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Research report

Spirituality, religion and suicidal behavior in a nationally representative sample☆

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Abstract

Background: Studies show that religion and spirituality are associated with decreased rates of mental illness. Some studies show decreased rates of suicide in religious populations, but the association between religion, spirituality and suicidal behaviors in people with mental illness are understudied. Few studies have examined the influence of social supports in these relationships.
Methods: Data were drawn from the Canadian Community Health Survey 1.2. Logistic regression was used to examine the relationship between spiritual values and religious worship attendance with twelve-month suicidal ideation and attempts. Regressions were adjusted for sociodemographic factors and social supports. Interaction variables were then tested to examine possible effect modification by presence of a mental disorder.
Results: Identifying oneself as spiritual was associated with decreased odds of suicide attempt (adjusted odds ratio-1 [AOR-1]=0.65, CI: 0.44–0.96) but was not significant after adjusting for social supports. Religious attendance was associated with decreased odds of suicidal ideation (AOR-1=0.64, 95% CI: 0.53–0.77) but not after adjusting for social supports. Religious attendance was associated with decreased odds of suicide attempt and remained significant after adjusting for social supports (AOR-2=0.38, 95% CI: 0.17–0.89). No significant interaction effects were observed between any of the tested mental disorders and religion, spirituality and suicidal behavior.
Limitations: This was a cross-sectional survey and causality of relationships cannot be inferred.

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Conclusions: Results suggest that religious attendance is associated with decreased suicide attempts in the general population and in those with a mental illness independent of the effects of social supports.

Keywords: Spirituality; Religion; Religious activity; Suicide; Suicide attempt; Suicidal ideation; Psychiatry; Mental disorders; Axis-I; Mental health; Psychiatric disorders

Religion and spirituality are important values to people worldwide. In the United States, polls have found that up to 88% of Americans are religious and/or spiritual (Gallup, 2003). Given these statistics, it is not surprising that a large body of medical literature exists examining the relationships between religion, spirituality and mental health. Within this literature a distinction between spirituality and religion is being increasingly recognized (Ellerhorst-Ryan, 1988; Elkins et al., 1988; Moreira-Almeida and Koenig, 2006; Nelson et al., 2002; Vaughan et al., 1988). In the United States, people increasingly define themselves as spiritual and not religious (Gallup, 2003; George et al., 2000; Shreve-Neiger and Edelstein, 2004). Spirituality has been defined as "the personal quest for understanding life's ultimate questions and the meaning and purpose of living" (Koenig et al., 2004; Moreira-Almeida and Koenig, 2006). It has proven to be a difficult entity to measure (Garssen and de Jager Meezenbroek, 2007; Salander, 2006) and ultimately people themselves must define what spirituality means to them (Koenig, 2007). In contrast, religion has been defined as "an organized system of beliefs, practices, rituals, and symbols designed to facilitate closeness to the sacred or transcendent" (Koenig et al., 2004; Moreira-Almeida and Koenig, 2006). While this distinction has been made by several studies, few studies have empirically evaluated the overlap and distinctness of religion and spirituality (Hill and Pargament, 2003; Scott, 2001).

A focus of the existing literature has been examining the relationship between religion and mental illnesses. Studies have shown that both internal religiousness and increased religious activities are associated with decreased depression, substance abuse and anxiety disorders (Baetz et al., 2004, 2006; Braam et al., 1997, 2004; Moreira-Almeida and Koenig, 2006) and that religious attendance buffers the effects of stressful life events on mental health (Koenig et al., 1992; McCullough et al., 1999; Williams et al., 1991). One study showed that 80% of people with a mental illness used religious beliefs to cope with daily difficulties (Tepper et al., 2001). The relationship between spirituality and mental illness has been less consistent, with some studies showing decreased odds of mental illness and depression (Garouette et al., 2002; Koenig et al., 2004; McCourbie and Davies, 2006; Nelson et al., 2002; Mofidi et al., 2006) while others showed either increased odds (Baetz et al., 2004, 2006) of mental illness or no association between spirituality and mental illness (McClain-Jacobson et al., 2004).

A relatively neglected area within psychiatric research is the relationship between spirituality, religiosity and suicidal behaviors (Moreira-Almeida et al., 2006). The bulk of this research has examined the relationship between religion, suicidal ideation and attempts (Colucci and Martin, 2008; Hovey, 1999). A recent review found that 84% studies found lower rates of suicide among more religious people (Koenig et al., 2001) but some studies have shown no association between measures of religiosity and suicidal ideation (Eshun, 2003; Lowenthal et al., 2003). Decreased suicide has been shown in more religious countries and cultures (Cook et al., 2002; Neelman et al., 1999; Stack and Lester, 1991). Spirituality has been associated with decreased suicidal ideation in several sub-populations (Garouette et al., 2002; McClain-Jacobson et al., 2004) but nationally representative data in this area are lacking.

An estimated 90% of completed suicides occur in the context of psychiatric illness (Mann, 2002; Mann et al., 2005). Given the importance of mental illness in the context of suicide, it is crucial to understand the relationship between religion, spirituality and suicide in populations of people with mental illness. One study, which examined the prevalence of lifetime suicide attempts in a population of depressed inpatients found that religiously unaffiliated subjects had significantly increased odds of suicide compared to those with religious affiliation (Dervic et al., 2004). However, it remains unclear whether these findings in a sample of depressed patients are generalizable to patients with other mental disorders or the community at large.

In addition to the limitations of the literature noted above, most studies examining the relationship between spirituality, religion and suicide have not adjusted for the effects of social support. Social support has been shown to be strongly associated with religious activities and spirituality (George et al., 2000; McCullough and

Larson, 1999; Shreve-Neiger and Edelstein, 2004). In fact, some studies have suggested that social support may be the mechanism through which religion and spirituality are associated with decreased odds of mental illness and suicide (Braam et al., 1997; Hughes et al., 2004; Mofidi et al., 2006; Moreira-Almeida et al., 2006). However, one paper showed that among adults older than 50 years, those who completed suicide were more likely to have never been involved in religious activity even after adjusting for the frequency of social contact (Nisbet et al., 2000). Additionally, a recent review paper found that most studies examining religion, spirituality and suicidal behavior failed to take into account relevant sociodemographic factors such as age and gender which may mediate many of the observed relationships (Colucci and Martin, 2008).

To the best of our knowledge, this is the first study to use a large, nationally representative sample to examine the relationship between both religion and spirituality and suicidal ideation and attempts in the general population and in those with mental illness. We used the Canadian Community Health Survey Cycle 1.2 (CCHS 1.2) to fulfill the following objectives:

1. To examine the association between spirituality and religious attendance.
2. To examine the association between religious worship, spirituality and suicidal ideation and attempts in the general population while controlling for sociodemographic factors and social supports.
3. To determine whether the relationship between religion, spirituality and suicidal ideation and attempts are moderated by Axis-I mental disorders.

1. Methods

Data were collected from the public use data file of the Canadian Community Health Survey Cycle 1.2 (CCHS 1.2) conducted by Statistics Canada in 2001–2002. The CCHS 1.2 is a nationally representative sample (N=36,984, response rate 77%) of individuals aged 15 years and older living in private dwellings in the ten provinces, excluding those living in the Canadian Territories, First Nations Reserves or institutions. A multi-stage stratified cluster design was utilized to ensure that the sample would be representative of the Canadian general population. Statistics Canada relied on professional interviewers who received additional training to increase sensitivity toward mental health issues. All participants were informed about the nature of the questions before they were conducted in person; telephone interviews were reserved for cases where travel or access was a barrier or for respondent preference. Informed verbal consent was obtained before beginning interviews from all respondents in accordance with Statistics Canada regulations. A detailed description of the method of selection of household interviews is reported elsewhere (Gravel and Beland, 2005).

2. Measures

2.1. Past twelve-month suicidal behavior

Suicidal behavior was measured by asking if the respondent had ever "seriously thought about committing suicide or taking [their] own life". If the respondent answered "yes" they would be asked if they had had the same thought in the past 12 months. Respondents were also asked whether they had ever "attempted suicide or tried to take [their] own life". Respondents who answered "yes" were asked if they had attempted suicide in the past 12 months. In order to create an exclusive suicidal ideation variable, those that reported a suicide attempt in the past 12 months were excluded from analyses looking at suicidal ideation.

2.2. Spiritual values and religious worship

Spiritual values were measure by asking respondents "Do spiritual values play an important role in your life?" Respondents could answer one of four possible ways "Yes", "No", "Don't know" or "Refused". Respondents who answered "Don't know" or "refused" were grouped into the "not spiritual at all" category while all others were grouped into the "at least somewhat spiritual" group.

The frequency of worship attendance was used as a measure of overall religiousness. Respondents were asked "Not counting events such as weddings or funerals, how often in the past 12 months did you participate in religious activities or attend religious services or meetings?" Worship frequency was graded from 1 which corresponded to never attending religious services or ceremonies through to 5 which corresponded to attending a least once per week. To create a marker of general religious affiliation or activity, respondents who never attended worship ceremonies were classified as the non-religious group and attendance of once/year or greater was classified as the religious group.

2.3. Covariates

Age was grouped into four age categories: 15 to 24 years, 25 to 44 years, 45 to 64 years, and 65 years and

older. Education was measured by the highest level of attainment and was dichotomized into high school or more and less than high school. Marital status was divided into 3 categories: married/common law, separated/widowed/divorced and never married. Household income was grouped into five categories 1) $0–$14,999, 2) $15,000–$29,999, 3) $30,000–$49,999, 4) $50,000–$79,999, and 5) $80,000 or more. Social supports were measured using the Medical Outcomes Study — Social Support Scale using 19 graded questions, spanning 5 dimensions of social support. These included informational support (offering of advice or guidance), tangible support (material aid or behavioral support), positive social interaction (available persons to do things with), affection (involving expressions of love and affection) and emotional support (expression of positive affect, understanding and encouragement). We combined these variables to create an overall variable measuring social support based on the original design of the scale as suggested by the authors of the scale (Sherbourne and Stewart, 1991).

2.4. Mental disorders

Well-trained lay interviewers, using the World Mental Health Composite International Diagnostic Interview (WMH-CIDI), assessed the past twelve-month prevalence of the following DSM-IV disorders: major depression, mania, panic disorder, social phobia, agoraphobia without panic, alcohol dependence and drug dependence. Due to accumulating evidence that panic attacks without meeting full criteria for panic disorder are associated with significant disability and dysfunction in the community, (Kessler et al., 2006; Eaton et al., 1994), we utilized panic attacks rather than panic disorder. The CIDI is a fully-structured interview based on the Diagnostic Interview Schedule and the Present State Examination. The CIDI has documented reliability and validity for all of the mental disorders examined in the current survey (Wittchen, 1994).

2.5. Statistical analyses

In all analyses, the appropriate statistical weight was used to ensure that the data were representative of the national population. Standard errors were calculated using the Taylor Series Linearization method in the SUDAAN program. Sociodemographic factors of people who considered spiritual values important and those who did not were compared. Sociodemographic factors of those who attended religious ceremonies and those who did not attend were also compared.

Table 1
Sociodemographic factors of religious and non-religious adults and spiritual and non-spiritual adults

Sociodemographic variables	Not spiritual N=12,900 (36.9%)	Spiritual N=23,750 (63.1%)	OR	Not religious N=15,449 (43.9%)	Religious N=21,032 (56.1%)	OR
Gender						
Female	5414 (39.3%)	14,616 (57.6%)	1.00	7417 (45.9%)	12,522 (54.8%)	1.00
Male	7486 (60.7%)	9134 (42.4%)	0.48* (0.45–0.51)	8032 (54.2%)	8510 (45.2%)	0.70* (0.66–0.74)
Age						
15 to 24 years	2972 (23.1%)	2664 (12.8%)	1.00	2709 (18.1%)	2880 (15.3%)	1.00
25 to 44 years	5182 (42.4%)	7522 (35.5%)	1.51* (1.38–1.65)	5859 (40.5%)	6806 (36.2%)	1.05 (0.96–1.15)
45 to 64 years	3063 (24.4%)	7597 (34.0%)	2.51* (2.28–2.77)	4382 (29.2%)	6230 (31.5%)	1.27* (1.16–1.40)
65 years and older	1683 (10.1%)	5967 (17.7%)	3.16* (2.84–3.52)	2499 (12.1%)	5116 (17.0%)	1.66* (1.50–1.83)
Marital status						
Married/common law	6266 (58.2%)	12,671 (63.8%)	1.00	7434 (58.7%)	11,532 (64.2%)	1.00
Separated/widowed/divorced	2060 (9.4%)	5802 (14.7%)	1.43* (1.31–1.57)	3156 (12.6%)	4668 (12.9%)	0.93 (0.86–1.01)
Never married	4556 (32.4%)	5164 (21.5%)	0.61* (0.56–0.65)	4838 (28.7%)	4814 (22.9%)	0.73* (0.68–0.78)
Education						
High school or more	9111 (73.4%)	16,829 (75.2%)	1.00	10,994 (74.7%)	14,850 (74.5%)	1.00
Less than high school	3700 (26.6%)	6787 (24.8%)	0.91* (0.85–0.98)	4344 (25.3%)	6075 (25.5%)	1.01 (0.94–1.08)
Income						
$0–$14,999	1289 (6.8%)	3010 (8.4%)	1.00	1935 (8.5%)	2343 (7.2%)	1.00
$15,000–$29,999	2016 (12.7%)	4705 (16.4%)	1.03 (0.91–1.17)	2751 (14.4%)	3948 (15.5%)	1.27** (1.13–1.43)
$30,000–$49,999	2769 (21.8%)	5153 (22.9%)	0.85** (0.75–0.95)	3265 (22.1%)	4632 (22.7%)	1.22** (1.09–1.37)
$50,000–$79,999	3061 (28.8%)	4951 (27.0%)	0.75** (0.67–0.85)	3399 (27.4%)	4597 (28.0%)	1.21** (1.08–1.35)
$80,000 or more	2578 (29.9%)	3852 (25.4%)	0.68** (0.61–0.77)	2767 (27.6%)	3656 (26.7%)	1.15* (1.02–1.29)

*$p<0.05$. **$p<0.01$.
OR: Unadjusted odds ratio.

Logistic regression was then used to examine the relationship between spiritual values and religious worship attendance with twelve-month suicidal behavior. To test the effects of social support on this relationship, three sets of regressions were conducted: (1) unadjusted, (2) adjusted for sociodemographic factors, and (3) adjusted for sociodemographic factors and social support.

Possible interaction effects were examined separately for the presence of (1) any mental disorder, (2) major depression, (3) any anxiety disorder, and (4) any substance dependence. Interaction terms were tested in separate models (e.g., any mental disorder X level of spirituality) to examine possible effect modification by presence of a mental disorder.

3. Results

Spiritual values were important to 63.1% (N=23,750) of respondents while 56.1% (N=21,032) attended religious services at least once per year. Table 1 reports the sociodemographic characteristics related to spirituality and religiousness. People who considered themselves spiritual were more likely to be female, older than 25 years of age and have a high school education or higher. Of all respondents reporting spirituality, 63.8% were married. However, those reporting spirituality were significantly more likely to be separated, widowed or divorced and significantly less likely to have never been married than those who did not find spiritual values important in their lives. Respondents in the two highest household income quartiles were less likely to consider themselves spiritual when compared to those in the lowest income quartile.

People who attended religious services were significantly more likely to be female and older than 45 years of age. Of those attending religious services, 64.2% were married. Religious respondents were significantly less likely to have never been married.

Table 2
Relationship between religion and spirituality

		Religious attendance		OR	AOR-1
		No	Yes		
Spiritual	Yes	6099 (38.4%)	17,558 (82.5%)	7.55** (7.03–8.11)	7.89** (7.30–8.53)
	No	9350 (61.7%)	3474 (17.6%)	1.00	1.00

*p<0.05. **p<0.01.
OR: Unadjusted odds ratio. AOR-1: Adjusted odds ratio, adjusted for sociodemographic factors (gender, age, marital status, education, income level).

Table 3
Association between spirituality and suicidal variables

		Suicidal ideation					Suicide attempt				
		No	Yes	OR	AOR-1	AOR-2	No	Yes	OR	AOR-1	AOR-2
General population	Spiritual	22,820 (63.2%)	742 (62.1%)	0.95 (0.79–1.15)	1.01 (0.82–1.24)	1.07 (0.69–1.63)	23,562 (63.2%)	125 (49.2%)	0.57* (0.39–0.81)	0.65* (0.44–0.97)	0.64 (0.31–1.34)
	No	12,288 (36.8%)	476 (37.9%)	1.00	1.00	1.00	12,764 (36.8%)	102 (50.8%)	1.00	1.00	1.00

*p<0.05. **p<0.01.
OR: Unadjusted odds ratio. AOR-1: Adjusted odds ratio, adjusted for sociodemographic factors (gender, age, marital status, education, income level). AOR-2: Adjusted odds ratio, adjusted for sociodemographic factors and social supports. All percentages are weighted values. All ns are unweighted values.

Table 4
Association between religious worship attendance and suicidal variables

			Suicidal ideation					Suicide attempt				
			No	Yes	OR	AOR-1	AOR-2	No	Yes	OR	AOR-1	AOR-2
General population	Religious attendance	Yes	20,323 (56.6%)	562 (44.2%)	0.61** (0.50–0.73)	0.64** (0.53–0.77)	0.68 (0.45–1.03)	20,885 (56.2%)	99 (40.6%)	0.53** (0.37–0.77)	0.65* (0.44–0.97)	0.38* (0.17–0.89)
		No	14,624 (43.4%)	650 (55.8%)	1.00	1.00	1.00	15,274 (43.8%)	127 (59.4%)	1.00	1.00	1.00

*$p<0.05$. **$p<0.01$.
OR: Unadjusted odds ratio. AOR-1: Adjusted odds ratio, adjusted for sociodemographic factors. AOR-2: Adjusted ODDS RATIO, adjusted for sociodemographic factors and social supports. All percentages are weighted values. All ns are unweighted values.

Respondents who were considered religious were more likely to be in the two middle-income categories.

Table 2 reports the relationship between religious attendance and spiritual values. Respondents who were at least somewhat spiritual had a significantly increased odds (adjusted odds ratio AOR: 7.89) of attending religious ceremonies at least once per year.

Table 3 demonstrates the relationship between spirituality and suicidal ideation and attempts in the general population. Identifying oneself as being at least somewhat spiritual was significantly associated with decreased odds of a past year suicide attempt (odds ratio [OR] = 0.57: 95% confidence interval [CI]: 0.39–0.81) in the general population but not suicidal ideation. This relationship remained significant after adjusting for sociodemographic factors (adjusted odds ratio-1 [AOR-1] = 0.65, CI: 0.44–0.96) but not after the effects of social supports were removed.

Table 4 displays the observed relationship between religious worship attendance and suicidal ideation and attempts in the general population. Attending religious services at least once per year was significantly associated with decreased odds of past year suicidal ideation (OR = 0.61, 95% CI: 0.50–0.73) and decreased odds of a past year suicide attempt (OR = 0.53, 95% CI: 0.37–0.77). The relationship between the religious attendance and suicidal ideation remained significant after adjusting for sociodemographic factors (AOR-1 = 0.64, 95% CI: 0.53–0.77), but became insignificant after adjusting for the effects of social support. The relationship between religious worship attendance and suicide attempt remained significant after removing the influence of sociodemographic factors (AOR-1 = 0.65, 95% CI: 0.44–0.97) and remained significant once the influence of social supports was removed (AOR-2 = 0.38, 95% CI: 0.17–0.89).

There were no significant interaction effects between presence of any of the four twelve-month mental disorder groups and religion and spirituality.

4. Discussion

To the best of our knowledge, this is the first study to utilize nationally representative data to examine the relationship between spirituality, religious worship attendance and suicidal behavior in the general population and those with a twelve-month mental disorder. An additional strength of this study was that it examines the role social supports play in these relationships. The main finding of this study is that religious worship attendance was associated with decreased risk of past twelve-month suicide attempts in the general population. In those with a

mental illness, the relationships between spirituality, religion, suicidal ideation and attempts were not significantly different than those observed in the general population.

In the literature, a distinction between religion and spirituality is frequently made (Baetz et al., 2004, 2006; Colucci and Martin, 2008; Hill and Pargament, 2003; Koenig et al., 2004; Moreira-Almeida and Koenig, 2006). The 'polarization' of these concepts has been challenged, as many feel that they are intertwined and interdependent (Salander 2006; Slife and Scott, 2001). We found that people who reported that spiritual values were important to them were significantly more likely to attend religious services. Additionally, as they scored higher on spirituality rating, their religious worship attendance increased in a linear fashion. The literature that exists examining the relationships between measures of religiousness and spirituality finds that the majority of people defining themselves as religious are also spiritual and vice versa (Marler and Hadaway, 2002; Scott 2001; Zinnbauer et al., 1997). However, these results are limited by their small sample size (N=310–761) and that only one study is nationally representative.

In the general population, those identifying themselves as at least somewhat spiritual were significantly less likely to report a past year suicide attempt than those not identifying themselves as spiritual. However, this finding was not significant after removing the influence of social supports. This suggests that the protective effect of self-identified spiritual values may be mediated by the influence of social supports. This buffering effect of social supports on this relationship has been noted in the literature (Mofidi et al., 2006). Decreased suicidal behavior in people with increased measures of spirituality has been shown in several sub-populations in the literature (Garouette et al., 2002; Koenig et al., 2004; McClain-Jacobson et al., 2004). These studies did not include a measure of social support in their analyses, which could account for the discrepant results. Interestingly, there was no observed relationship between spirituality and suicidal ideation despite its negative association with suicide attempts. This discrepancy may represent spiritual reflection on one's own death (Colucci and Martin 2008; Lester 1998). Additionally, identifying oneself as spiritual does not necessarily equate with practicing spirituality. Further study into the relationship between active spiritual practice and suicidal behavior is needed.

Among people with a mental disorder, we found that the regressions did not change significantly from the observed relationships in the general population. This is a relatively novel finding. Previous literature has examined the relationship between the level of spirituality and the severity of depression, yielding mixed results (Baetz et al., 2004; Garouette et al., 2002; Mofidi et al., 2006). Spirituality may represent a way of coping with a mental disorder, or alternatively, exploring one's spirituality may require a higher level of mental health.

In the general population, religious attendance of at least once per year was associated with decreased suicidal ideation and attempts. The relationship between suicide attempts and religious worship attendance remained significant once an adjustment for the influence of social supports was made. This suggests that in the general population, the mechanism between worship attendance and suicide attempts are not accounted for by our measure of social cohesion. Nisbet et al. (2000) found that among those 50 years of age and older people who completed suicide were less likely to have ever participated in religious activities. Our results expand this finding to include the general population. The association between religious attendance and suicidal behavior is well studied in the literature. Several mechanisms have been postulated for this relationship including social integration/cohesion (Durkheim, 1951; Eckersley, 2007), commitment to certain life saving core beliefs (Greening and Stoppelbeing, 2002; Stack and Lester, 1991), and that religious commitment may have a salutary effect on subsequent depressed affect (Levin et al., 1996). However, suggesting that religious attendance alone decreases suicidal behavior is premature given that many potential confounders to this relationship have been identified in the literature such as moral objection to suicide and certain personality characteristics and stressful life events (Kendler et al., 1999; Smith et al., 2003).

People with a psychiatric disorder are at markedly increased risk of suicide so understanding factors that may influence these behaviors in these people is important. We found that among people with a past year mental disorder (major depression, any substance dependence, any anxiety disorder, any mental disorder), the regressions did not change significantly, indicating that the relationships between religion, spirituality, suicidal ideation and attempts were the same as those observed in the general population. These findings are novel in a large community based population. One study found that among a sample of depressed inpatients, those who were religiously affiliated were less likely to have a lifetime history of suicide attempts (Dervic et al., 2004). In contrast, Foster et al. (1999), found a negative relationship between religious commitment and completed suicide. However, when adjusted for the effects of Axis-I disorders, the relationship became non-significant. A sample of patients with schizophrenia found no association between religiousness and the rate of suicide (Huguelet et al., 2006).

When interpreting these results it is important to bear in mind several limitations of the data. First, the data presented are cross-sectional which prevent us from making inferences regarding the causality of the relationships reported. Second, religious attendance is considered to be religious attendance of more than once per year. While this may be viewed as an arbitrary cut-off, we felt that this is an objective measure of general religious affiliation and religious attendance has been frequently used in the literature (Baetz et al., 2006; Stack and Wasserman, 1992). Third, our measure of self-perceived spirituality is limited to one question. Due to its imprecise definition, accurate measurement of a person's spirituality is a source of considerable debate in the literature (Hill and Pargament, 2003; Koenig 2008; Moreira-Almeida and Koenig, 2006) and its meaning has a clear socio-cultural context (Salander, 2006). However, similar self-report measures have been used in the literature (Baetz et al., 2004; Koenig et al., 2004). Fourth, the severity of mental illnesses was not controlled for in our analyses. Last, the population assessed in the CCHS 1.2 included only community dwelling adults. Therefore, institutionalized people (notably people with severe psychiatric illness requiring institutional treatment) would not have been included in our analyses.

The current study contributes several important findings. Among the general population, religious attendance of at least once per year is associated with decreased suicide attempts and this relationship persists even after the influence of social support is removed. Among people with a mental illness, the population at the highest risk of suicide, the same relationship is observed. In the general population and in those with a mental illness, people who considered themselves spiritual were less likely to have attempted suicide, but this relationship did not hold after adjusting for social supports. Clinicians should be aware of the important influence of social support in understanding the relationship between religion/spirituality and suicide.

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Conflict of interest

The authors report no conflicts of interest.

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