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The Impact of Religiosity on Suicidal Ideation Among Youth in Central Mexico

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Abstract

Although over 100 years of research has been dedicated to understanding the connection between religiosity and suicide, many questions still remain. This is especially true among adolescent populations in countries outside the US. In 2008, over 700 students attending eight alternative high school centers in central Mexico completed a health survey designed to provide a comprehensive overview of their physical, mental, spiritual, and emotional health. This article reports on the findings of a secondary analysis study of those data and focuses on the protective influence of religiosity on suicidal ideation. The findings of this study are discussed in light of the network theory's assertion that there is a belonging aspect to religion, and also to the idea that in religiously homogeneous communities of Mexico, religion can have a protective effect on the suicidal ideation of its members.

Keywords

Religion; Suicide; Suicidal ideation; Adolescents; Mexico

Introduction

The study of suicide and religion finds its modern beginning in the work of Emile Durkheim (Durkheim 1897). Over the past century, many suicide theorists have critiqued and broadened his ideas regarding the protective power of religious integration; however, despite the countless opinions regarding his work, numerous contemporary researchers continue to use Durkheim's thoughts and themes in their own work, with some studies even supporting his original findings (Colucci and Martin 2008; Pescosolido 1990; Pescosolido and Georgianna 1989; Stack 1983; Stark et al. 1983; Thomas 2000). Despite its rich history, the study of suicide and religion has failed to produce conclusive and widely accepted findings explaining whether and how religion serves as a protective factor against suicide, and new

ways of measuring both religiosity and suicide have added increased complexity to this debate (Colucci and Martin 2008; Ellison et al. 2007; Parsai et al. 2010; Nasim et al. 2006). Furthermore, the majority of previous research has been conducted among adults living in Europe and the United States, which has resulted in a limited understanding of how religiosity influences adolescent suicide in other regions of the world. In an effort to address these shortcomings, the purpose of this article is to explore the relationship between religiosity and suicide among a group of adolescent high school students living in central Mexico. The study is guided by the hypothesis that high levels of internal and external religiosity will be associated with lower levels of suicidal ideation in Mexico.

Suicide and Religion

Since a detailed review of the theoretical underpinnings guiding the religion and suicide research over the past century is beyond the scope of this study, the following is a summary of the main ideas that have shaped our current understanding of this topic. The first of these was the integration theory proposed by Durkheim (1897), which has been the cornerstone of modern suicide research since the time of its publication. Durkheim reasoned that the Catholic Church's strong sanctions against suicide—as well as its integrated traditional structure—served as a deterrent against suicide among its members (Colucci and Martin 2008). In comparison, the religious freedom of thought and lack of integration among members of Protestant denominations was his explanation for their higher suicide rates (Durkheim 1897). In short, Durkheim asserted that religious affiliation (i.e., Catholic vs. Protestant) was the key to understanding the protective power of religion against suicide.

Perhaps the straightforwardness of Durkheim's theory is the reason for both its longevity and its susceptibility to critique. Some have concluded that Durkheim's work was flawed by his poor understanding of “elementary facts about religion in Europe at the time he wrote” (Stark et al. 1983, p. 120). Others assert that his original findings could no longer hold true in today's complex society (Pescosolido 1990; Colucci and Martin 2008). One of the strongest critiques was set forth by Stack (1983), in which he questioned various aspects of Durkheim's original studies. Stack asserted that religious affiliation (i.e., being Catholic or Protestant) was not what influenced suicide but that the true driving force behind the difference in suicide rates among individuals ascribing to different religious doctrines was their level of religious commitment. He criticized Durkheim's work because of the simplicity of his bivariate models and suggested that multivariate models were needed in order to see the real relationship between religion and suicide. Using these critiques as the foundation for his studies, Stack developed the religious commitment theory.

Upon obtaining data from 25 countries, Stack found that, no matter the person's religious affiliation, life-preserving religious beliefs, values, and practices based in any organized religion were associated with lower suicide rates (Stack 1983). This argument gained considerable strength, and his theory continues to motivate modern religiosity research (Fiala et al. 2002; Nasim et al. 2006). However, in his original article, Stack himself noted that the findings only held true for women, and not for men (Stack 1983). He attributed this to the idea that women were, in general, more religious than men. Furthermore, Colucci and Martin (2008) wrote that little research has been done among nonreligious populations who

hold personal spiritual beliefs and concluded that commitment to a specific doctrine of belief may not be needed at all.

Following the emergence of Stack's religious commitment theory, some researchers started to reconsider the importance of Durkheim's original work. For example, Pescosolido and Georgianna (1989) closely replicated Durkheim's study by examining religious affiliation and suicide rates using data collected during the 1970s. Their findings supported Durkheim's theory by showing that membership in the Roman Catholic Church exerted a protective effect against suicide, while membership in Protestant Christian denominations increased the risk of committing suicide. Pescosolido and Georgianna, however, interpreted their results differently from Durkheim. Instead of attributing the lower suicide rates among Catholics to the religious integration of the members, they theorized that there were fewer suicides among Catholics because they had stronger social networks. As explained in her future work on suicide, Pescosolido (1990) said there was a belonging aspect to religion and that the network relationships and ties among members of certain religions and religious communities were the foundation for the protective influence of religion against suicide. This new interpretation became the foundation for looking at suicide through the lens of network theory.

Newer Measures

Despite the various theories and interpretations that have evolved over the years, the conceptualization of the relationship between suicide and religion continues to be a source of debate, and there is a need for further research (Colucci and Martin 2008). Perhaps the best approach to gain further understanding of this phenomenon is through the exploration of additional factors. While records of completed suicides have traditionally been used to study the connection between religion and suicide, current research looks at this topic from a broader perspective using measures of suicidal ideation, suicide attempts, and completed suicides (Leitner et al. 2008; US Department of Health and Human Services 2001). The correlations between suicidal ideation, suicide attempts, and completed suicides have consistently proven to be very strong (e.g., Botega et al. 2005; Kessler et al. 2005), and the use of these additional measures (suicidal ideation and previous suicide attempts) has become widely accepted and even recommended (Brown et al. 2007; Wyman et al. 2009; Leitner et al. 2008).

The measurement of religiosity has also evolved and has gained refinement in recent years. While religiosity has been divided up into as many as 13 dimensions (see Koenig et al. 2000), the two dimensions that are most commonly assessed include (1) internal religiosity (i.e., personal beliefs or convictions) (Gillum et al. 2006; Nasim et al. 2006) and (2) external religiosity (i.e., attending church meetings or activities) (Fiala et al. 2002; Ellison et al. 2007). Also included in recent studies are measures of religious affiliation (Curlin et al. 2008; Parsai et al. 2010). By looking at religiosity from a multi-dimensional standpoint, research can identify the specific aspects of religiosity that are most protective. However, these refined measures of religiosity and suicide need to be applied in more diverse social and cultural contexts in order to advance our understanding of this complex phenomenon.

Religion and Suicide in Mexico

Despite having highly religious populations, Mexico and other Latin American countries have received limited attention in the religiosity and suicide literature. This is somewhat surprising given the historically powerful influence the Catholic Church has had on the nation's culture. For example, Hovey (1999) highlights that Catholicism has been ingrained so deeply into Mexican culture that religious ceremonies such as baptisms and first communions are considered social events. While attending these social events does not necessarily reflect a person's level of faith or adherence to the church's teachings, this intertwined religious and social culture suggests that many Mexican communities may be considered "moral communities." A moral community is a community where there are disproportionately high numbers of religious individuals, which leads to the reinforcing of spiritual beliefs and practices (Stack and Kposowa 2011). Knowing that the Catholic Church has held a firm stance against suicide for many years (Colucci and Martin 2008), one might assume that, while not everyone adheres to the church's doctrine, a negative cultural perception of suicide may be part of the reason that Mexico continues to have a low rate of suicide when compared to other countries throughout the world (Puentes-Rosas et al. 2004).

While previous research has not focused specifically on the connection between suicide and religiosity in Mexico, some studies have compared how regions of high and low religiosity differentially influence suicide rates. In a multisite international study, Helliwell (2007) concluded that religion is more protective against suicide in less religious countries, as well as in less religious areas of a single country. Following this line of thinking, since Mexico is considered a highly religious country (University of Michigan News and Information Services 1997; Wilson 2008), one may assume that religiosity would have a weak influence on the country's suicide rate. However, this assertion appears to contradict other research suggesting that religiously homogeneous communities and areas of historical Catholic strength are the most protective against suicide (Pescosolido 1990; Stack and Kposowa 2011). This paradox, coupled with the lack of clarity as to the protective influences of internal and external religiosity, is supportive of the assertion by Colucci and Martin (2008) that international studies in countries such as Mexico are needed to better understand the true relationship between religion and suicide.

Present Study

The present study aims to increase our understanding of the relationship between suicide and religiosity by studying the phenomenon with a new population (Mexican adolescents in Mexico), and with the use of contemporary measures (i.e., suicidal ideation, internal religiosity, external religiosity). We hypothesize that based on a combination of Stack's (1983) and Pescosolido's (1990) findings, high levels of internal and external religiosity will both be associated with lower levels of suicidal ideation.

Method

Data collection

This study is a secondary analysis of a comprehensive health survey administered to students enrolled in an alternative high school system in Guanajuato, Mexico. The primary

function of the alternative schools is to serve students from low income families who may not have access to a traditional high school due to lack of funds, place of residence, or a combination of the two. The survey was administered by members of the original research team to students attending eight of the 252 alternative program centers located outside of Leon, Guanajuato. The response rate for the questionnaire was 95 %, resulting in 702 participants (60 % female) ages 14–24. While some students were over the age of 18, the vast majority (90 %) of the participants were within the traditional age range of high school students. Those 18 and over were not included in the final analysis so that the results could be interpreted based on traditionally aged high school students. Furthermore, it has been suggested that interpreting combined youth and adult responses to questions about religiosity presents theoretical challenges (Marsiglia et al. 2005). The Arizona State University Office of Research Integrity and Assurance approved this secondary data analysis (0610001162).

Variables

The primary dependent variable for this study was suicidal ideation. This measure asked, “During the past week, how frequently did you: (1) feel that you could not go on, (2) have thoughts about death, (3) feel that your family would be better off without you, (4) think about killing yourself.” There were 4 response categories: not once, 1–2 days, 3–4 days, 5–7 days. This scale has been used in previous studies conducted in Mexico (González-Forteza et al. 1998) and was found to be adequately reliable (Cronbach’s $\alpha = 0.77$). Due to the large frequency of respondents that reported not experiencing suicidal ideation in the last week, or only briefly experiencing such thoughts (i.e., selecting the 1–2 days response option), the variable was dichotomized, so the final values were 0 = no suicidal ideation during the past week, and 1 = suicidal ideation during the past week. Also, as a means of obtaining additional information about response patterns, each item of the scale was dichotomized and used as an additional dependent variable for analysis. Thus, five logistic regressions were run—one for the entire scale, and one for each individual item.

The primary independent variables for this study were internal and external religiosity. Internal religiosity was measured by asking, “How important is religion to you?” Responses ranged from 0 = not important to 3 = very important. External religiosity was measured by asking, “How often do you attend religious services at your church, mosque, synagogue, or temple?” Responses ranged from 0 = never to 4 = every week. Both these religiosity measures have been used in prior studies (e.g., Amoateng and Bahr 1986; Taylor et al. 1996). Other variables included in the model are as follows: gender, age, socioeconomic status (SES), parent–child relationship, and living arrangement. Gender (0 = female, 1 = male) was included in the model because females are more likely to struggle with suicidal ideation than are males (Zayas 2000; Zayas et al. 2005), and Mexico has very distinct societal expectations and perceptions of men and women (e.g., Gutmann 1996; Hardin 2002; Jelin 2005; Kulis et al. 2003, 2008). SES was measured by asking the respondents five questions: “In your home, is there enough money to (1) buy food, (2) buy gasoline for your car or truck, (3) pay for basic services (light, water, etc.), (4) buy clothing you need, (5) do fun things (take vacations, go to the movies, go out)?” The response categories ranged from 0 = never to 3 = always. The Cronbach alpha test for internal reliability found the SES scale

to be acceptably reliable ($\alpha = 0.854$). The parent–child relationship variable was created from two questions: “How would you describe your relationship with your mother,” and “how would you describe your relationship with your father.” Responses ranged from 0 = bad to 4 = excellent. The mean of both responses was calculated for each child; or, if they only had one parent, the score from the one parent was used. This measure was included in the analysis because stronger parent–child relationships have been shown to reduce suicidal ideation (US Department of Health and Human Services 2001). Lastly, living in a single parent household has also been identified as a risk factor for suicidal ideation (US Department of Health and Human Services 2001; Weitoft et al. 2003) and was measured by asking the participants with whom they lived. Those who did not live with either of their parents were coded as 0, those living with one parent were coded as 1, and if they lived with both parents, they were coded as 2.

Analysis Strategy

First, data cleaning, variable creation, and the recoding of variables were completed. Second, descriptive statistics, correlations, and bi-variate analyses were obtained using PASW 17. Third, the unique influence of internal and external religiosity on suicidal ideation was assessed by running logistic regressions with all covariates included in the models. The final models also controlled for nesting effects based on school location using STATA 11.

Results

Descriptive statistics for each variable are included in Table 1. The average participant age was 16.04 years ($SD = 0.78$), and 63 % were female. Most students lived in a two-parent household ($M = 1.82$; $SD = 0.44$), and the average participant had between a “good” and a “very good” relationship with their parents ($M = 2.93$; $SD = 0.88$). The average student reported high levels of internal religiosity ($M = 2.48$; $SD = 0.71$) and attended church somewhere between a few times a month to a few times a year ($M = 2.43$; $SD = 1.30$). The individual questions used to create the suicidal ideation scale indicated that while only 13 % of students had specific thoughts about committing suicide during the past week, 31 % had thoughts about death, 31 % thought that they were a burden to their family, and 41 % had feelings of giving up.

Table 2 shows the results of the logistic regressions. Based on the composite suicidal ideation scale, increased levels of internal religiosity did not predict lower odds of suicidal ideation during the past week, and higher levels of external religiosity (i.e., more frequent church attendance) predicted only a moderately significant decrease of 12 % ($CI = 0.76–1.02$). However, when the scale was broken down into its individual items, external religiosity predicted lower odds of thinking about death ($OR = 0.84$; $CI = 0.71–0.98$; $p = 0.5$), thoughts of burdensomeness ($OR = 0.84$; $CI = 0.71–0.99$; $p = 0.5$), and thinking about killing oneself ($OR = 0.65$; $CI = 0.52–0.82$; $p = 0.001$). Thus, with the exception of the parent–child relationship measure, external religiosity was the most influential factor on suicide across all five models.

Discussion

The overarching aim of this research was to better understand the association between religiosity and suicide—a relationship that has been looked at for more than 100 years. This study used data collected from a unique international population of Mexican adolescents living in the state of Guanajuato. Overall, the results partially supported our hypothesis by showing that while internal religiosity (personal convictions and beliefs) did not appear to protect against suicidal ideation, external religiosity (frequency of church attendance) did seem to exert a significant protective influence.

Perhaps the most interesting of these findings was that internal religiosity did not show any protective influence against suicidal ideation despite showing positive protective power in other studies (e.g., Fiala et al. 2002; Nasim et al. 2006). One explanation for this finding (as previously mentioned) was set forth by Helliwell—that religion is more protective against suicide in less religious countries, as well as in less religious areas of a country (2007). As Mexico is a highly religious country, and with the majority of participants in this sample reporting high levels of internal religiosity, Helliwell's theory seems to be supported by these results. Other possible explanations for this unique finding are that this study looked at recent suicidal ideation as opposed to completed suicides, measured internal religiosity differently than both Stack (1983) and Helliwell (2007), and was conducted among a unique international sample of Mexican youth. Another reason for this unexpected result can be found in a recent line of research focusing on the decision-making process. This research shows that decisions people make are not always a reflection of their beliefs and values (Black 1997; Fernando and Jackson 2006). For example, it may be that an individual's spiritual beliefs do not always contribute to their decision-making process. While one may believe that they will not go to heaven if they commit suicide, going to heaven may not necessarily be important enough to them to take into consideration when contemplating suicide. Although students in our sample reported that their religion and its teachings as very important to them, it may be that the doctrines of the church on some important issues do not factor into the decisions they ultimately make.

Unlike increased levels of internal religiosity, higher levels of external religiosity seem to be protective against suicidal ideation. While external religiosity predicted only a moderately significant decrease in suicidal ideation in the model that used the four-item suicidal ideation scale, when the measure was broken down into its individual questions, the potential protective influence of external religiosity became more apparent. Not only did increased church attendance (i.e., external religiosity) predict lower odds of thinking about killing oneself, it also predicted lower odds of thinking about death and viewing oneself as a burden to family members. These findings provide support to the network theory's assertion that there is a belonging aspect to religion and also to the idea that religiously homogeneous populations create a protective moral community (Pescosolido 1990; Stack and Kposowa 2011).

The control variables in this study also provided interesting results. The strength of the parent–child relationship was, as expected, a significant protective factor. In fact, it was the only variable that predicted lower odds of suicidal ideation across all models. Furthermore,

in line with previous research, there were significant differences among males and females with regards to suicidal thinking; however, the individual components of the suicidal ideation scale highlight that the differences were not centered on thoughts of death or thoughts about suicide but were instead focused on thoughts about giving up or being a burden to one's family. This finding provides interesting insights about how increased levels of external religiosity lead to gendered suicidal ideation patterns. Future research should seek to identify additional gender-specific associations so that community organizations and research teams can create interventions that differentially target negative thinking patterns among boys and girls.

Limitations

Due to this study being a secondary analysis, not all the desired variables were available. For example, the measure used to assess suicidal ideation only asked about suicidal thinking during the past week. While this timeframe has been used by other researchers in Mexico and the US (see Glashouwer et al. 2010; González-Forteza et al. 1998), future studies should expand their time frame (e.g., 6–12 months) so that information can be gathered on a broader range of youth struggling with poor mental health. Also, while much of the religiosity research focuses on internal and external religiosity domains, new scales that assess various dimensions of religiosity have been created (e.g., Koenig et al. 2005), and using such scales in the future could further our understanding of the specific aspects of religiosity that serve as protective factors against suicidal ideation. This is especially important to note considering that the internal and external religiosity variables were both single-item measures. Indeed, due to the intertwined relationship between the Catholic Church and Mexican society (Hovey 1999; Leach 2000), it may be argued that the external religiosity measure in our sample was not actually measuring religiosity but was instead a sign of community involvement (see Pescosolido 1990). Furthermore, using church attendance as a measure of external religiosity with a youth sample is not ideal as some parents may *require* their children to attend church meetings (Marsiglia et al. 2005). Similar oversimplification issues arise when assuming that the importance of God in one's life is a comprehensive measure of their internal religiosity. Therefore, future studies should include measures of community/social support to provide additional insight into the relationship between suicidal ideation and external religiosity. Another limitation is the cross-sectional nature of the data. Since we do not know the time-ordering of the relationship between variables, it is possible that less suicidal youth are more willing to be engaged with their families and religions rather than the involvement in religion serving as a potential protective factor against suicidal ideation. While the theoretical study of this relationship supports the idea that religiosity would protect against suicidal ideation and not the other way around, it is important to note that the nature of the data prohibit knowing whether this is truly the case. Lastly, the participants in this study come from less-privileged backgrounds and have a higher prevalence of adolescent suicidal ideation (Borges et al. 2008) and a higher percentage of completed suicides (Chiapas 2008) as compared to youth in other parts of Mexico, and thus it is not necessarily a representation of typical Mexican adolescents. Studies in other Mexican states with more traditional population groups are needed to test whether the findings are generalizable beyond the unique population from which the data were drawn.

Conclusions

This study was undertaken in response to calls for research on religiosity and suicide in countries such as Mexico (Colucci and Martin 2008), and the results have real-world implications for practitioners and researchers. As the findings appear to support the idea that attending church events is protective against suicidal ideation, in appropriate situations, mental health practitioners should consider using culturally sensitive approaches to disseminate this information and engage their clients in discussions about involvement in church activities. By understanding the potential protective power of external religiosity, religious organizations of all faiths can consider ways to increase their exposure to individuals and families within the community. In addition, as the parent–child relationship was an important protective factor against suicidal ideation, parents should find ways to combine the protective influences of religion and the parent–child relationship. For example, possible strategies may include attending church and religious activities together, and serving together in the church. As mental health practitioners, religious organizations, and parents consider these recommendations and identify additional methods to incorporate the findings of this study, potential gains can be made toward reducing the negative consequences of suicidal ideation among Mexican youth.

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Table 1

Descriptive Statistics

Variable	Mean (SD)	Range
Suicidal ideation scale	0.54 (0.50)	0–1
Feelings of giving up	0.41 (0.49)	0–1
Thoughts about death	0.31 (0.46)	0–1
Thoughts about burdensomeness	0.31 (0.46)	0–1
Thoughts about killing yourself	0.13 (0.34)	0–1
Internal religiosity	2.48 (0.71)	0–3
External religiosity	2.43 (1.30)	0–4
Gender	0.37 (0.48)	0–1
Age	16.04 (0.78)	14–17
SES	1.90 (0.57)	0–3
Parent child relationship	2.93 (0.88)	0–4
Living arrangement	1.82 (0.44)	0–2

Table 2

Logistic regressions

	Suicidal ideation scale OR (95 % CI)	Giving up OR (95 % CI)	Death OR (95 % CI)	Burdensomeness OR (95 % CI)	Killing yourself OR (95 % CI)
Internal religiosity	0.93 (0.71–1.24)	0.92 (0.69–1.22)	1.01 (0.75–1.36)	0.86 (0.63–1.16)	0.89 (0.59–1.35)
External religiosity	0.88 (0.76–1.02) [†]	0.90 (0.77–1.05)	0.84 (0.71–0.98) *	0.84 (0.71–0.99) *	0.65 (0.52–0.82) ***
Gender	0.67 (0.45–1.02) [†]	0.57 (0.37–0.88) *	0.79 (0.51–1.24)	0.48 (0.29–0.77) **	0.60 (0.31–1.18)
Age	1.06 (0.83–1.34)	1.16 (0.91–1.49)	1.15 (0.88–1.48)	1.00 (0.77–1.31)	0.74 (0.51–1.07)
SES	1.08 (0.76–1.53)	0.96 (0.67–1.37)	0.99 (0.68–1.45)	1.03 (0.69–1.52)	0.96 (0.55–1.65)
Parent child relationship	0.68 (0.54–0.85) **	0.70 (0.55–0.88) **	0.78 (0.61–0.99) *	0.57 (0.45–0.74) ***	0.61 (0.44–0.86) **
Living Arrangement	1.02 (0.64–1.53)	0.93 (0.60–1.44)	0.67 (0.44–1.05) [†]	0.85 (0.53–1.35)	0.96 (0.51–1.81)

[†] *p* 0.10;* *p* 0.05;** *p* 0.01;*** *p* 0.001