it the social group dynamic that breeds a support system and thus reduces internalized stress/anxiety? Is it the belief in a higher being that watches over and wants the best for us that improves outlook on the world? Is it the actual attendance of something in a routine fashion that renews self-purpose? Do you have any hypotheses?

vitamin_v

In our study on attendance and mortality, we found that religious service attendance was associated with greater likelihood of survival from breast cancer but not with the incidence of breast cancer itself. It was an interesting result. See my responses to /u/itshappening and /u/phd_dude for more discussion as to what the mechanisms might be.

Have you tried to isolate the results of any specific religious claims such as faith healing or praying for a specific outcome or event?

TJ11240

Hi, /u/TJ11240, This is an interesting topic. One intriguing aspect of the research is that it appears to be religious service attendance, rather than self-assessed religiosity or spirituality or private practices, that most powerfully predicts health. Something about the communal religious experience does seem to matter. Religious identity, spirituality, and private practices may of course still be important and meaningful within the context of religious life, but they do not appear to affect health as strongly. In an era in which people increasingly self-identify as ‘spiritual but not religious’ and in which the term ‘organised religion’ tends to carry negative connotations, the empirical research perhaps challenges our preconceptions about what matters and seems to suggest that personal spirituality, discarding all organized and communal aspects of religion, may not be an entirely satisfactory way forward.

The question of belief, rather than private practice, or communal practice, or identity, is more complicated. This has been an understudied area. Most of the large cohort studies, which are most useful for assessing evidence for causality, do not have information on specific religious beliefs. Does belief in an objective right and wrong, or in the notion of salvation, or in an afterlife affect health or other outcomes? We don’t really know. One intriguing cross-sectional study (a design which cannot contribute much evidence for causality) suggested that belief in life after death was associated with better mental health including less depression, anxiety, phobia, etc. (Flannelly et al., 2006). Again, the evidence provided by such cross-sectional designs is not substantial but it at least indicates that there may be something here worth examining further.

Hey! I am a research assistant in the cognition lab at my university. I was wondering particularly about this one point:

that it was difficult to infer causality and that the observed association could be owing to reverse causation if only healthy participants were able to attend services.

IMO, mentioning this is wonderful research etiquette.

1. What could be done in the experimental design to control for this possible confound? At the moment, it is possible to interpret the data such that: "People who are less likely to die are more likely to go to church services."

2. How was the direction of causality determined by the research justified?

johndescript

We used data over time with multiple measurements of religious service attendance, and health, and the confounders to try to tease apart which changes preceded which others, and used statistical methods specifically designed to do that. See my responses /u/Wolfdoc and /u/sockalicious for further discussion.

I've never seen anyone do so much work trying to control covariance. So this study was exclusively on women in the nursing profession located in the United States?

To me generalizing from people in a very stressful and saddening job to women in general might flawed. Especially on stats about suicide. Have you simply revealed that nurses in particular need a professional/personal support network which they lack? (Yes I did see the corrections for social engagement)

In your table your religious group section doesn't list "no religion" is that under "other religious background"?

bostwickenator

Hi, /u/bostwickenator, The suicide rates among the nurses in the study were on average somewhat lower than for U.S. women in general so this is not really identifying lack of personal support network for nurses. The study was looking specifically at how religious service attendance was related to suicide in this particular sample. It is interesting, however, to try to relate this to broader societal trends. The National Center for Health Care Statistics indicated an increase in the suicide rate from 10.5 in 1999 to 13.0 in 2014. During this same period, the Gallup Poll indicates a decline in weekly religious service attendance from 43% in 1999 to 36% in 2014. While a calculation like this requires a great deal of extrapolation from the data, if we use our estimates from this study and apply it to the general population, this would suggest that of the increase in the suicide rate between 1999 and 2014, nearly 40% of this could be attributed to the decline in religious service attendance.

What are the ethical/moral implications of this research? If we want to maximise optimism and reduce depression, smoking, and suicide, can we determine what factors associated with attending religious services play the biggest part in these outcomes? Should we strive to evolve religions to support these factors? Design new religions for future generations to follow which provide the maximum benefits? How is this balanced against the ethical implication of teaching things as 'truth' when we know/suspect they might not be?

lammy82

Hi, /u/lammy82, The implications of the research for practice are of course complicated. Decisions about religious practice and formation of religious beliefs are, of course, not generally made on the grounds of health, but rather reflect values, relationships, experiences, evidence, thought, upbringing and so on. I do think the question of evidence and truth is an important one. I have spoken on this topic elsewhere.

So if decisions about religion really on made on the grounds of values, relationships, experiences, evidence, truth claims, etc. does this have any implications then for the practice of medicine or public health? Within the context of medicine, there have been debates as to whether and to what extent it is appropriate to discuss issues of religion and spirituality in a clinical setting. Whether religion should be discussed with patients during care will of course be context-specific. It may be thought to be more appropriate and important in end of life settings. Many patients — and in the United States it is the majority — say they think that doctors should consider patients' spiritual needs. Many doctors feel uncomfortable doing so. Conversations will be easier if the clinician and the patient share the same, or a similar, faith, but these matters can be discussed in general terms as well. Training on how to do so can be helpful. If issues of religion and spirituality do come up in conversation, clinicians could inquire about service attendance. Again, decisions about religious practice and formation of religious beliefs are not generally made on the grounds of health. However, for those who already hold religious beliefs, but do not attend services, my own view would be that if the topic does come up it would not be unreasonable for a physician or health care provider to encourage such religious service attendance, that is already in line with the patient's beliefs, as a potentially meaningful form of social participation.

What is the most surprising result you have found through your studies when comparing religious to non religious people?

alexcm11

Hi, /u/alexcm11, I think what has surprised me the most has been the size of the effect estimates. They were larger than I might have guessed. Again, our studies suggested that those who attend religious services regularly are about 30% less likely to become depressed, about 5-fold less likely to commit suicide, and about 30% less likely to die in 16-year follow-up. Public health impact is often assessed based on how common an exposure is and how large its effects are. With religious service attendance, the exposure is relatively common: about 40 per cent of Americans have reported attending services weekly or more. Moreover, as discussed above, the research on service attendance and health appears to suggest a relatively large effect. All of this indicates that religious service attendance is an important, and probably under-appreciated, social determinant of health. It is something that should be taken into account in public health discussions. We would not think to neglect other powerful social determinants of health such as race, or gender, or social support in our discussions. The same should probably be true of religious service attendance as well.

What is the most surprising result you have found through your studies when comparing religious to non religious people?

alexcm11

The research was on religious service attendance rather than religious identity, but I think what has surprised me the most has been the size of the effect estimates. They were larger than I might have guessed. Again, our studies suggested that those who attend religious services regularly are about 30% less likely to become depressed, about 5-fold less likely to commit suicide, and about 30% less likely to die in 16-year follow-up. Public health impact is often assessed based on how common an exposure is and how large its effects are. With religious service attendance, the exposure is relatively common: about 40 per cent of Americans have reported attending services weekly or more. Moreover, as discussed above, the research on service attendance and health appears to suggest a relatively large effect. All of this indicates that religious service attendance is an important, and probably under-appreciated, social determinant of health. It is something that should be taken into account in public health discussions. We would not think to neglect other powerful social determinants of health such as

race, or gender, or social support in our discussions. The same should probably be true of religious service attendance as well.

What is the most surprising result you have found through your studies when comparing religious to non religious people?

alexcm11

Hi, /u/alexcm11, I think what has surprised me the most has been the size of the effect estimates. They were larger than I might have guessed. Again, our studies suggested that those who attend religious services regularly are about 30% less likely to become depressed, about 5-fold less likely to commit suicide, and about 30% less likely to die in 16-year follow-up. Public health impact is often assessed based on how common an exposure is and how large its effects are. With religious service attendance, the exposure is relatively common: about 40 per cent of Americans have reported attending services weekly or more. Moreover, as discussed above, the research on service attendance and health appears to suggest a relatively large effect. All of this indicates that religious service attendance is an important, and probably under-appreciated, social determinant of health. It is something that should be taken into account in public health discussions. We would not think to neglect other powerful social determinants of health such as race, or gender, or social support in our discussions. The same should probably be true of religious service attendance as well.

Do you feel that some of these effects are the result of the correlation of regular attendance to increased responsibility and personal agency that such a practice necessarily entails? That by selecting a group of people who are regularly able to attend something out of their way once a week predicts their ability to reliably take their medications and do other activities that require structure, volition, and planning?

As others have been asking in this thread, would you be able to propose a surrogate non-church related activity that can address this effect?

venturecapitalcat

Self-control or self-discipline has been proposed as one possible mechanism. By following religious teachings and practices one develops self-discipline which is important for other aspects of life and health as well. We were not able to look at this in the Nurses Health Study data, but we are currently examining the evidence for it using other data.

Hello Dr. VanderWeele, I'm a biology teacher at a fairly large religious secondary school. I'm interested to find out if these studies are applicable to children/adolescents.

SouthsideCross

Hi, /u/SouthsideCross, I am less familiar with the literature on adolescents and this has certainly been somewhat less studied. I think there is fairly good evidence that adolescent religious service attendance is associated with less smoking, less drug use, and less suicide. Issues of confounding and reverse causation come into play here as they do with other studies of religion and health, as discussed in my response to /u/wolfdoc, but I believe on these outcomes there is pretty good evidence from longitudinal studies for adolescents as well. I am less sure about the other health outcomes.

I've heard conflicting information about the health effects of prayer. Like when a church group prays for

a specific member's loved one. Has a double blind study ever been performed that studies whether group prayer benefits health/recovery of a patient when the patient and all who are near them have no idea that people are praying for them?

urmomsfavoriteplayer

This is a rather controversial area. There have been studies, even randomized trials, of what is sometimes called “intercessory praying” or praying for others. The standard design of these trials is that patients are randomized to receive prayer from someone else; patients themselves, however, are often “blinded” in the sense that they don’t know whether or not they are being prayed for. Some of these randomized trials have suggested an effect of prayer; other studies have suggested no effect; and the research remains controversial. Two reviews that I am aware of have attempted to synthesize all available evidence but they themselves are divided. Astin et al. (2000) conducted a systematic review with fairly broad inclusion criteria and include 23 randomized trials. Astin et al.’s review concluded that there was some evidence for an effect: 57% (13 studies) reported an effect; 39% (9 studies) no effect; 4% (1 study) a negative effect. Meta-analysis has also been done by the Cochran Collaboration and has been repeated a number of times (Roberts et al., 2000, 2007, 2009). Using stricter inclusion criteria than the Astin et al. (2000) study, the Cochran meta-analysis in 2000 was inconclusive; the meta-analysis in 2007 suggested an effect on mortality with summary odds ratio OR=0.88 (95% CI: 0.80, 0.97) but no effect on clinical state or complications. The meta-analysis in 2009 still had a protective odds ratio, OR=0.77 (95% CI: 0.51, 1.16), but one which was not statistically significantly different from no effect. The conclusion seemed to depend somewhat on what studies were included.

Much commentary on the studies themselves and the meta-analyses questions the objectivity of those conducting these randomized trials of prayer. Objections to this research on prayer come from believers and unbelievers alike. Some object to this research on the grounds that it is wasting money and valuable research resources that could be redirected to questions which truly have benefit to health. Yet others claim that such research is nearly impossible to carry out rigorously, that the investigators conducting such studies almost always have an agenda – for or against – and that the research will thus rarely be credible. Those who do believe in prayer sometimes object to the research on the grounds that such research is 'putting God to the test'. A related objection to such research is that these randomized trials seems to assume that God, if he exists, is somehow outside of the trial; that he does not know it is happening; that he wouldn’t be able to determine the outcome but is somehow constrained by “what usually happens”. Others object that the forms of prayer examined in these 'double blinded' trials are not what is actually practiced in the church with prayer; prayer for healing within religious communities often occurs within the context of a relationship and often involves the laying on of hands. So objections exist from a variety of perspectives. It is clearly a very difficult area to study!

Are you religious yourself? It seems possible your own religiosity could influence your interpretation of the results of your study (in both directions religious or not), so it could be useful to know which way you lean.

FockerCRNA

I am religious; I am a practicing Catholic. However, the post-doctoral researcher who carried out the analyses was not. In fact, she initially set out to explain away the associations. She did not think they would be robust to control for other variables. We tried to control for everything we could think of, and asked others from the Nurses Health Study to critique our analyses and results as well. The results in the published papers were what resulted after all of this. The associations simply would not go away regardless of what was controlled for. I think the analyses themselves are thus pretty robust to my or others’ religious perspective.

The interpretation of those results – what they mean, whether they are important, what are their implications – is of course going to be shaped by one's religious perspective. My own view would be that, from the perspective of the individual, the results suggest that there is something very powerful about the communal religious experience – that those who already consider themselves religious but do not attend may want consider again more communal forms of participation. From a societal perspective, the seemingly powerful effects on health and social support I think suggests that this could well be something worth preserving and promoting, that the non-profit status of these institutions, for example, is worthwhile. This of course all begins to move beyond the science but this is where I think religious or non-religious perspective may also, in part, shape discussion of these important issues.

what about men attending church service? Ever examined the effects of attending mosque service?

shekib82

For data on men see my response to /u/Defenserocks285. The primary research results did not distinguish type of religious service so it would have included mosques. As far as I am aware there has been no longitudinal study specifically looking at religious service attendance and longevity with Muslim populations. This would be an interesting area of future research. More longitudinal research is also needed on Hindu population.

Is there a way to isolate the belief part of religion in research like this, for example to test for generally strong social support communities vs the belief itself?

SufferingSaxifrage

Hi, /u/SufferingSaxifrage, This is an interesting topic. One intriguing aspect of the research is that it appears to be religious service attendance, rather than self-assessed religiosity or spirituality or private practices, that most powerfully predicts health. Something about the communal religious experience does seem to matter. Religious identity, spirituality, and private practices may of course still be important and meaningful within the context of religious life, but they do not appear to affect health as strongly. In an era in which people increasingly self-identify as 'spiritual but not religious' and in which the term 'organised religion' tends to carry negative connotations, the empirical research perhaps challenges our preconceptions about what matters and seems to suggest that personal spirituality, discarding all organized and communal aspects of religion, may not be an entirely satisfactory way forward.

The question of belief, rather than private practice, or communal practice, or identity, is more complicated. This has been an understudied area. Most of the large cohort studies, which are most useful for assessing evidence for causality, do not have information on specific religious beliefs. Does belief in an objective right and wrong, or in the notion of salvation, or in an afterlife affect health or other outcomes? We don't really know. One intriguing cross-sectional study (a design which cannot contribute much evidence for causality) suggested that belief in life after death was associated with better mental health including less depression, anxiety, phobia, etc. (Flannelly et al., 2006). Again, the evidence provided by such cross-sectional designs is not substantial but it at least indicates that there may be something here worth examining further.

Is there a way to isolate the belief part of religion in research like this, for example to test for generally strong social support communities vs the belief itself?

SufferingSaxifrage

This is an interesting topic. One intriguing aspect of the research is that it appears to be religious service attendance, rather than self-assessed religiosity or spirituality or private practices, that most powerfully predicts health. Something about the communal religious experience does seem to matter. Religious identity, spirituality, and private practices may of course still be important and meaningful within the context of religious life, but they do not appear to affect health as strongly. In an era in which people increasingly self-identify as 'spiritual but not religious' and in which the term 'organised religion' tends to carry negative connotations, the empirical research perhaps challenges our preconceptions about what matters and seems to suggest that personal spirituality, discarding all organized and communal aspects of religion, may not be an entirely satisfactory way forward.

The question of belief, rather than private practice, or communal practice, or identity, is more complicated. This has been an understudied area. Most of the large cohort studies, which are most useful for assessing evidence for causality, do not have information on specific religious beliefs. Does belief in an objective right and wrong, or in the notion of salvation, or in an afterlife affect health or other outcomes? We don't really know. One intriguing cross-sectional study (a design which cannot contribute much evidence for causality) suggested that belief in life after death was associated with better mental health including less depression, anxiety, phobia, etc. (Flannelly et al., 2006). Again, the evidence provided by such cross-sectional designs is not substantial but it at least indicates that there may be something here worth examining further.

Im a health economist and I do a lot of work in quality of life research. I am wondering, given that you have shown mortality benefits from those attending regular religious services, have you tried to estimate if there are quality of life differences between those that attend religious services and those that do not? Thanks!

ar_604

There is a very large literature on this but almost all of the studies are cross-sectional so the evidence for causality is limited. I am aware of only one longitudinal study on the topic and it suggests that there is an beneficial effect: Lim C, RD Putnam. (2010). Religion, social networks, and life satisfaction. American Sociological Review, 75:914-933.

Hi. I wonder how much you think that the underlying beliefs of the subjects' religion affected the study results. For instance the one about suicide and Catholics. Catholics believe that suicide is a one way ticket to hell instead of heaven so I would think that this would have a profound affect on their decision as much, if not more, than the fact that they go to church.

Did you create a baseline for those of different beliefs that did not go to church but still held the core beliefs of their religion and then measure the affects of the actual attendance?

Second question. How do you think that the results of your study of attending religious services differs from the results of a study of those associated with other social programs with people of like minds, that are not necessarily religious? I.e. Scouts or book clubs or astronomy clubs, etc. Would they not experience the same "benefits" of social pressure and interactions as a religious person (removing the skew of the core beliefs of the religion itself)?

mreguy81

See responses to /u/Itshappening, /u/goatcoat and /u/SufferingSaxifrage for responses to these very good questions.

A recent study I led found that women who attended religious services more than once per week were more than 30% less likely to die during a 16-year-follow-up than women who never attended. We found that attending religious services increases social support, discourages smoking, decreases depression, and helps people develop a more optimistic or hopeful outlook on life.

Is there any way for adult agnostics like me to get those benefits, or does one have to be indoctrinated from birth?

Another recent study found that women attending church services at least weekly were at five-fold lower risk for suicide, with an even larger effect for Catholics.

Do you think religious people are at a lower risk for suicide because they're happier, or just because they're afraid of being condemned to eternal torture by their deity as punishment for suicide?

goatcoat

Hi, /u/goatcoat, We attempted to identify some of the mechanisms that might explain the association between religious service attendance and lower suicide risk. Those who attended religious services tended to subsequently have more social support, were less depressed, and consumed less alcohol. While each of these explained some of the association, we were surprised that they were not more prominent. Our speculation is that an important mechanism relating religious service attendance and lower suicide risk might be the belief that suicide is morally wrong, but this would require other studies that assessed such moral beliefs. Feeling close to God has also been proposed as a mechanism that may prevent suicide but this too would require future research to assess.

A recent study I led found that women who attended religious services more than once per week were more than 30% less likely to die during a 16-year-follow-up than women who never attended. We found that attending religious services increases social support, discourages smoking, decreases depression, and helps people develop a more optimistic or hopeful outlook on life.

Is there any way for adult agnostics like me to get those benefits, or does one have to be indoctrinated from birth?

Another recent study found that women attending church services at least weekly were at five-fold lower risk for suicide, with an even larger effect for Catholics.

Do you think religious people are at a lower risk for suicide because they're happier, or just because they're afraid of being condemned to eternal torture by their deity as punishment for suicide?

goatcoat

Hi, /u/goatcoat, That is an interesting question. So our results concern religious service attendance, not belief per se. There is probably a spectrum of belief among those actually attending services (and of course among those who do not attend services as well). What the research does suggest (our study on this will be published in the American Journal of Epidemiology in the months ahead) is that it seems to be religious service attendance, rather than religious or spiritual identity or private practices, that is most strongly associated with health. Would one need to hold the beliefs for the health benefits? We do not really know. As per my response to /u/SufferingSaxifrage and /u/TJ11240, there is fairly limited research about associations with specific religious beliefs. The data we report in our studies is effectively looking at service attendance, averaged over the various beliefs of those who do attend. Earlier this year, I gave a short talk at Harvard Memorial Church's morning prayers on some of this research. Someone came up to me afterwards and said that he was an atheist but had been attending Harvard Memorial Church's morning prayers every day for years and that it had been tremendously beneficial to him – the community, the messages, the music, he said were all very important to him. As in my response to /u/itshappening99, some of the health benefits of religious service attendance are

undoubtedly social, but there is certainly more than this as well and he seemed to be experiencing not only the social aspects but other parts of it that were meaningful.

It is well documented that a sense of belonging has many positive outcomes. What motivated you to study attending church services over other forms of social groups? Do you believe belief has something to do with it?

trippt_

These are good questions. I have provided some responses to these in questions from/u/phd_dude and /u/TJ11240.

Are you taking any graduate students? I've been looking for a Ph.D program, and I know this is really informal but hey, worth the shot.

brittons0

You are welcome to apply to the doctoral programs at the Harvard Chan School of Public Health!

Statistical and theoretical question: including social support, smoking, depression, and optimism all partially account for the relationship between religion and mortality, but there are always other possible mediators. Sense of community, sense of purpose, education (in a wider sample of individuals), etc., and you could also let terms interact.

So my question is: do you think you can effectively soak up all of the "religion" variance in mortality with combinations of other factors, or is there something special about religious services that you couldn't explain away with other variables?

arrrrr_won

Well, one might say things like social support or smoking are not so intrinsically related to what is most central to religion (though some might dispute even that e.g. the body as sacred) but when it comes to things like meaning and purpose in life, or a sense of hope, these things are arguably central to religion itself so I am not sure what "explaining away" or "soaking up" would really mean here.