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Research paper

An examination of the prospective association between religious service attendance and suicide: Explanatory factors and period effects

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ABSTRACT

Background: We addressed two unanswered questions from prior research, demonstrating a prospective association between frequent religious service attendance and decreased risk for suicide. First, we assessed whether religious service attendance conferred protection from suicide even after accounting for strength of religious affiliation. Second, we evaluated whether the relationship between religious service attendance and suicide was subject to period effects.

Methods: Data were drawn from the 1978–2010 General Social Survey, a nationally representative study of 30,650 non-institutionalized, English-speaking American residents age 18 or older. Data were linked with the National Death Index through the end of 2014. We analyzed these data using moderated Cox proportional hazard analyses.

Results: Religious affiliation had no relationship with suicide. Religious service attendance only had a protective effect against suicide death among those in later (2000–2010) rather than earlier (1998 and earlier) data collection periods.

Limitations: Secondary analysis of data limited the types of variables that were available.

Conclusions: The protective nature of religion is due more to participating in religious activities, such as attending religious services, than to having a strong religious affiliation, and this effect exists primarily in more recent data collection periods.

1. Introduction

In recent years, there has been an uptick in interest in the role of religion as a protective factor against suicide (for a review, see Wu et al., 2015). Religion is a multifaceted construct that consists of many aspects that might be relevant to suicide. Considerable work exists on one particular aspect of religion, frequent religious service attendance (generally operationalized across studies as attending religious services anywhere from at least twice a month to at least once a week; Smith, 1998). The bulk of this work has primarily focused on the association between frequent religious service attendance and risk for suicidal ideation or suicide attempts. To date, only three studies have explored the link between frequent religious service attendance and suicide death. The earliest study (Nisbet et al., 2000) found in a national U.S. sample drawn in 1993,[1] those who died by suicide were more than four times more likely to have never participated in religious services (assessed through retrospective interviews with next-of-kin) compared to those who died by other means. Although this study was informative, it was limited by its retrospective psychological autopsy methodology.

Building on this retrospective work, prospective studies from our group (Kleiman and Liu, 2014) and others (VanderWeele et al., 2016) used large epidemiological datasets linked to the National Death Index (a database of date and cause of death for all deaths in the United States) to show that frequent religious service attendance was associated with lower odds of dying by suicide in the years following the initial data collection. Specifically, we found in our prior study (Kleiman and Liu, 2014) that those who attended religious services at least 24 times per year (i.e., about every other week or more) had nearly one third of the odds of dying by suicide in the 12–18 year follow-up period compared to those who attended less frequently. Similarly, VanderWeele et al. (2016) found that those who attended religious services at least one per week had nearly one fifth of the odds of dying by suicide in the 14-year follow-up period compared to those who never attended religious services. However, the extant work leaves

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[1] South Dakota did not participate in the mortality data collection in 1993, thus the data from the Nisbet et al. (2000) study was technically not from the entire United States, but rather was from 49 out of 50 states.

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unanswered several questions. The goal of this study was to answer two of these questions: first, whether the protective effect of religious service attendance is not simply a function of greater religious affiliation. A second question we sought to address is whether the relationship between religious service attendance and suicide was subject to period effects.

1.1. Is the effect of religious service attendance on suicide a function of greater religious affiliation?

Religion is a broad construct that includes, among other factors, religious activity (e.g., attending religious services) and religious affiliation (which may lead someone to engage in religious activity) (Idler et al., 2003). It is currently unknown whether attending religious services is protective against suicide or if it is something more broadly about having strong religious affiliation that better represents the protective nature of religion. One reason why it may be that religious service attendance itself is protective against suicide is that frequently attending religious services provides an opportunity to build social networks within a place of worship (Taylor and Chatters, 1988). Indeed, those who regularly attend religious services have larger social networks within their place of worship and report greater life satisfaction as a result of these social networks (Lim and Putnam, 2010). One reason why it may be that strength of religious affiliation best represents the protective nature of religion is that people who are more religious are not only more likely to attend religious services, but are also more likely to subscribe to religious prohibitions against suicide (Dervic et al., 2004). In line with the idea that religious affiliation is a reason why religion is protective against suicide, several cross-national studies find that countries with higher average affiliation tend to have lower suicide rates (Neeleman and Lewis, 1999; Stack and Kposowa, 2011; van Tubergen et al., 2005). It may also be that both frequent religious service attendance and strong religious affiliation are independently associated with decreased risk for suicide (i.e., it is not one or the factor that protects against suicide, but both are protective in their own way). Congruent with this possibility, there is research showing that both factors are independently associated with decreases in known suicide risk factors, such as major depressive disorder (Balbuena et al., 2013; Miller et al., 2012). Both prior prospective studies were unable to answer this question because religious service attendance was the only religion variable available, and thus they could not compare the effect of religious service attendance to the effect of religious affiliation.

1.2. Is the relationship between religious service attendance and suicide subject to period effects?

The proportion of the United States population that frequently attends religious services has declined over the past several decades. Studies have shown that the odds of any given American attending religious services on any given week dropped 24% from approximately 1 in 2.1 in 1972 to 1 in 2.6 in 2000 (Schwadel, 2011). This decline is in line with a trend for decreased attendance at religious services seen in other countries including Canada (Eagle, 2011) and Ireland (Hirschle, 2010). Given this decline from decade to decade over the past 30 years, suggesting that attending religious services may now be less of a social norm (i.e., because as of 2010, slightly fewer than two thirds of people do not routinely attend religious services), the makeup of those who frequently attend religious services may have changed over time (e.g., there may be fewer people who attended religious services frequently in order to fit with a social norm). Supporting this idea, research has shown that in recent years, there has been an increase in religious service attendance among Americans who do not affiliate with a religion (Lim et al., 2010). This may suggest that frequent religious service attenders in recent years do so for reasons other than religion. For example, they may attend religious services for the social networking aspect of doing so. Thus, given the changes over time in the amount of people who frequently attend religious services and in the makeup of those who frequently attend religious services, it is important to explore whether religious service attendance confers protection from suicide across data collection periods. Both prior prospective studies were unable to answer this question because they used data collected over a relatively short period of time, where variation across time would not be apparent (1988–1994 in Kleiman and Liu, 2014 and 1992–1996 in VanderWeele et al., 2016).

1.3. The present study

To summarize, the goal of this study was to answer two questions regarding the relationship between religious service attendance and death by suicide that were not answerable in the two prior prospective studies on the topic: (1) does religious service attendance, over and above strength of religious affiliation, confer protection from suicide? and (2) is the relationship between religious service attendance and suicide subject to period effects? To answer these questions, we used the General Social Survey (Smith et al., 2011), a nationally representative study of over 25,000 people collected over more than 30 years, with linkages to mortality data from the National Death Index.

2. Method

2.1. Participants

Data for the present study were drawn from the 1978–2010 General Social Survey, National Death Index dataset (GSS-NDI; Muennig et al., 2011; Smith et al., 2011), a nationally representative study of non-institutionalized, English-speaking American residents age 18 or older. It has been conducted by the National Opinion Research Center (NORC) yearly from 1978 and every other year starting in 1994. In late 2016, the baseline GSS data up until 2010 were combined with cause of death data from the NDI through 12/31/2014 (Muenning et al., 2016). Cause of death data from the NDI are found to have high accuracy compared to other mortality databases (as high as 97.9% in one study; Cowper et al., 2002). The NDI linkage is performed by matching identifiable data from participants that are not available in the public-access version of the GSS dataset (e.g., first and last name, date of birth) with cause of death data in the NDI. Data were collected in face-to-face interviews and have used computer-administered questionnaires since 2002, and paper and pencil prior to that. The final sample consists of the 30,650 people who had complete data and had died by suicide or other means or were presumed alive as of the end of 2014. The mean age was 45.84 years (SD = 17.47 years). Additional details on this dataset are available elsewhere (Muennig et al., 2011).

2.2. Measures

2.2.1. Demographic covariates

We included a variety of demographic covariates known to have an association with suicide death, including sex, age, race, religion, employment status, having children, and graduating high school.

2.2.2. Strength of religious affiliation

Participants were asked to rate their religious affiliation as either not very strong, somewhat strong, or very strong. Because on average 88.5% of responses each year (SD = 2.6%, range = 84.1–92.7%) were either “not very strong” or “very strong” and because studies find little difference in relevant outcomes (e.g., all-cause mortality) between “somewhat strong” and “not very strong” (Kim et al., 2012), we dichotomized this variable such that 1 = very strong religious affiliation and 0 = somewhat strong or not very strong.

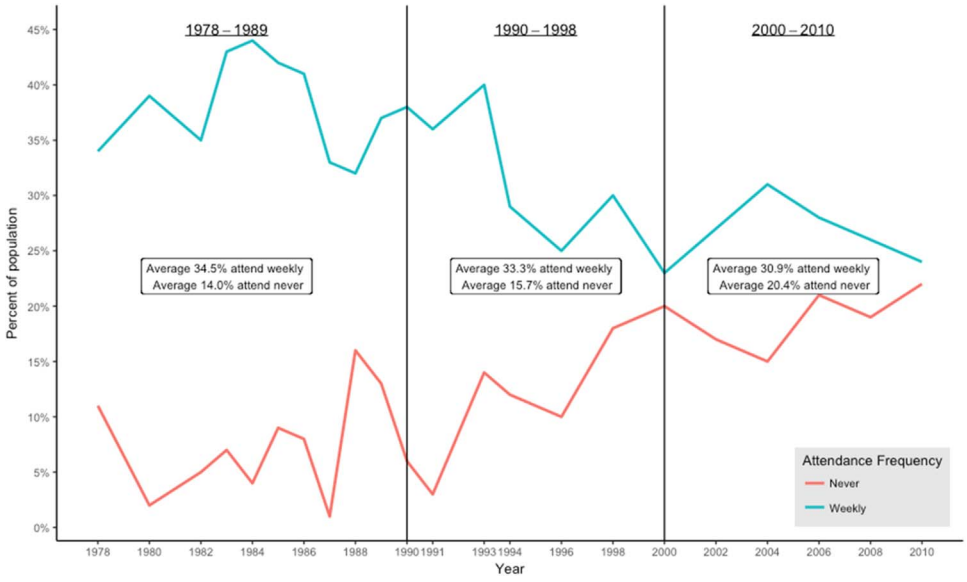

Fig. 1. Changes in religious service attendance by year. Note: Range restricted to years of GSS data used in this study. Data were not collected in 1992. Linear relationship between year and weekly attendance ($\beta = -0.76$, $p < .001$), linear relationship between year and never attending ($\beta = 0.79$, $p < .001$).

2.2.3. Religious service attendance

Participants were asked to select how often they attended religious services from the following list: never, less than once a year, several times a year, once a month, two to three times a month, nearly every week, every week, and more than once a week. To reduce the number of categories in this response, we recoded the variable such that 0 = never attends, 1 = attends less than weekly, 2 = attends weekly.[2] This division of categories is in line with prior studies using the GSS-NDI, especially one study that found meaningful differences in distress between weekly and less than weekly attendance (Maselko and Kubzansky, 2006).

2.2.4. Suicide

The cause of death data in the GSS-NDI come from the Clinical Classification Software system, which collapses causes of death information across coding ICD-9 and ICD-10 coding schemes. This is useful for the present study because the data were collected across time periods with both ICD coding schemes were used. We coded this variable as 1 = died by suicide, 0 = died by other means or presumed alive (i.e., were *right censored*).

2.3. Analytic strategy

We conducted a series of Cox proportional hazard regression analyses using the *Survival* package in R (Therneau, 2015; Therneau and Grambsch, 2000).[3] Data were weighted using the recommended weights for the GSS-NDI (Muennig et al., 2011). To examine if there were period differences in our main variables of interest (religious service attendance and religious affiliation), we categorized data collection into three periods, 1978 – 1989 (n = 13,198 alive, 156 died by suicide), 1990 – 1998 (n = 7786 alive, 171 died by suicide), and 2000 – 2010 (n = 11,465 alive, 138 died by suicide) and then created period*religious service attendance and period*religious affiliation interaction terms.

Because this dataset contains people who died by suicide and people who died by other means, there is an issue of competing risks (i.e., death by suicide and death by other means are mutually exclusive). Since we are interested in death by suicide, we conducted a "cause-specific" analysis and censored all people who were alive at the end of the data collection period or had died by other means. By doing this, we are treating people who have died by means other than suicide as if they had survived and this can bias estimates when a predictor variable is associated with both causes of death. For example, if people who died by a cause other than suicide attended religious services more or less frequently than those who survived, a model censoring people who died by other causes would likely reduce or mask the effect of religious service attendance on death by suicide, because the censored group would include both those who survived (and attended service frequently) and those who died by other causes (and attended services less frequently). Indeed, this was the case for our data, where the proportion of those who attended religious services at least weekly were significantly higher among those who died by causes other than suicide than those who survived (38.4% vs. 31.2%, weighted $\chi^2[df=1] = 144.2$, $p < .001$). To address this issue, we used Fine and Gray's method (Fine and Gray, 1999; Gray, 1988) to compare competing risks. It involves calculating proportional hazard models separately for (1) dead by suicide vs. alive and (2) dead by other causes vs. alive, while accounting for the impact of covariates/independent variables on hazard rates. We did these analyses using the *finegray*() function of the *survival* package, which weights the data to account for censored data that has an impact on the hazard rates. It is important to note that since this function creates new sample weights, we could not use the standard GSS sampling weights for these analyses, and thus they are not nationally representative like the primary analyses. In line with the general recommendations for these analyses, we present them as supplemental to our main cause-specific analyses (Latouche et al., 2013; Zhang, 2016).

3. Results

Consistent with findings from prior studies (Eagle, 2011; Hirschle, 2010; Schwadel, 2011), Fig. 1 shows that the percentage of the population that reported that they attend religious services weekly declined from a high of nearly 45% in the 1980s to a low of just under 30% in 2010. Moreover, those who said that they never attend religious services is at an all-time high of nearly 25% of the population in 2010, compared to just under 15% in the 1980s.

Among the 30,650 participants in the study, there was a total of 465

[2] Finer-grained divisions (e.g., examining attends weekly vs. more than weekly) were not possible because the cell sizes would become too small (i.e., only 7.8% of the sample attended religious services more than weekly).

[3] Given that the participants were clustered within periods, another analytic option for these data was to conduct *frailty analysis,* which added to our analyses a random effect of period, allowing for multilevel survival modeling. The results of this analysis did not differ meaningfully from the analyses presented, and thus we report only the simpler, non-multilevel results.

Table 1
Cox proportional hazard regression testing religious affiliation and religious service attendance by period of data collection.

		Main effects only						*With interaction effects*				
	%	*VIF*	*B*	*SE B*	*HR*	*95% CI*	*p*	*B*	*SE B*	*HR*	*95% CI*	*p*
Demographic covariates												
Gender (Male)	43.7%	1.03	1.02	0.1	2.78	2.28–3.37	< **.001**	1.02	0.10	2.78	2.29–3.38	< **.001**
Age	–	1.24	< 0.01	< 0.01	1.00	0.99–1.00	0.190	0.00	0.00	1.00	0.99–1.00	0.182
Race (non-white)	20.4%	1.05	0.20	0.12	1.22	0.97–1.54	0.089	0.20	0.12	1.22	0.97–1.54	0.089
Non-Christian religion	17.4%	1.02	0.29	0.23	1.34	0.86–2.08	0.197	−0.39	0.29	0.67	0.38–1.20	0.180
Currently unemployed	3.2%	1.01	−0.4	0.29	0.67	0.38–1.19	0.174	0.30	0.23	1.35	0.87–2.10	0.188
Has children	72.1%	1.18	−0.08	0.11	0.92	0.74–1.14	0.440	−0.08	0.11	0.92	0.75–1.14	0.448
At least high school education	78.5%	1.07	−0.12	0.12	0.88	0.7–1.12	0.300	−0.12	0.12	0.89	0.70–1.12	0.311
Main effects												
Decade (1990–1998)[a]	29.2%	1.53	1.45	0.14	4.28	3.27–5.61	< **.001**	1.61	0.38	5.02	2.36–10.67	< **.001**
Decade (2000–2010)[a]	37.1%	1.53	2.98	0.18	19.68	13.72–28.23	< **.001**	3.52	0.37	33.88	16.37–70.12	< **.001**
Strong religious affiliation	43.2%	1.38	−0.18	0.12	0.84	0.67 − 1.05	0.125	−0.18	0.20	0.84	0.57–1.23	0.359
Attends services < weekly[b]	49.4%	2.54	−0.08	0.15	0.93	0.69 − 1.24	0.607	0.15	0.30	1.16	0.65–2.08	0.620
Attends services weekly[b]	32.7%	3.01	−0.13	0.18	0.88	0.62 − 1.24	0.458	0.33	0.33	1.39	0.73–2.65	0.317
Interactions												
1990–1998 x < weekly[c]	14.6%							−0.01	0.40	0.99	0.45–2.16	0.970
2000 – 2010 x < weekly[c]	9.3%							−0.55	0.38	0.57	0.28–1.20	0.140
1990 – 1998 x weekly[c]	17.7%							−0.28	0.45	0.76	0.31–1.84	0.537
2000 – 2010 x weekly[c]	11.5%							−1.03	0.43	0.36	0.15–0.84	**0.018**
1990 – 1998 x strong rel. aff[d]	12.9%							−0.18	0.28	0.83	0.48–1.44	0.511
2000 – 2010 x strong rel. aff[d]	28.3%							0.22	0.28	1.24	0.72–2.16	0.440

Notes: *VIF* = Variance Inflation Factor, *HR* = Hazard Ratio, *CI* = Confidence Interval. Unweighted n = 30,650, n = 465 suicides, % is unweighted.
[a] ref = 1978–1989.
[b] ref = attends services never.
[c] ref = 1978–1989 x attends never.
[d] ref = 1978–1989 x not strong affiliation.

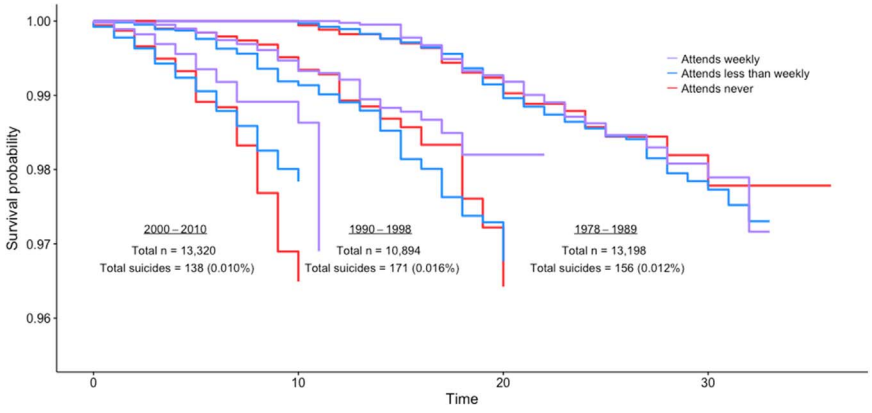

Fig. 2. Survival plots stratified by decade of data collection and frequency of religious service attendance.

suicides. Table 1 shows the (raw) percent of the sample that endorsed each dichotomous variable and the results of the Cox regression analysis. When covariates were examined, male sex, higher age, and non-white race were all associated with a greater risk for suicide. When main effects were examined, each period (i.e., 1990–1998 and 2000–2010) saw increased risk of suicide compared to the reference period (1978–1989). Neither religious affiliation nor religious service attendance were directly associated with suicide death. When interactions were examined, however, there was a significant period*religious service attendance interaction, specifically among those who completed the study during 2000 – 2010 and had attended religious services weekly. This significant interaction is depicted in Fig. 2.

Table 2 shows the results of the weighted Fine-Gray proportional hazard analyses. As can be seen on the left side of the table, the interpretation of results when comparing those who died by suicide to those who survived was generally the same. There was only an effect of weekly religious service attendance in the 2000–2010 decade. There were some differences when comparing the results of the analyses comparing those who died by other causes to those who survived. Specifically, both more frequent religious service attendance and stronger religious affiliation were associated with decreased risk for death by causes other than suicide equally across all decades (i.e., because their confidence intervals did not overlap).

4. Discussion

We sought to address two unanswered questions from prior research showing a prospective association between more frequent religious service attendance and decreased risk of suicide. First, does religious service attendance confer protection against suicide after accounting for strength of religious affiliation? Second, is the relationship between religious service attendance and suicide subject to period effects? In terms of answering both questions, we found no such effects for strong religious affiliation on suicide death and only found an effect of religious service attendance on reduced odds of suicide among those in later (2000–2010) rather than earlier (1998 and earlier) data collection periods. This suggests that the protective nature of religion is due more to participating in religious activities like attending religious services than it is due to having a strong religious affiliation and that this effect exists primarily in newer cohorts.

Table 2
Fine-Gray proportional hazard regressions.

	Died by suicide vs. survived					*Died by other causes vs. survived*				
	B	*SE B*	*HR*	*95% CI*	*p*	*B*	*SE B*	*HR*	*95% CI*	*p*
Demographic covariates										
Gender (Male)	0.96	0.10	2.61	2.15–3.16	< **.001**	0.26	0.02	1.30	1.25–1.35	< **.001**
Age	−0.02	< .001	0.98	0.97–0.98	< **.001**	0.05	0.00	1.06	1.05–1.06	< **.001**
Race (non-white)	0.10	0.12	1.11	0.88–1.39	0.388	0.25	0.03	1.28	1.22–1.35	< **.001**
Non-Christian religion	−0.41	0.29	0.67	0.37–1.19	0.168	0.10	0.07	1.10	0.97–1.26	0.152
Currently unemployed	0.22	0.23	1.24	0.80–1.93	0.339	0.21	0.05	1.24	1.12–1.37	< **.001**
Has children	−0.01	0.11	0.99	0.80–1.23	0.962	0.02	0.03	1.02	0.97–1.07	0.551
At least high school education	−0.06	0.12	0.94	0.75–1.19	0.632	−0.11	0.02	0.90	0.86–0.94	< **.001**
Main effects										
Decade (1990–1998)[a]	1.04	0.38	2.83	1.35–5.93	**0.006**	0.39	0.08	1.47	1.26–1.72	< **.001**
Decade (2000–2010)[a]	2.35	0.35	10.44	5.26–20.71	< **.001**	0.67	0.09	1.95	1.63–2.34	< **.001**
Strong religious affiliation	−0.20	0.20	0.82	0.56–1.20	0.313	0.03	0.03	1.03	0.97–1.09	0.340
Attends services < weekly[b]	0.12	0.30	1.13	0.63–2.03	0.685	0.02	0.05	1.02	0.94–1.12	0.634
Attends services weekly[b]	0.36	0.33	1.44	0.75–2.73	0.270	−0.09	0.05	0.92	0.83–1.01	0.078
Interactions										
1990–1998 x < weekly[c]	0.10	0.40	1.10	0.50–2.41	0.813	−0.29	0.07	0.75	0.65–0.86	< **.001**
2000–2010 x < weekly[c]	−0.43	0.38	0.65	0.31–1.36	0.256	−0.29	0.09	0.75	0.63–0.89	**0.001**
1990–1998 x weekly[c]	−0.20	0.45	0.82	0.34–1.98	0.657	−0.28	0.08	0.76	0.65–0.89	**0.001**
2000–2010 x weekly[c]	−0.95	0.43	0.39	0.16–0.90	**0.028**	−0.24	0.09	0.79	0.65–0.95	**0.012**
1990–1998 x strong rel. aff[d]	−0.19	0.28	0.83	0.48–1.42	0.494	−0.12	0.05	0.88	0.80–0.98	**0.022**
2000–2010 x strong rel. aff[d]	0.18	0.28	1.19	0.69–2.07	0.526	−0.20	0.07	0.82	0.72–0.94	**0.003**

Notes: *HR* = Hazard Ratio, *CI* = Confidence Interval.
[a] ref = 1978–1989.
[b] ref = attends services never.
[c] ref = 1978–1989 x attends never.
[d] ref = 1978–1989 x not strong affiliation.

These findings are consistent with the view that, rather than a function of greater religious affiliation and identification with religious prohibitions against suicide, religious service attendance may be protective to the extent that it facilitates building social networks. This is in line with research showing that those who frequently attended religious services reported that they benefitted from larger social networks as a result of doing so (Lim and Putnam, 2010). This is also in line with the large body of work showing that social connectedness and social support are protective against suicidal thoughts and behaviors (e.g., Kleiman and Liu, 2013). This would also suggest that strength of religious affiliation had no effect because having strong religious affiliation does not guarantee that someone would takes steps to develop a social network due to their strong affiliation. This is in contrast to some population-level studies, however, that find countries with higher religious affiliation tend to have lower suicide rates. This discrepancy may be a function of our study examining variables at the individual level, rather than the country level. Although we found that religious service attendance was only protective against suicide in the most recent period, this study was unable to tell us exactly why this was the case. As noted earlier, it might be that as frequent religious service attendance becomes less common, those who frequently attend now might be different in some key way from those who attended in the past. For example, those who frequently attend religious services now might be more likely to be doing so to gain connection or meaning in life, whereas previously, some people may have attended religious services because it was a social norm (and thus may have gotten less out of the experience). Given that we could not directly assess motives for attending religious services, more research is needed to address this topic. Moreover, it is unclear to what extent these period-specific results have to do with the increasing suicide rate that occurred over that same period (i.e., there was an 18% increase in the suicide rate from 1999 to 2010; Centers for Disease Control and Prevention, 2015). Although decline in religious service attendance alone is unlikely to account for nation-wide increases in suicide, it should not be discounted as one of several potential influencing factors.

When examining specificity to suicide, we found that frequent religious service attendance and strong religious affiliation were related to lower odds of death by causes other than suicide. This is consistent with other studies have demonstrated that frequent religious service attendance and strong religious affiliation are associated with lower odds of all-cause mortality (Kim et al., 2015; Sullivan, 2010). This is not necessarily problematic for our findings because even a non-specific protective factor for suicide is still extremely useful, especially given the lack of attention that has been paid to factors that can offset risk for suicide. Interestingly, we also found that unlike in our analyses predicting death by suicide, the effects of religious service attendance and religious affiliation predicting death by all other causes was consistent across time periods. This is interesting because it demonstrates that the period effects found when examining death by suicide are actually specific to suicide. This might further reinforce the idea that as religious service attendance becomes less commonplace, people who attend religious services now (compared to prior decades) are especially resilient to suicide.

Because this study was based on secondary data analysis, there are several limitations to note. First, we were limited in terms of clinical covariates we could include in our models. Second, there are many factors relating to religion beyond religious service attendance and religious affiliation that we could not assess in this study. For example, religious commitment, an explicit measure of how much religion plays a role in daily living (Worthington et al., 2003) has been shown to be protective against suicide (Greening and Stoppelbein, 2002; Gururaj et al., 2004; Stack, 1983), but was not available in the GSS dataset. Third, another limitation was the reliance on a single-item measure of religious affiliation. Thus, future research would benefit from a more thorough assessment of this construct (i.e., greater content validity). Finally, and similarly, religious service attendance is a multifaceted construct and our measure may not capture all aspects of this construct. For example, we were not able to assess the intention for attending religious services and it may be that those who attend religious services for some reasons (e.g., in order to gain meaning or foster connectedness) might get more benefit from attending religious services than those who attend for other reasons. The strengths of this study include

having a large, nationally representative sample that was collected over several decades.

Finally, although our findings suggest that attending religious services more often might help reduce risk among at-risk individuals, a broader clinical implication may be that engaging in structured social activity within which a social network can be formed (e.g., attending religious services) is protective against suicide. This opens a field of potential recommendations to reduce suicide risk beyond just attending religious services, which may be of less appeal to those who do not wish to attend religious services. For example, joining clubs, volunteering, or attending meetup groups may have a similarly beneficial purpose to attending religious services. It is important to acknowledge, though, that further studies are needed to clarify (1) whether religious services are protective because of the social aspect and if so, (2) whether other activities that can work to build social networks similarly reduce suicide risk. Finally, religious service attendance is one of many possible constructs that may be protective against suicide. Future studies are greatly needed to both explore other factors that may be protective against suicide and see how these factors work together to create a fuller picture of suicide risk and resilience.

Disclosures

Conflicts of interest

The authors have no conflicts of interest to report.

Contributors

The first author managed literature searches, conducted analyses, and wrote the first drafts of the manuscript. The second author advised on possible analyses, assisted in conceptualization of the research topic, suggested additional articles for literature searching, and reviewed all drafts of the manuscript. All authors contributed to and have approved the final manuscript.

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