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Explaining the Relation between Religiousness and Reduced Suicidal Behavior: Social Support Rather Than Specific Beliefs

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Abstract

Religiousness has been associated with decreased risk of suicidal ideation, suicide attempts, and completed suicide, but the mechanisms underlying these associations are not well characterized. The present study examined the roles of religious beliefs and social support in that relation. A survey measuring religiousness, social support, suicidal ideation, and suicide attempts was administered to 454 undergraduate students. Involvement in public, but not private, religious practices was associated with lower levels of both suicidal ideation and history of suicide attempts. Social support mediated these relations but religious beliefs did not. Results highlight the importance of social support provided by religious communities.

People with higher levels of religious involvement are at decreased risk of suicide compared to people who are not religious or whose level of religious involvement is lower (Hilton, Fellingham, & Lyon, 2002). One hypothesis is that certain religious beliefs may offer protection from suicide (Dervic et al., 2004). An alternative explanation, based on the work of sociologist Emile Durkheim (1897/1951), is that strong social networks formed in religious communities may decrease a person's risk of suicide by increasing the person's social support (Stack & Wasserman, 1992).

The term "religiousness" has been used to refer to the general characteristic of adhering to a set of religious beliefs or practices shared by a group (National Institute on Aging Workgroup, 1999). Numerous aspects of religiousness have been investigated including religious beliefs, private religious practices such as praying by oneself, and public religious practices such as attendance at religious services (National Institute on Aging Workgroup).

Religiousness, measured in various ways, has been examined in relation to suicidal ideation, suicide attempts, and completed suicides (Burr, McCall, & Powell-Griner, 1994; King, Hampton, Berstein, & Schichor, 1996; Walker & Bishop, 2005). Walker and Bishop determined that a higher level of intrinsic religiosity, defined as internalizing religious beliefs and meanings, was associated with a lower level of suicidal ideation. King, Hampton, Berstein, and Schichor reported that religiously affiliated students were less likely to have attempted suicide than students who were not religiously affiliated. Dervic et al. (2004) found that clinically depressed psychiatric inpatients who indicated a religious affiliation

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reported lower levels of suicidal ideation and fewer suicide attempts than did non-religiously affiliated patients.

The inverse relation between religiousness and suicidal behavior has been seen in completed suicide as well as suicidal ideation and attempts. Burr, McCall, and Powell-Griner (1994) demonstrated that rates of Catholic Church membership, and church membership in general, were inversely related to suicide rates. Hilton, Fellingham, and Lyon (2002) examined individual-level data in a study of membership in the Church of Latter Day Saints within Utah. Rates of suicide were lower for active church members than for less active members and non-members. Nisbet, Duberstein, Conwell, and Seidlitz (2000) analyzed a sample from the National Mortality Followback Study of people over 50 who had died by suicide or natural death. Participation in religious activities more than once a month was associated with a lower risk of suicide.

Do Religious Beliefs Mediate the Relation Between Religiousness and Suicide?

The preceding evidence supports the conclusion that religiousness is associated with lower levels of suicidal ideation, suicide attempts and even death by suicide. To account for these findings, the association between religiousness and suicide has often been attributed to beliefs that religious people hold (Dervic et al., 2004; Walker & Bishop, 2005). These religious beliefs are thought to lessen the acceptability of suicide as an option in times of distress (Stack & Wasserman, 1992). In a study of high school students, Greening and Stoppelbein (2002) measured components of religiousness such as church attendance, intrinsic and extrinsic religious styles, and orthodoxy, defined as the acceptance of traditional Christian beliefs. The outcome measure was perceived risk for suicide, assessed by asking participants how likely they thought they were to die by suicide. Orthodoxy was the only religious variable significantly related to lower perceived suicide risk after controlling for sex, age, and other factors. The authors state that being committed to certain religious doctrines or beliefs may prevent serious consideration of suicide and lower the risk for suicidal behavior.

Dervic et al. (2005) also found a relation between religious beliefs and suicidal behavior. In the previously mentioned study, moral objections to suicide, measured by the Reasons for Living Inventory and relating to traditional Christian religious beliefs, mediated the relation between religious affiliation and suicide attempt.

Does Social Support Mediate the Relation Between Religiousness, and Suicide?

These studies provide some support for the notion that religious beliefs may explain the relation between religiousness and suicidal behavior. However, the social aspects of religious practice may offer an additional explanation for the inverse relation between religiousness and suicide beyond what can be attributed to religious beliefs. The relations among religiousness, social support, and suicide were first observed by Durkheim (1897/1951). He theorized that social integration offered protection against suicidal

tendencies and he conceptualized religious involvement as a form of social integration. Consistent with Durkheim's ideas, Joiner (2005) proposed a theory of suicide in which thwarted belongingness increases risk for suicide. He suggests that the relationships formed with other people through contact with religious institutions may provide some protection from suicide by promoting a sense of belonging (p. 159).

Religious people may have greater social support than people who are not religious, e.g., from religious events, pastoral services, and religious organizations and clubs. In interviews with 838 older adult inpatients, Koenig, George, and Titus (2004) found that involvement in both public and private religious practices was associated with higher levels of social networks and subjective support. This added social support might supply resources to deal with stressful life events before or after suicidal thoughts occur.

Empirical work supports the theorized protective role of social support in relation to suicidal ideation and behavior. In a survey of African American college women, Marion and Range (2003) found that perceived social support from family members was inversely related to suicidal ideation. Beautrais (2002) reported that older adults with a limited social network were more likely to die by suicide or make a medically serious suicide attempt. Taken together, these studies indicate that social support may be an important factor protecting against suicidal behavior.

Research has also examined whether social support explains the relation between religiousness and suicide. Pescosolido and Georgianna (1989) examined suicide rates and religious affiliation in 404 United States counties in 1970. Areas with a greater proportion of Catholics, Evangelical Baptists, and Nazarenes had significantly lower suicide rates than counties with a lower proportion of individuals with these religious affiliations. The authors attributed the difference in effect between denominations to stronger social networks, stating that people in these protected denominations attended services more frequently and were more likely to have friends and family members in the same religious group. Stack and Wasserman (1992) examined the relation between religiousness, social support and "suicidal ideology," defined as how acceptable people find suicide. Protestant denominations were categorized by features considered to represent social cohesiveness, such as congregational versus hierarchal leadership structures. Attendance at churches with denominational features that promote cohesiveness predicted lower suicidal ideology.

Thus, existing research suggests that the social aspect of religiousness contributes to the inverse association between suicidal behavior and religiousness. In the previously mentioned studies, however, amount of social support was inferred from characteristics in the denomination and was not measured directly. A study examining the relations between religiousness, social support, and suicidal behavior with individual-level data could add valuable new information about the relations among these variables.

Whereas previous studies have shown that religiousness is inversely associated with suicidal ideation and behavior, questions remain as to what aspects of religiousness contribute to this relation. The present study tested whether the association between religiousness and suicidal thoughts or attempts could be attributed to religious beliefs or social support. We expected

that higher levels of religiousness (public, private, and combined) would be related to lower levels of suicidal ideation, and that the relation would be mediated both by religious beliefs and by social support. Because social support has been associated with decreased suicidal behavior, we anticipated that the added social support from group religious practices would provide greater protection from suicidal ideation and attempts than would be provided by private practices.

Method

Participants

A survey was given to undergraduate students (N = 454) from a large public university in the Mid-Atlantic region of the United States. Volunteers were recruited from psychology classes and received extra-credit for their participation. The majority of the sample was female (74%) and between the ages of 18-21 (86%), as would be expected for a sample of undergraduate students of psychology. Most participants were Caucasian (91%), reflecting the ethnic composition of the region. Most participants endorsed a current religious preference (81.7%), 10.6% indicated they were not religious and 6.8% declined to answer. Of the full sample, 72.7% reported that they were raised in a religious tradition, among whom 81.5% indicated they still practice the same religion as in childhood. The most frequently identified religious preference was Christian (76.2% of the full sample); the remaining religious preferences endorsed were Jewish (2.9%), Muslim (0.7%) or other (2.0%). The relatively high proportion of participants identifying as Christian may reflect regional characteristics (Chalfant & Heller, 1991).

Measures

The survey took approximately 1 hour to complete. It included scales measuring religiousness, social support and suicidal ideation and attempts. Several dimensions of religiousness were measured, using various independent scales, several of which were developed by the National Institute on Aging Working Group (1999) and validated in mixed age samples (e.g., Idler et al., 2003).

Questions used to characterize the sample were drawn from the NIA Working Group report. The *Religious Preference Form* (National Institute on Aging Workgroup, 1999) contains a single open-ended question. People who did not at least minimally identify with an organized religion were in this study considered non-religious. The *Brief Religious History Form* (National Institute on Aging Workgroup, 1999) contains six questions that ascertained whether participants were raised in a religious environment, frequency of religious participation in childhood and youth, and whether still practicing.

The *Organizational Religiousness Form* (National Institute on Aging Workgroup, 1999) measures extent of engagement in public religious practices. The full scale consists of two questions about attendance at services and other religious activities, which can be used as a brief, standalone form of the scale, and a five item *Fit* subscale assessing how compatible an individual feels with their religious organization. In a nationally representative sample aged 18 and older, the two-item scale had good internal consistency (α = .82) and was moderately

correlated with the public religious activities item from the 1998 General Social Survey (r = .44; Idler et al. (2003). Because internal consistency of the combined scale was good in the present sample (standardized α = .84), the *Fit* items were included in the organizational religiousness scale. Scale scores range from 7 to 42. Higher scores represent more engagement in public religious practices.

The *Private Religious Practices Form* (National Institute on Aging Workgroup, 1999) measures extent of engagement in religious practices in the home or other private place. The scale consists of three questions about frequency of activities such as praying, reading the bible, or meditation. In a nationally representative sample of adults, the scale demonstrated good internal consistency (α = .72) and was moderately correlated with the private religious activities item from the 1998 General Social Survey (r = .48; Idler et al. (2003). An additional question about watching religious programs on television, suggested by the National Institute on Aging Workgroup (1999), was included in the scale for the present study after determining that internal consistency of the combined four-item scale was adequate (standardized α = .77).

Scores on the Organizational Religiousness Form and the Private Religious Practices Form were summed to create a measure of total religiousness.

The Duke Religion Index (Koenig, Parkerson, & Meador, 1997), which has been well validated (Sherman et al., 2000), was administered as a secondary measure of religiousness. Results are not reported here as they essentially duplicate findings from the summed Organizational Religiousness and Private Religious Practices forms.

The *Doctrinal Orthodoxy Scale* (Batson, Schoenrade, & Ventis, 1993) was included to assess religious beliefs. The instrument specifically measures commitment to traditional Christian beliefs. Commitment to religious beliefs associated with other religions was not measured because the vast majority of the sample was Christian. The Doctrinal Orthodoxy Scale consists of 12 statements of beliefs. Participants indicate the degree to which they agree with each statement. Response options range from (1) *strongly disagree* to (9) *strongly agree* with a total scale score ranging from 1 to 108, higher scores indicating a stronger agreement with traditional Christian beliefs. Batson, Schoenrade, and Ventis reported moderate correlation of the scale with the intrinsic subscale of the Religious Life Inventory (*r* = .55). Greening and Stoppelbein (2002) reported moderate correlation (*r* = .54) with a measure of intrinsic religiosity. In the current sample, a high internal consistency was found for the scale (α = .97).

The *Suicidal Ideation Scale* (Rudd, 1989) was used to assess suicidal ideation and suicide attempts in the previous year. This scale consists of 9 items that reflect thoughts about suicide and 1 item about suicide attempts ("I have made attempts to kill myself"). For each statement, participants rate how often they have had the thought or behavior within the past year. Response options range from (1) *never or none of the time* to (5) *always or a great many times*. In the original format, the total score ranges from 10-50 with higher scores indicating more frequent suicidal thoughts or attempts. For the purposes of this study, the suicide attempt item was not included in the scale score so that the score would represent

only suicidal ideation. Total scores for the modified scale range from 9-45. Rudd (1989) reported that the full scale was correlated with measures of hopelessness and depression as well as self-reported history of suicide attempt. In the present study, the 10 item scale had a high internal consistency (α = .94), even when modified to exclude the attempt item (α = . 93). Scores from the suicide attempt item were dichotomized to indicate whether participants reported that an attempt had not (response of 1) or had (response of 2 or greater) occurred in the past year.

The *Social Support Questionnaire - Short Form* (SSQ-SF; Sarason, Sarason, Shearin, & Pierce, 1987) was used to measure perceived social support. Each of six items describes a situation and asks the participant to write the initials of people who would give them support in that situation. The participant then rates their satisfaction with the support they receive in each situation on a scale from (1) *very dissatisfied* to (6) *very satisfied*. The perceived social support score is the sum of the satisfaction ratings, ranging from 6 to 36 with higher scores indicating more perceived social support. The satisfaction subscale of the short form is highly correlated with the long form of the Social Support Questionnaire (r = 0.96) (Sarason, Sarason, Shearin, & Pierce, 1987). In the current sample, a high internal consistency was found for the short form (α = .98).

The *Interpersonal Support Evaluation List* (ISEL; Cohen, Mermelstein, Kamark, & Hoberman, 1985) was included as an alternative measure of social support. The scale consists of 40 true/false statements about support available in different situations. The scale has four subscales: appraisal, belonging, tangible support, and self-esteem. Cohen et al. report high internal consistency (α= .77 to .90), good test-retest reliability over a four week interval (r = .87) and significant correlations between the scale and other measures of social support. In the current sample, internal consistency was high (α = .90).

Procedure

Participants were recruited by in-class announcements, email, and bulletin board flyers. The survey was administered through the SONA System online survey program. Participants registered before entering the survey, but identifying information was not available to the investigators. Informed consent was obtained electronically before participants were allowed to complete the questionnaire. Participants were able to access the survey at any time of the day from any computer with internet capabilities. All participants, whether religious or not, were intended to answer the entire survey. All participants were given a list of mental healthcare referrals, including a 24-hour, toll-free suicide prevention hotline number, after completion or withdrawal from the study.

Analysis

To test whether religious beliefs or social support mediated the relation between religiousness and suicidal behavior, we used the method suggested by Baron and Kenny (1986). This method entails establishing that the independent variable is related to the dependent variable, the mediator is related to both of these variables, and the relation between the independent variable and the dependent variable changes from significant to non-significant when the mediator is added to the equation. A limitation of the Baron and

Kenny method, however, is relatively low power. Therefore, the Sobel Test, which involves a product of coefficients procedure, was performed as an additional test for mediation (Sobel, 1982). Because findings did not differ from those obtained by the Baron and Kenny method, Sobel Test results are not shown. Gender and age were controlled for in all analyses. Because the Doctrinal Orthodoxy Scale measured commitment to Christian beliefs, analyses using this scale included only participants who identified themselves as currently (n = 346) or formerly Christian (n = 4).

Results

Thirty-five percent of the sample reported suicidal ideation in the past year, and 10% reported having made a suicide attempt in the past year. The mean scores for the primary study variables can be seen in Table 1.

Correlations between religiousness, social support, and suicidal ideation can be seen in Table 2. Suicidal ideation was significantly related to public religiousness but not to private religiousness, total religiousness or religious beliefs. Suicidal ideation was significantly related to both perceived social support and general social support. Public religiousness was significantly associated with the measure of general social support (ISEL) but not with the measure of perceived social support (SSQ-SF), whereas private religiousness was not associated with either measure of social support. Therefore, further analyses of social support used the measure of general social support (ISEL).Because private religiousness and total religiousness were not related to suicidal ideation, these variables were not examined further in relation to suicidal ideation.

We next turned to mediation analyses. Because the measure of religious beliefs (Doctrinal Orthodoxy Scale) was not related to suicidal ideation, it was not necessary to conduct further tests to determine that religious beliefs did not mediate the relation between religiousness and suicidal ideation.

We used hierarchical linear regression analysis to test whether social support mediated the relation between public religiousness and suicidal ideation (see Table 3). In the first model, public religiousness did predict social support, $t(387) = 4.16$, $p < .0001$. In the second model, public religiousness predicted suicidal ideation, $t(387) = -2.44$, $p = .02$. In the third model, when general social support was added to the previous regression model, the coefficient for public religiousness became non-significant, $t(386) = -.33$, $p = .74$, indicating that social support is a mediator.

We used logistic regression analysis to test whether religious beliefs or social support would mediate the relation between religiousness and suicide attempt. Neither total religiousness, Wald = 0.85, df = 1, $p = 0.36$, nor private religiousness, Wald = 1.18, df = 1, $p = .28$, was related to suicide attempt, so mediation analysis was conducted with public religiousness only.

Logistic regression analysis showed that the religious beliefs (Doctrinal Orthodoxy) scale did not predict suicide attempt, Wald = 1.37, df = 1, $p = 0.24$, so was not a mediator.

We then tested the role of social support in mediating the relation between public religiousness and suicide attempt (see Table 3). For the first model, we dichotomized social support using a median split. Public religiousness predicted social support, Wald = 5.44, df = 1, $p = 0.02$. In the second model, public religiousness predicted suicide attempt, Wald = 4.78, df = 1, $p = 0.03$. In the third model, when general social support was added to the model, the coefficient for public religiousness became non-significant, Wald = 1.18, df = 1, $p = 0.28$. This finding indicates that social support mediates the relation between public religiousness and history of suicide attempt.

Further analysis was conducted with each subscale of the general social support scale. Findings indicated that each subscale individually mediated the relation between public religiousness and suicidal ideation and between public religiousness and suicide attempt, as did the full general social support scale (subscale results available on request).

Discussion

In the current study, engaging in public religious practices was related to lower levels of suicidal ideation and suicide attempt and, as hypothesized, social support mediated the relation. These findings are in line with the ecological research that has indicated that the relation between religiousness and suicide may be due to social support (Stack & Wasserman, 1992; Pescosolido & Georgianna, 1989). Contrary to expectations, involvement in private religious practices and religious practices in general were not associated with decreased reports of suicidal ideation and suicide attempts. This outcome is consistent, however, with the interpretation that the relation between religiousness and suicidal behavior may be due to social support.

A surprising result of our study was that religious beliefs were not related to either suicidal ideation or suicide attempt and thus did not explain the relation between religiousness and suicidal behavior. These findings differ from those reported by Dervic et al. (2005). It is possible that the general beliefs measured in the Doctrinal Orthodoxy Scale do not relate to suicidal behavior in the same way as the suicide-specific aspect of religious beliefs measured by Dervic and colleagues (moral objections to suicide). Our results also differ from those reported by Greening and Stoppelbein (2002). Their outcome measure, however, asked about beliefs about dying from suicide, in contrast to our measures of suicidal ideation and suicide attempts in the past year. It may be that religious beliefs relate differently to expectations about suicidal behavior in the future than to history of suicidal thoughts and behaviors.

Several limitations should be considered when interpreting the results of the present study. As with any correlational analysis, directionality cannot be assumed. Social support may reduce suicidal ideation, but people with suicidal ideation may only perceive their social support as worse. Another limitation is that the majority of religious participants were Christian. Future studies should be conducted with participants from a wider range of religious backgrounds before these results could be generalized to other religions. Other characteristics of the sample may also limit generalizability of these findings. The majority of the sample was young and female, and all participants were college students. Notably,

however, young females are the demographic group at highest risk of suicide attempts (Nock & Kessler, 2006). As such, this group warrants particular focus in research, like the present study, that examines suicide attempts.

Considering the devastating nature of suicide, a thorough understanding of this problem is of utmost importance. Whereas it is important to understand risk factors, it is equally important to study those factors that may offer protection from suicide. Future research with broader age ranges and non-student populations would increase the generalizability of the findings. In addition, future research examining other types of suicidal behavior as outcomes, such as serious suicide attempts or death by suicide, would be informative. Finally, prospective designs would aid in disentangling the temporal relations among religiousness, social support and suicidal behavior.

The results from this study highlight the importance of social support in relation to suicidal behavior, and show that involvement in public religious practices seems to offer protection from suicidal ideation and attempt, due to its relation with social support. A challenge for the future will be to examine religious groups to determine how they are able to provide social support so effectively.

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TABLE 1

Mean Values for Study Variables

Variable	*n*	*M*	*SD*	Minimum	Maximum
Total Religiousness	421	34.62	11.1	11	68
Public Religiousness	422	23.47	6.93	7	41
Private Religiousness	453	10.84	5.17	4	29
Doctrinal Orthodoxy	336	89.27	21.25	14	108
SSQ-SF	448	4.99	1.51	1	6
ISEL	421	35.07	5.39	12	40
Appraisal	449	8.39	1.54	2	10
Belonging	441	8.88	1.84	1	10
Tangible	452	9.25	1.52	1	10
Self-esteem	436	8.44	1.73	1	10
Suicidal Ideation	453	10.93	4.54	9	41

Note: SSQ-SF = Social Support Questionnaire – Short Form; ISEL = Interpersonal Support Evaluation List.

TABLE 2

Correlations Among Study Variables (N = 454[a])

Measure	1	2	3	4[a]	5	6	7	8	9	10
1. Total Religiousness	-									
2. Public Religiousness	.94***									
3. Private Religiousness	.89***	.68***								
4. Doctrinal Orthodoxy	.50***	.46***	.46***							
5. SSQ-SF	.01	.06	−.05	.11						
6. ISEL	.15*	.20***	.08	.11	.25***					
7. Appraisal	.15*	.18**	.09	.08	.25***	.79***				
8. Belonging	.15*	.21***	.06	.09	.22***	.88***	.63***			
9. Tangible	.11*	.17**	.05	.10	.20***	.80***	.50***	.66***		
10. Self-esteem	.11*	.13*	.08	.07	.18**	.81***	.52***	.56***	.54***	
11. Suicidal Ideation	− .06	−.12*	.02	−.03	−.18***	−.53***	−.44***	−.43***	−.37***	−.46***

Note: SSQ-SF = Social Support Questionnaire – Short Form; ISEL = Interpersonal Support Evaluation List.

[a]For the Doctrinal Orthodoxy Scale, which was used only for participants identifying as Christians, n = 336. N's for other measures vary slightly due to missing data on individual variables.

*$p < .05$,

**$p < .001$,

***$p < .0001$.

TABLE 3

Tests of Social Support as a Mediator of the Relation between Public Religiousness and Suicidal Behavior

		b	SE	p
Linear Regression Predicting Suicidal Ideation (N = 391)				
Model 1	Social support on religiousness	.15	.04	<.0001
Model 2	Suicidal ideation on religiousness	−.08	.03	.02
Model 3	Suicidal ideation on religiousness	−.01	.03	.74
	Suicidal ideation on social support	−.44	.04	<.0001
Logistic Regression Predicting Suicide Attempt (N = 392)				
Model 1	Social support[a] on religiousness	.04	.02	.02
Model 2	Suicide attempts on religiousness	−.06	.03	.03
Model 3	Suicide attempts on religiousness	−.03	.03	.28
	Suicide attempts on social support	−.12	.03	<.0001

Note. All models adjusted for sex and age.

[a]Social support measure dichotomized for use as criterion variable in Model 1 of logistic regression analysis only.