Violence against Women, Religion and Health

Cynthia Baiqing Zhang (ORCID: 0000-0002-5091-4615)
Independent Researcher
Seattle, Washington
UNITED STATES OF AMERICA

Mark Killian (ORCID: 0000-0003-3193-5530)
Associate Professor
Whitworth University
Spokane, Washington
UNITED STATES OF AMERICA

Correspondence: Cynthia Baiqing Zhang; cynthiazhang7@gmail.com

Abstract

Using longitudinal datasets (Add Health Waves I, II, and IV), we examine the causal relationship between victims' general health and religiosity as mediated by sexual assault victimization. Building upon the established literature linking religion and health, this research focuses on changes in three key aspects of religiosity, occurrence of prayer, religious service attendance, and religious salience after experiencing forced sex. Consensual sex improves the general health of respondents, while forced sex decreases the general health of the respondents. Religiosity buffers the negative effect of forced sex on respondents. In other words, while members of the general population have improved over-all health as they pray more and view religion as being more important in their lives, sexual assault victims experience even steeper improvements in their general health. Religious service attendance maintains a negative effect on victims' health. That is, service attendance improves the general population's health but harms victims' health. When mental health is added as a control variable, the negative effect of forced sex is attenuated. There is a difference between urban and non-urban respondents. Compared with urban survey takers, non-urban respondents experience better health. This study is one of the first that uses a large random sample with a longitudinal design. As such, this article contributes to the literature by providing greater clarity concerning the function of religion on victims' health.

Keywords: victimization; religion; health; stigma; rural areas

Introduction

Sexual assault victimization has deleterious consequences, including damage to victims' mental and physical health. These consequences are related to factors at all levels of analysis. At micro-levels, and individual's gender and race are important factors. Rape, sexual assault, and intimate partner violence are much higher among females than males, particularly if the individual belongs to a non-dominant racial community (Sokoloff & Pratt, 2005). At the macro-levels, research on violence against women has shown that gender inequalities are associated with victimization risk in somewhat different ways depending on whether strangers or non-strangers commit the violence. Regionally, increases in women's education, income, and labor force participation are associated with decreases in risk for intimate partner violence; however, increases in labor force participation are also associated with increases in risk for victimization committed by strangers and known non-intimates (Rennison et al., 2013). In other words, while women are victimized more by intimate partner violence in rural areas (DeKeseredy, 2020; DeKeseredy et al., 2022), they are subject to more violence in urban public spaces, given women's higher participation in workforce in urban America. Net of other macro level economic indicators, intimate partner victimization has also been found to be lower in metropolitan areas with more police officers and social service workers per capita and unrelated to whether mandatory arrest laws for cases of domestic violence are in place (Lauristen & Rezey, 2018).

Relatedly, rural America is different from cities regarding religion/religiosity. The influence of religions, particularly Christianity in rural parts of the United States, is greater than that in urban America (Chalfant & Heller, 1991). Although previous research on religion and health has generally highlighted the positive relationship between an individual's health and religiosity (Levin, 1994; Krause, 1998; Pargament et al., 2000; George et al., 2002; Koenig et al., 2012; Hill et al., 2016; Koenig et al., 2018; Page et al., 2020; Upenieks, 2021; Upenieks, 2022; Ellison et al., 2023; Upenieks et al., 2023; Kent et al., 2020), in terms of victimization, empirical work has mixed findings.

Clergy sexual abuse of minors and women in the Catholic Church had been ongoing for decades till the 2010s when lawsuits and reports of the abuse became known to the world (Renzetti & Yocum, 2013). Piggot and Anderson (2023) show that individuals who experience rape were more likely to identify as religious, reported that religion was less important to them, read less religious texts, attended less religious services and were more likely to leave the religion of their parents compared to those who did not experience rape. However, many churches enjoy a communal life due to limited resources (Wollschleger & Killian, 2014). Clergy members are frequently cited as a potential source of community support to victims of sexual abuse or assault, as well as a likely avenue for disclosure (Bruns et al., 2005). Similarly, advocates for battered women believe religious leaders should be educated more on the needs of battered women (Gross & Stith, 1996). Consequently, some qualitative studies show a positive impact of religion on victims of sexual assault and domestic violence. Seventy predominately inner-city minority women who had been sexually assaulted in the previous nine to 24 months experienced better well-being related to increased

spirituality since the assault, although a causal relationship between religion and well-being cannot be established with these cross-sectional data (Kennedy et al., 1998). Sixty-five African American women who experienced domestic violence show evidence that those who evinced higher levels of spirituality and greater religious involvement reported fewer depression symptoms and lower levels of posttraumatic stress (PTS) symptoms (Watlington & Murphy, 2006).

Public debate on the function of religion on health features some extreme cases in which individuals or groups prohibit their family or group members from seeking modern medicine because they read the Bible literally (e.g. LaMotte, 2018). The literature on religion and health tends to link service attendance to positive health outcomes (George et al., 2002; Hill et al., 2016; Boyd & Wilcox, 2020; Page et al., 2020; Upenieks et al., 2023). Yet, sexual assault victims are often stigmatized (Murphy-Oikonsen et al., 2020), in which their characters are perceived negatively by their communities (Goffman, 1963). As a result, sexual assault victims may face psychological strain within their communities because their claims may be at odds with schemas that privilege certain types of individuals (e.g., clergy) over others (e.g., victims). Research has shown that these types of strains have a direct, negative effect on individuals' physical health. Consequently, it is possible that religious service attendance may have a deleterious effect on sexual assault victims' health, especially mental health. Other religious measures used in the research that focus on religion and health include self-assessed measures of religiosity and spirituality, private practices such as prayer, scripture reading and mediation, religious coping, spiritual experience, and specific beliefs (VanderWeele, 2017).

So far, most studies on the link between religion and sexual assault victims' health are qualitative, including those with a large sample (Satchell et al., 2023) or are based on a non-representative sample (Piggot & Anderson, 2023). For example, the analysis of a large sample (N=402) did not find the positive function of religious belief for victims, although interviews with 27 victims did (Satchell et al., 2023). What is needed is a nationally representative, quantitative study that examines a causal path between sexual assault victims' health and religion. This study aims to achieve this objective. In this article, we ask these central research questions: What is the relationship between religion and sexual assault victims' health? That is, does religion help victims' health? If it does, which aspects of religion are positive influences on women victims' health?

To answer our research questions, we selected religiosity variables from the National Longitudinal Study of Adolescent Health (Add Health). We borrow from Piggot and Anderson (2023) who view religiosity as attitudinal and behavioral commitments to the beliefs and practices established by a sacred institution. Pulling from previous research, Piggot and Anderson (2023) place religiosity on a scale between extrinsic (little to no integration of beliefs and practices in one's attitudinal and behavioral commitments) and intrinsic (full integration of beliefs and practices in one's attitudinal and behavioral commitments) (Allport & Ross, 1967; Burn & Busso, 2005; Navarro & Tewksbury, 2018). Due to data limitations, we focus solely on two behavioral commitments in this article, prayer

and religious service attendance, and use religious salience as a measure of extrinsic-intrinsic religiosity. Given these definitions, in the next section we offer three hypotheses based on theories developed in previous research.

Theoretical Framework and Hypotheses

Victimization and Health

Victimization has short-term and long-term consequences, including but not limited to mental health issues, involvement in crime and deviance, and low educational and socioeconomic attainment. The damage of victimization over the life course takes place through various mechanisms: the undermined agency and self-efficacy and suspicion about others in the community. That is, due to lowered self-confidence and trust in the community, victims are less likely to make efforts for their lives and reach out to others to have meaningful relationships (Macmillan, 2001). Studies on women victims of sexual harassment and assaults show that the link between sexual harassment and physical health can be better understood when post-traumatic stress (PTS) symptoms are taken into consideration. Specifically, sexual harassment frequency predicted more severe physical symptoms only among those women with high PTS symptom severity but not among those with low PTS symptom severity. Additionally, sexual harassment frequency and PTS symptom severity were positively associated with depression and overall psychological distress (Ho et al., 2012). It seems that mental problems mediate the link between victimization and weakened physical health.

Religion and Health

There is ample evidence that religion positively influences health (Levin, 1994; Koenig et al., 2012). In general, explanations for this relationship fall under two different headings. The first heading emphasizes the socio-psychological aspects of religious belief systems (Bradshaw & Kent, 2018; Pargament et al., 2000; Ellison et al., 2023). Research in this area demonstrates that mental schemas related to religious beliefs and practices create coping mechanisms that individuals can employ to produce better mental and physical health outcomes (Krause, 1998). For example, Kent, Bradshaw, and Uecker (2018) demonstrated that increased psychological well-being is related to subjective attachment to a deity. Unlike avoidant or insecure attachments, individuals with secure attachments to God have a more optimistic outlook on life and higher levels of self-esteem, leading to higher psychological well-being.

Upenieks (2022) builds on this research by showing that a secure attachment to God can improve an individual's subjective dignity. Consequently, these individuals have greater capacities to confront challenges and problems that may threaten their health (Upenieks, 2022). In a different study, Upenieks (2021) determined that older adults who value religious beliefs about divine forgiveness received stronger physical health benefits than those who do not. Although these beliefs are inculcated in individuals through religious education, they can manifest through lived religious practices, such as prayer (Duckro & Magaletta, 1994).

Although difficult to study, Andrade and Radhakrishnan's (2009) research on the medical effects of prayer points to two outcomes that mediate the relationship between prayer and physical health. The first focuses on the problem-solving strategies that are inherent in the act of prayer. In its most secular form, prayer can act as a form of self-talk, allowing individuals to process through medical and biographic discourses (Bendien et al., 2023). However, prayer also strengthens individuals' abilities to give meaning of their health conditions, providing them with purpose. This purpose reduces the latent stress that often exacerbates illness and disease (Ryff et al., 2016).

Given this previous research, subjective religious beliefs and practices positively impact an individual's health. Accordingly, although we expect that victims of forced sex will have lower levels of general health, we hypothesize that subjective religious beliefs and practices will positively mediate (i.e., attenuate) the relationship between victimization and general health.

H1: Prayer and religious salience positively mediate the relationship between victimization of forced sex and general health.

The second hypothesis highlights the role of religious structures, such as congregational social support, as the impetus for improved health amongst religious followers (George et al., 2002; Hill et al., 2016; Page et al., 2020; Upenieks et al., 2023). Pulling from Durkheim ([1912] 2001) and Collins (2005), this research claims that collective religious behaviors provide bonding social capital (Acevedo et al., 2022; Upenieks, et al., 2023; Ellison et al., 2023). Individuals gain acceptance in a religious community through ritual participation, establishing their membership. In return for their membership, the religious community provides material, emotional, and social support. For example, the community may provide meals, care, and guidance when the individual falls ill. When supporting members, religious communities minimize time and energy expenditures by promoting good health practices (e.g., members of the LDS abstain from alcohol and caffeine) and preventive healthcare options (e.g., the development of Christian mental health counseling programs and practices).

As a result of these proactive initiatives, religious community members improve their mental and physical health outcomes. Often, religious participation is operationalized through worship service attendance (Upenieks et al., 2023; Ellison et al., 2023). Through this practice, individuals publicly declare their affinity for the community, reinforcing their claim to the social capital that the community provides. Consequently, as individuals increase their participation in religious worship services, they are more likely to experience better health outcomes. Given that victims of forced sex will experience worse health outcomes over time, we hypothesize that religious worship participation will positively mediate (i.e., attenuate) the relationship between victimization and general health.

H2: Religious service attendance positively mediates the relationship between victimization of forced sex and general health.

Although extant studies consider demographic variation, they often do not include variation due to victimization. The literature on religion and forced sex victimization demonstrate that religiosity is positively associated with rape myth acceptance, the prejudicial and false beliefs about rape victims (Barnett et al., 2016). Furthermore, those who identify as religious tend to endorse higher levels of rape myths than those who are not religious (Barnett et al., 2016). Consequently, it may be hard for victims of forced sex to find acceptance in religious organizations. Instead of facing possible stigmatization due to rape myths, victims of forced sex may limit their worship service attendance and participation in religious programming. As a result, victims have less access to the social capital congregations offer to support an individual's health. In their study of mostly Christian women, Piggot and Andersen (2023) showed that victims of forced sex significantly altered their participation in religious activities due to perceived ambivalent sexism and endorsement of rape myths that exist within religious spaces and populations. Concerning these findings, we seek to test a third contradictory hypothesis about religious service attendance. If victims of forced sex reduce participation in religious organizations, then it is possible that religious service attendance negatively mediates the relationship with general health, directly opposing *H2*.

H3: Religious service attendance negatively mediates the relationship between victimization of forced sex and general health.

Methods

Data

We use the Add Health dataset's Waves 1, 2 and 4 to analyze the causal relationship between religion and victims' health. The inaugural survey (Wave 1) was conducted between 1994 and 1995 with adolescents in the United States who were in grades 7-12. Subsequent surveys were administered as the adolescents transitioned into emerging adulthood and adulthood. The Wave 2 in-home survey was conducted in 1996, two years after Wave 1. The Wave 4 in-home survey was conducted in 2008, when respondents aged between 27 and 32. Since victimization peaks in adolescence (Macmillan 2001), any reports of victimization would be captured between Wave 2 and Wave 4.

Beyond questions concerning forced sex, Wave 2 and Wave 4 surveys asked questions about religiosity, providing a longitudinal dimension to our analysis. Wave 1 provided demographic information on each respondent, which we use as controls in our analysis. Using listwise deletion for missing data, we totaled 3924 respondents between Waves 1, 2, and 4. Add Health is based on a clustered sample design that purposefully oversamples certain populations (Chen & Harris, 2020). As such, these data contain unequal probabilities that require post-stratified sample weights to ensure representativeness (Shin & Tourangeau, 1999). Following the literature, we applied sample weights provided with Wave 4 data (Chen & Harris, 2020).

Measures

Our dependent variable for this analysis is general health. In Waves 2 and 4, respondents were asked to rate their general health on a scale of one to five, one being "excellent" and five being "poor". We reverse-coded these responses so that reports of better health equated with a higher number (i.e., five is "excellent"; one is "poor"). Since the same question was asked during both waves, we created a longitudinal variable representing the general health change (Table 1). In this case, the possibility of responses ranged from -4 to 4. Negative numbers indicated reports of worse general health between Waves 2 and 4, while positive numbers indicated reports of improved general health. On average, respondents reported worse general health between the two surveys (mean = -.23). To isolate causal effects on improved general health, we created a dummy variable for respondents who reported improved general health between the two waves. As shown in Table 1, 22 percent of respondents reported improved general health between Wave 2 and 4.

Our focal variable is the occurrence of forced sex. In Wave 2, respondents were asked if they were physically forced to have sexual intercourse against their will. In Wave 4, respondents were asked if they were ever physically forced to have any type of sexual activity against their will. Although the two questions are not equivalent (intercourse is only one type of sexual activity), we argue that the possible errors that could occur from this comparison are justified for two reasons. First, our analysis places greater emphasis on the *reports of forced sex* as opposed to the types of sexual interaction. Since incidents of sexual assault are often underreported (Murphy-Oikonsen et al., 2020), we recognize that it is possible that many more incidents of forced sex occurred than were reported in both waves, particularly in Wave 2, which focuses on one type of sexual assault. Nonetheless, we aim to understand the causal relationship between religion and victims' health.

As used in previous research, cross-sectional methods cannot fulfill this aim. Rather, longitudinal analyses can uncover time-order changes, possibly revealing the causal relationships we want to examine. Consequently, our second justification rests on the ability to capture longitudinal changes for both forced sex, albeit limited, and religiosity. Few nationally representative, longitudinal datasets contain these variables. Given these justifications, we created a longitudinal variable that represents respondents who did not experience forced sex in Wave 2 but had experienced some forced sexual activity by Wave 4. These data reveal that 14 percent of respondents indicated some type of forced sex between 1996 (Wave 2) and 2008 (Wave 4).

As indicated in our three hypotheses, we are interested in the mediating effect of religiosity on general health for those who have experienced forced sex. For this analysis, we use the frequency of prayer, religious service attendance, and religious salience to serve as our mediating variables. Since the choice sets for these questions were not equivalent, we collapsed the Wave 4 data to fit the Wave 2 choice sets. Regarding religious service attendance, we reverse-coded the Wave 2 data to match the direction of the Wave 4 data, such that the higher numbers corresponded with more attendance. Since the Wave 4 religious service question added one more option than the Wave 2 data (attends 2 or 3 times a month),

we collapsed the Wave 4 data to match the four categories offered in Wave 2. These categories are: (0) Never, (1) A few times a year, (2) Once a month or more, (3) Once a week or more. Likewise, for the frequency of prayer, we reverse-coded the Wave 2 data to match the direction of the Wave 4 data. Since the Wave 4 data provided three extra options to respondents (more than once a day, a few times a week, a few times a month), we collapsed the Wave 4 data to fit the Wave 2 choice set. These categories are: (0) Never, (1) Less than once a month, (2) At least once a month, (3) A least once a week, (4) At least once a day. Both waves asked respondents to report how important religion is to them. We label this variable "religious salience" as it better reflects literature on interior and exterior religion (Allport & Ross, 1967; Burn & Busso, 2005; Navarro & Tewksbury, 2018; Piggott and Anderson, 2023).

As with the other religion variables, we reverse-coded the Wave 2 data to match the direction of the Wave 4 data. However, unlike the previous variables, the choice sets for religious salience used slightly different language. In Wave 2, respondents could choose from the following choices: No Religion, Religion is Not Important, Religion is Fairly Unimportant, Religion is Fairly Important, or Religion is Very Important. In Wave 4, respondents could choose: Religion is Not Important, Religion is Somewhat Important, Religion is Very Important, or Religion is Most Important.

To create equivalent matches, we recoded the Wave 2 data. First, we combined the "no religion: and "not important" responses into one "religion is not important" category. Then, using the categories from Wave 4, we matched "very important" from Wave 2 with "most important" from Wave 4, "fairly important" from Wave 2 with "very important" from Wave 4, and "fairly unimportant" from Wave 2 with "somewhat important" from Wave 4. After this process, we had five discrete ordinal categories of religious salience for Wave 2 and Wave 4, extending from "not important" to "very/most important".

Given the substantial effect that mental health has on general health, we included a mental health variable in this analysis. Originally, we thought that there might have been indirect effects of religion on mental health. However, these proved to be minimal. The direct effects of religion on general health, given forced sex victimization, were much stronger than any indirect effects through changes in mental health. Nonetheless, we include mental health because it directly affects general health, which we believe is important to capture.

We then created longitudinal variables that showed increases or decreases in these measures. To isolate the effects of increased religiosity, we created dummy variables for representing only respondents who prayed more, attended religious services more, or found greater importance in religion between Waves 2 and 4. As reported in Table 1, 32 percent of respondents prayed more, 18 percent attended more religious services, and 28 percent said religion was more salient for them in 2008 (Wave 4) compared to 1996 (Wave 2). Additionally, 25 percent of respondents reported improved mental health between the two waves.

Table 1

Descriptives of Longitudinal Variables

Variable	Range	Mean	SD
Dependent Variables:			
Change in General Health	-4-4	-.23	1.080
Improved General Health	0-1	.22	.417
Independent Variables:			
Occurrence of Forced Sex	0-1	.14	.348
Improved Mental Health	0-1	.25	.432
Prays More	0-1	.32	.467
Attends Religious Services More	0-1	.18	.381
Religion is More Salient	0-1	.28	.451
Control Variables:			
Sex	0-1	.50	.500
Lives in Urban Area	0-1	.32	.467
Race: White (Reference)	0-1	.76	.428
Race: Black	0-1	.16	.368
Race: Native American	0-1	.04	.198
Race: Asian	0-1	.03	.168
Race: Other Races	0-1	.06	.244
Latinx Ethnicity	0-1	.11	.315
Born in the United States	0-1	.95	.225

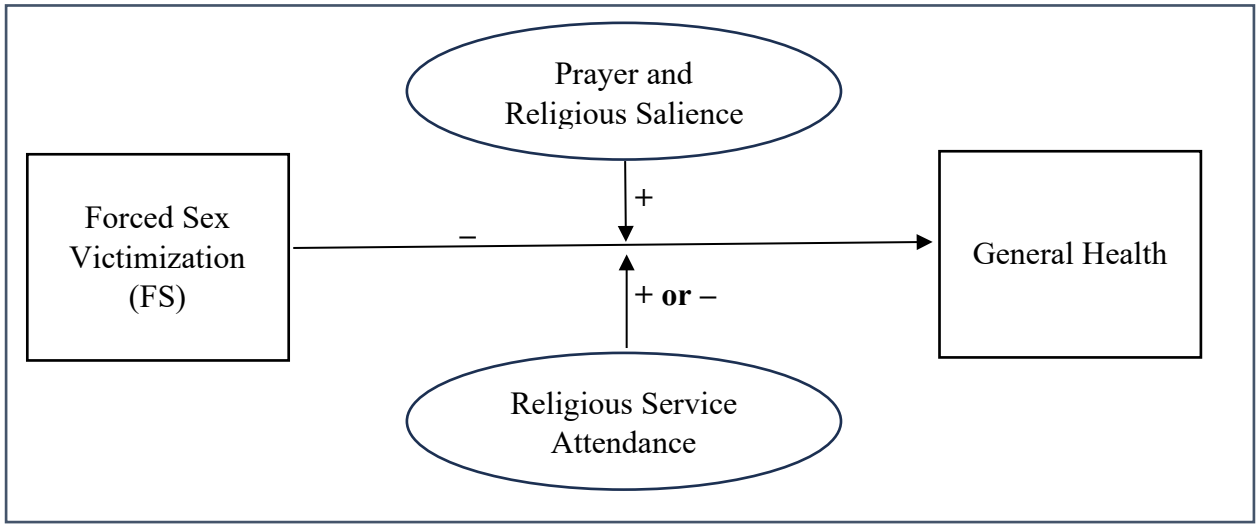
Previous research has emphasized the demographic and contextual nuances that moderate the relationship between religion and health (Acevedo et al., 2022). Consequently, we also added five different controls to our analysis. Given the disproportional forced sex victimization of females, we wanted to control for respondents' sexes. Since Add Health was first administered in 1994, they only allowed for two answers, male or female, apart from allowing for non-responses. Ellison, Guven, and DeAngelis et al. (2023) demonstrated that there is a mediating effect of religion on mental health given perceived neighborhood disorder. As a proxy, we included a variable that captures residences in urban areas to control for higher rates of perceived neighborhood disorder. Although neighborhood disorder can occur in suburban and rural areas, higher probabilities of perceived disorder have historically existed in urban environments. Additionally, race and ethnicity have been proven to affect the relationship between religion and health (Blaine & Croker, 1995; Ellison et al., 2008; Acevedo et al., 2022). Therefore, we added racial, Latinx ethnicity, and nationality controls to our analysis.

Analytical Strategy

Figure 1 captures the possible causal effects of religion on general health, given forced sex victimization. To test these relationships, we conducted two analyses. The first analysis explored the interactions between religiosity and forced sex victimization to determine if increased prayer frequency, religious service attendance, or religious salience has a greater mediating influence between forced sex (FS) and general health. We used an OLS regression analysis with three interaction terms (Prays More*FS, Attends More*FS, More Salient*FS) to complete this analysis. In this case, the dependent variable was the continuous "Change in General Health" reported in Table 1.

Figure 1

Illustration of Hypothetical Causal Relationships Between Religiosity and General Health Given Forced Sex Victimization



Once we detected interactional differences in our religiosity variables, we initiated our second analysis. We investigated the likelihood of improved general health using a binary logistic regression. In this analysis, the dependent variable was the binary "Improved General Health" variable reported in Table 1. Although the first analysis could detect differences between various aspects of religiosity and changes in general health given victimization, the second analysis provides a discrete effect for each of our possible mediating variables, showing which aspects of religiosity have the greatest possible impact on improved general health for individuals who have experienced forced sex victimization.

Results

The result from the OLS linear regression demonstrates statistically significant interactions between the occurrence of forced sex and our religiosity variables. As shown in Table 2, an individual who reported the occurrence of forced sex between Wave 2 and Wave 4 had worse general health when controlling for improved mental health, an increase in prayer, an increase in religious service attendance, and reporting a higher level of religious

salience (Model 1). However, as represented in Model 2, when the occurrence of forced sex interacts with the religiosity variables, the negative effect of victimization quadruples.

Furthermore, the effect of increased religious service attendance for those who experienced forced sex exacerbates the negative effects on general health (Figure 2), whereas those who increased prayer attenuated the negative effect of forced sex, leading to improved health outcomes (Figure 3). In other words, individuals who have experienced forced sex and attend more religious services report worse general health, while those who have experienced forced sex and increased the frequency of prayer report improved general health. The latter is also true for individuals who say religion is more salient in Wave 4 than in Wave 2. Individual's general health improves for those who have experienced forced sex and increased the importance of religion in their lives. These effects hold when adding the controls to the analysis (Model 3).

Our binary logistic regression analysis confirms the results from the previous analysis. As illustrated in Table 3, the odds of individuals reporting improved general health between Waves 2 and 4 are lower if they have experienced forced sex and attend more religious services. Alternatively, when controlling for the occurrence of forced sex, an individual has 22 percent greater odds of reporting improved general health if they increase their frequency of prayer and 9 percent greater odds if they see religion as more important in their lives. The odds of reporting improved general health also increase if the victim is female, identifies as Asian or another race, is Latinx, and was born in the United States. Individuals who live in urban areas and are Black or Native American are less likely to report better general health when controlling for forced sex and religiosity.

Table 2

Linear Regression Outcomes (Unstandardized Coefficients)

Variables	Model 1	Model 2	Model 3
Occurrence of Forced Sex (FS)	-.044	-.199	-.221
Improved Mental Health	.185	.192	.199
Prays More	.073	.001	.009
Attends Religious Services More	.090	.121	.128
Religion is More Salient	.072	.049	.032
Interaction: Prays More X FS		.438	.428
Interaction: Attends More X FS		-.147	-.133
Interaction: More Salient X FS		.111	.100
Control Variables:			
Sex			.046
Lives in Urban Area			-.056
Race: Black			-.187
Race: Native American			-.104
Race: Asian			.027
Race: Other Races			.075
Latinx Ethnicity			-.138
Born in the United States			.070
Constant	-.335	-.313	-.383
R^2	0.010	0.015	0.022

All coefficients are significant at a <.001 level of significance.
Racial reference category: White

In support of *H1*, our findings demonstrate that individuals who have experienced forced sex but increased their frequency of prayer and view religion as more salient are more likely to report improved general health than those who experienced forced sex but did not increase their frequency of prayer or view religion as more salient. Regarding religious service attendance, our findings lead us to reject *H2* and, alternatively, accept *H3*. Individuals who experienced forced sex are less likely to report improved general health when they attended more religious services.

Figure 2

Changes in General Health Regressed on Occurrence of Forced Sex and Increased Religious Service Attendance

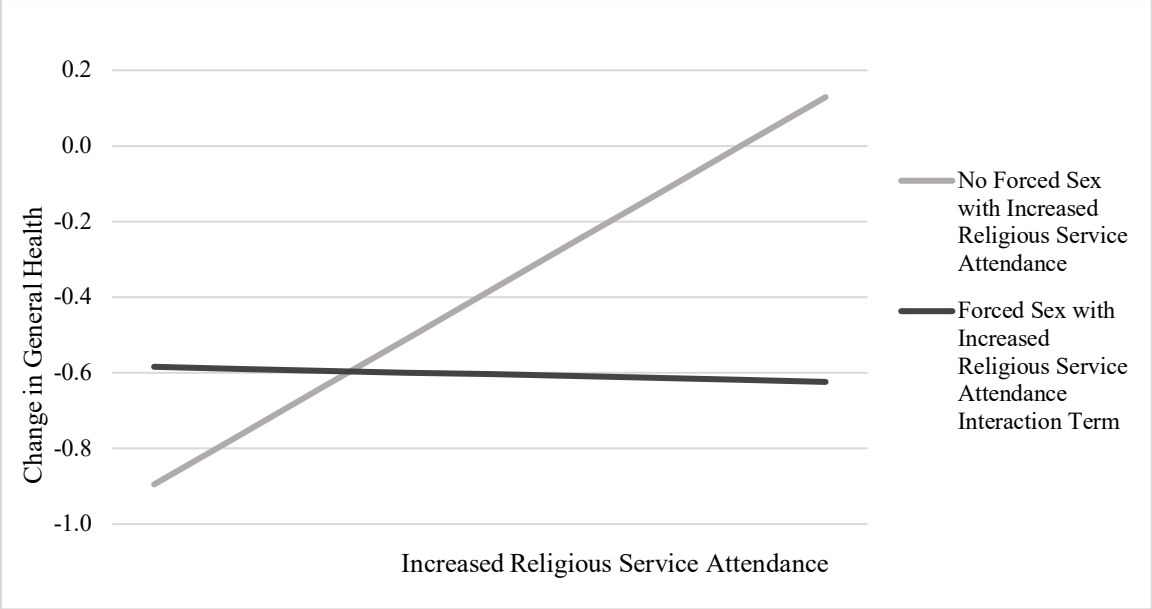


Figure 3

Changed in General Health Regressed on Occurrence of Forced Sex and Increased Frequency of Prayer

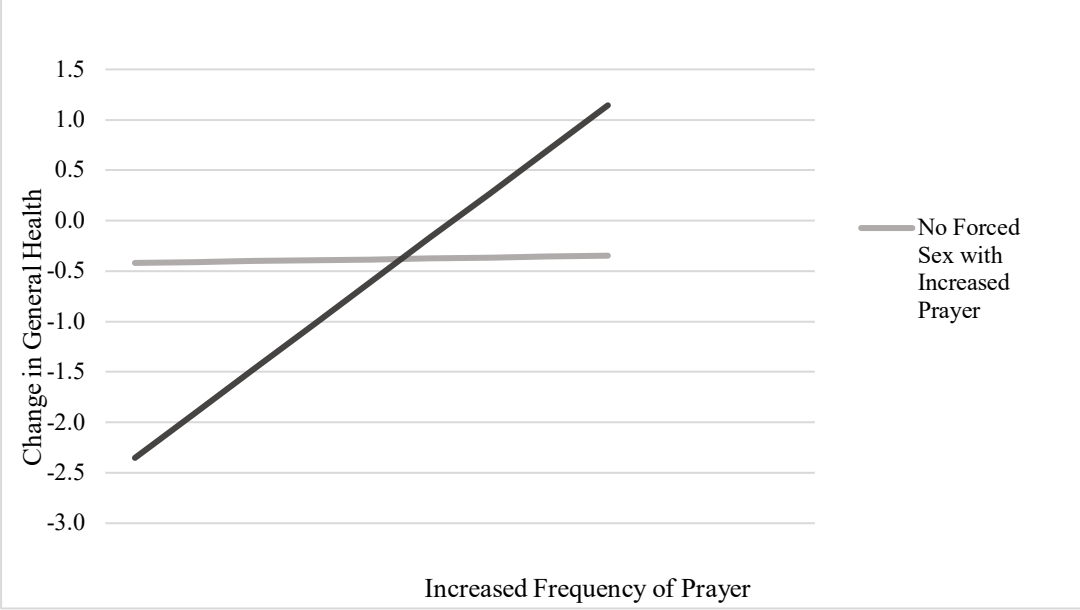


Table 3

Binary Logistic Regression Outcomes (DV: Improved General Health)

Variables	B	S.E.	Odds
Occurrence of Forced Sex (FS)	-.356	.002	.700
Improved Mental Health	.380	.001	1.462
Prays More	.202	.001	1.224
Attends Religious Services More	-.051	.002	.946
Religion is More Salient	.091	.001	1.092
Control Variables:			
Sex	.137	.001	1.144
Lives in Urban Area	-.014	.001	.984
Race: Black	-.247	.002	.778
Race: Native American	-.182	.003	.828
Race: Asian	.421	.004	1.512
Race: Other Races	.037	.003	1.031
Latinx Ethnicity	.143	.003	1.148
Born in the United States	.478	.004	1.602
Constant	-1.879	.004	.153
Log-likelihood	13954532.310		
Nagelkerke R^2	0.019		

All coefficients are significant at a <.001 level of significance.

Conclusion and Discussion

This article examines the causal relationship between religion and sexual assault victims' health with three waves of Add Health data. Add Health survey cohorts were high school students at Wave 1 (1994) and were, therefore, at the highest risk of victimization. The results show a better health profile of rural residents than their urban counterparts. While there may be many reasons for this difference, some possible scenarios include the gender gap in health and the avoidance of public space by sexual assault victims. That is, the much better health and longevity enjoyed by abusive men and men, in general, reverses the negative impact of abused women and women in general on the average health profile in rural areas.

As mentioned earlier in this article, it is believed rural America is more religious than urban America. Nationally, about 75 percent of the population in the United States are affiliated with a religion, with metropolitan areas slightly less religious (around 72% religiously affiliated population) than rural and smaller places (at 75% or above) (PRRI 2020). Urban America is more diverse in terms of religion (i.e. more non-Christian religiosity) and race (i.e. more racial/ethnic minority religious members), while rural and

smaller places are Christian and white dominated (PRRI 2022). Given that the United States ranks third in the world regarding the risk of sexual abuse faced by women (True 2021), particularly in rural areas, it is important to understand how rural religiosity is related with the healing of victims. Church attendance is extrinsic religiosity. This study examines women victims' health related to their religiosity. Therefore, attitude towards women is crucial. Most Christian denominations, including mainline Christian personal religiosity, are lukewarm to women at best when it comes to gender issues (i.e. men over women hierarchy, same sex marriage, and transgender) with slow progress (Whitehead & Perry, 2020; Allport & Ross, 1967).

The results clearly report a positive function of personal religiosity (i.e., prayer and salience) for sexual assault victims' health and a negative impact of community religiosity (i.e., service attendance) on victims' health. In other words, while personal religiosity helps victims heal, religious communities do the opposite. It is possible that individuals who participate in religious communities are not immune from the prejudice against victims endorsed by the larger society, which turns out to be harmful to victims' health. Various racial/ethnic backgrounds of the organized religion may have different functions for victims' health, though. African American religious organizations, for example, have been crucial to the community's life since other channels to achieve their aspirations were blocked, particularly during the slavery era (Mays & Nicholson 1969). Famous Black religious leaders during the civil rights movement period, such as Martin Luther King and Malcolm X (Marable 2011), placed community needs and gender egalitarianism at the center of their religious teachings and political ideology (Hudson-Weem 1993). Yet, as illustrated in Table 3, African American victims report lower odds of general health when holding religiosity constant across all races. Further research can tease out why marginalized demographic groups that, traditionally, are committed to religious attitudes and behaviors experience lower odds of general health after an incidence of forced sex.

This research provides a large picture of religion's interaction with sexual assault victims' health. That is, the quantitative and longitudinal data of Add Health enable us to provide results that are generalizable to the population of sexual assault victims and establish a causal relationship between victims' health and religious variables. While different religious communities may have provided substantial assistance to help improve victims' health as shown in previous mostly qualitative studies, in general, organized religion does the opposite for victims' health. Sexual assault victims generally rely on their own strength related with religion and the social environment in religious communities to hold on to their faith. Faith in turn can help victims heal and improve their health.

The current literature on how women victims receive assistance, if at all, from institutions and organizations such as non-profit organizations (e.g., Qi & Yang, 2020) is growing but limited, particularly women victims in rural areas. Studies on other important institutions and organizations' (e.g., religion) positive function for victims' health and well-being in general are scattered in the scholarship of reentry (e.g. Said & Davidson 2021). Women's criminality often develops as a result of victimization and/or abuse, particularly in

rural areas. The literature on the reentry experience of women in rural areas has a good start with important works such as a comparative study on gendered paths to reenter the community (Oroz et al., 2023). But much more is needed to dissect what has been done for sexual assault victims by institutions and organizations because these institutions and organizations are important resources for victims to heal and move forward in life. While some women victims eventually develop criminality, many do not. Additionally, the fact that victims become perpetrators probably reflects the lack of help they need and deserve rather than their evil nature.

Besides the potential error caused by the calculation of the forced sex variable previously discussed, the small R squared of the regression models also limits this research. As shown in Table 2, the R squared in the three models is between 1 percent and 2.2 percent. That is, there is only between 1 percent to 2.2 percent of the variance in the variable of victims' health can be explained by the independent variables (forced sex, mental health, and the three religiosity related variables), the interaction terms of the independent variables (forced sex interacts with the three religiosity variables), and control variables (urban, gender, race, ethnicity, and nativity). However, the R squared can be boosted if we increase the number of independent and control variables. We chose to keep the small number of independent variables to highlight the significant impact of the major independent variables of interest – the occurrence of forced sex, victims' mental health, and religiosity – on victims' health. Additionally, more religious variables may tease out aspects of religion that help, hinder, or have no impact on victims' health. We tried this with religious affiliation; however, the results did little to booster the overall explained variances of our models.

The findings of this research concerning religion's function on sexual assault victims' health have implications for policies. First, victims' personal faith should be cultivated to help them recover physically and mentally. The encouragement can come from victims' social networks, institutions, and organizations. Second, to overcome victims' suspicion of the larger society due to their realization that some people may be predatory, systemic changes need to take place. That is, some religious communities and the larger society should change their perception of crime victims as immoral because victims cast doubt over social justice.

References

Acevedo, G. A., DeAngelis, R. T., Farrell, J., Vaidyanathan, B. (2022). Is it the sermon or the choir? Pastoral support, congregant support, and worshiper mental health. *Review of Religious Research, 64*(4), 577–600. https://doi.org/10.1007/s13644-022-00500-6

Allport, G. W., & Ross, J. M. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*, *5*(4), 432-443. https://doi.org/10.1037/h0021212

Andrade C., & Radhakrishnan R. (2009). Prayer and healing: A medical and scientific perspective on randomized controlled trials. *Indian Journal of Psychiatry, 51*(4), 247-53. https://doi.org/10.4103/0019-5545.58288

Barnett, M. D., Sligar, K. B., & Wang, C. D. (2016). Religious affiliation, religiosity, gender, and rape myth acceptance: Feminist theory and rape culture. *Journal of Interpersonal Violence*, *33*(8), 1219-1235. https://doi.org/10.1177/0886260516665110

Bendien E., Kruijthoff D. J., van der Kooi C., Glass G., & Abma T. (2023). A Dutch study of remarkable recoveries after prayer: How to deal with uncertainties of explanation. *Journal of Religion and Health, 62*(3), 1731-1755. https://doi.org/10.1007/s10943-023-01750-6

Blaine, B., & Crocker, J. (1995). Religiousness, race, and psychological well-being: Exploring social psychological mediators. *Personality and Social Psychology Bulletin, 21*(10), 1031–1041. https://doi.org/10.1177/01461672952110004

Boyd, J. M., & Wilcox, S. (2020). Mediation analysis of the relationships between God locus of control and health behaviors in college students. *Review of Religious Research, 62*(2), 273-288. https://doi.org/10.1007/s13644-020-00406-1

Bradshaw M., & Kent B. V. (2018). Prayer, attachment to God, and changes in psychological well-being in later life. *Journal of Aging and Health, 30*(5), 667-691. https://doi.org/10.1177/0898264316688116

Bruns, E. J., Lewis, C., Kinney, L. M., Rosner, L., Weist, M. D., & Dantzler, J. A. (2005). Clergy members as responders to victims of sexual abuse and assault. *Journal of Religion and Spirituality in Social Work: Social Thought, 24*(3), 3-19. https://doi.org/10.1300/J377v24n03_02

Burn, S. M., & Busso, J. (2005). Ambivalent sexism, scriptural literalism, and religiosity. *Psychology of Women Quarterly, 29*(4), 412–418. https://doi.org/10.1111/j.1471-6402.2005.00241.x.

Chalfant, H. P., & Heller, P. L. (1991). Rural/urban versus regional differences in religiosity. *Review of Religious Research*, *33*(1), 76–86. https://doi.org/10.2307/3511262

Chen, P., & Harris, K. M. (2020). *Guidelines for analyzing add health data.* Carolina Population Center at the University of North Carolina at Chapel Hill. https://doi.org/10.17615/C6BW8W

Collins, R. (2005). *Interaction ritual chains*. Princeton: Princeton University Press.

DeKeseredy, W. S. (2020). *Woman abuse in rural places*. London: Routledge. https://doi.org/10.4324/9781003009290

DeKeseredy, W. S., Nolan, J., Stoneberg, D. M., & Turley, E. E. (2022). Estimating crime in rural America: The contribution of the first phase of the West Virginia community

quality of life survey. *International Journal of Rural Criminology, 6*(2), 237-251. https://doi.org/10.18061/ijrc.v6i2.8751

Duckro, P. N., & Magaletta, P. R. (1994). The effect of prayer on physical health: Experimental evidence. *Journal of Religion and Health*, *33*(3), 211–219. http://www.jstor.org/stable/27510816

Durkheim, E. ([1912] 2001). *The elementary forms of religious life*. Oxford University Press.

Ellison, C. G., Musick, M. A., & Henderson, A. K. (2008). Balm in Gilead: Racism, religious involvement, and psychological distress among African-American adults. *Journal for the Scientific Study of Religion, 47*(2), 291–309. https://doi.org/10.1111/j.1468-5906.2008.00408.x

Ellison, C. G., Guven, M., DeAngelis, R. T., & Hill, T. D. (2023). Perceived neighborhood disorder, self-esteem, and the moderating role of religion. *Review of Religious Research, 65*(3), 317-343. https://doi.org/10.1177/0034673X231208098

George, L. K., Ellison, C. G., & Larson, D. B. (2002). Explaining the relationships between religious involvement and health. *Psychological Inquiry, 13*(3), 190-200. https://doi.org/10.1207/S15327965PLI1303_04

Goffman, E. (1963). *Notes on the management of a spoiled identity.* Simon and Schuster.

Gross, W. G., & Stith, S. M. (1996). Building bridges between shelters for battered women and religious organizations: Advice from victim advocates. *Pastoral Psychology 45*,107-117. https://doi.org/10.1007/BF02260017

Hill T. D., Bradshaw M., & Burdette A. M. (2016). Health and biological functioning. In D. Yamane (Ed.), *Handbook of religion and society* (pp. 11-28). Springer International. https://doi.org/10.1007/978-3-319-31395-5

Ho, I. K., Dinh, K. T., Bellefontaine, S. A., & Irving, A. L. (2012). Sexual harassment and posttraumatic stress symptoms among Asian and white women. *Journal of Aggression, Maltreatment and Trauma, 21*, 95-113. https://doi.org/10.1080/10926771.2012.633238

Hudson-Weems, C. (1993). From Malcolm Little to El Hajj Malik El Shabazz: Malcolm's evolving attitude toward the Africana woman. *The Western Journal of Black Studies*, *17*(1), 26.

Kennedy, J. E., Davis, R. C., & Taylor, B. G. (1998). Changes in spirituality and well-being among victims of sexual assault. *Journal for the Scientific Study of Religion, 37*(2), 322-328. https://doi.org/10.2307/1387531

Kent B. V., Bradshaw M., & Uecker J. E. (2018). Forgiveness, attachment to God, and mental health outcomes in older U.S. adults: A longitudinal study. *Research in Aging, 40*(5), 456-479. https://doi.org/10.1177/0164027517706984

Kent, B.V., Henderson, W. M., Bradshaw, M., Ellison, C. G., & Wright, B. R. E. (2020). Do daily spiritual experiences moderate the effect of stressors on psychological well-being? A smartphone-based experience sampling study of depressive symptoms and flourishing. *International Journal for the Psychology of Religion*, *31*(2), 57-78. https://doi.org/10.1080/10508619.2020.1777766

Koenig, H. G., King, D., & Carson, V. B. (2012). *Handbook of religion and health*. Oxford University Press.

Krause, N. (1998). Stressors in highly valued roles, religious coping, and mortality. *Psychology and Aging, 13*(2), 242–255. https://doi.org/10.1037/0882-7974.13.2.242

LaMotte, S. (2018). CNN. 'Inoculate yourself with the word of God': How religion can limit medical treatment. Retrieved from https://www.cnn.com/2018/02/07/health/religion-medical-treatment/index.html

Lauritsen, J. L., & Rezey, M. L. (2018). Victimization trends and correlates: Macro- and micro influences and new directions for research. *Annual Review of Criminology, 1*, 103-21. https://doi.org/10.1146/annurev-criminol-032317-092202

Levin, J. S. (1994). Religion and health: Is there an association, is it valid, and is it causal? *Social Science & Medicine, 38*(11), 1475-1482. https://doi.org/10.1016/0277-9536(94)90109-0

Macmillan, R. (2001). Violence and the life course: The consequences of victimization for personal and social development. *Annual Review of Sociology, 27*, 1-22. https://doi.org/10.1146/annurev.soc.27.1.1

Mays, B. E., & Nicholson, J. W. (1969). *The Negro's church*. Institute of Religious Research.

Marable, M. (2011). *Malcolm X: A life of reinvention*. Penguin.

Murphy-Oikonen J., McQueen K., Miller A., Chambers L., & Hiebert A. (2020) Unfounded sexual assault: Women's experiences of not being believed by the police. *Journal for Interpersonal Violence*, *37*(11-12). NP8916-NP8940. https://doi.org/10.1177/0886260520978190

Navarro, J. C., & Tewksbury, R. (2018). Deconstructing the associations of religiosity, Christian denominations, and non-religions to rape myth acceptance among university students. *Deviant Behavior*, *39*(1), 80–93. https://doi.org/10.1080/01639625.2016.1260386

Oroz, R., Dewey, S., VandeBerg, B., & Longoria, E. (2023). Gendered prison and reentry experiences: Perspectives from rural people on parole. *Feminist Criminology, 18*(4), 302-324. https://doi.org/10.1177/15570851231181631

Page R. L., Peltzer J. N., Burdette A. M., & Hill T. D. (2020) Religiosity and health: A holistic biopsychosocial perspective. *Journal of Holistic Nursing, 38*(1), 89-101. https://doi.org/10.1177/0898010118783502

Pargament K. I., Koenig H. G., & Perez L. M. (2000). The many methods of religious coping: development and initial validation of the RCOPE. *Journal of Clinical Psychology, 56*(4), 519-43. https://doi.org/10.1002/(SICI)1097-4679(200004)56:4<519::AID-JCLP6>3.0.CO;2-1

Piggott, D. M., & Anderson, R. E. (2023). Religion after rape: Changes in faith and hindered acknowledgment. *Journal of Interpersonal Violence*, *38*(3-4), 3883- 3905. https://doi.org/10.1177/08862605221109913

PRRI (Public Religion Research Institute). 2020. *American values atlas*. Retrieved from https://www.prri.org/research/2020-census-of-american-religion/

PRRI (Public Religion Research Institute). (2022). *Religious stereotypes vs. reality in urban, suburban, and rural America*. Retrieved from https://www.prri.org/spotlight/religious-stereotypes-vs-reality-in-urban-suburban-and-rural-america/

Qi, Z., & Yang, H. (2020). From victim to entrepreneurs – Building financial independence and empowering freedom to victims of intimate partner violence and human

trafficking in rural America. *Rurality, Crime and Society, 1*(1), 12-17. https://ruralitycrimeandsociety.org/wp-content/uploads/2021/03/Rurality-Crime-and-Society-V1-No1.pdf

Rennison, C. M., DeKeseredy, W. S., & Dragiewicz, M. (2013). Intimate relationship status variation in violence against women: Urban, suburban, and rural differences. *Violence Against Women, 19*(11), 1312-1330. https://doi.org/10.1177/1077801213514487

Renzetti, C. M., & Yocum, S. (Eds). (2013). *Clergy sexual abuse*. Northeastern University Press.

Ryff, C. D., Heller, A. S., Schaefer, S. M., van Reekum C., & Davidson, R. J. (2016). Purposeful engagement, healthy aging, and the brain. *Current Behavioral Neuroscience, 3*, 318–327. https://doi.org/10.1007/s40473-016-0096-z

Said, I., & Davidson, K. M. (2021). A mixed method evaluation of the role of religion in desistance and reentry. *Justice Quarterly*, *41*(4), 545-571. https://doi.org/10.1080/07418825.2021.2016893

Satchell, J., Dalrymple, N., Leavey, G., & Serfaty, M. (2023). "If we don't forgive, it's like holding on to them": A qualitative study of religious and spiritual coping on psychological recovery in older crime victims. *Psychological Trauma: Theory, Research, Practice, and Policy*. https://doi.org/10.1037/tra0001420

Shin, H., & Tourangeau, R. (1999). *National longitudinal study of adolescent health: Grand sample weight.* https://doi.org/10.17615/C67669

Sokoloff, N. J. & Pratt, C. (Eds.). (2005). *Domestic violence at the margins: Readings on race, class, gender, and culture.* Rutgers University Press.

True, J. (2021). *Violence against women: What everyone needs to know*. Oxford University Press. https://doi.org/10.1093/wentk/9780199378944.001.0001

Upenieks L. (2021). Through Him and with Him? A longitudinal study of how God-mediated control beliefs shape the relationship between divine forgiveness and physical health in later life. *Journal of Aging and Health, 33*(7-8), 504-517. https://doi.org/10.1177/0898264321996567

Upenieks L. (2022). Perceptions of dignity, attachment to God, and mental health in a national US sample. *Journal of Religion and Health, 61*(5), 3615-3636. https://doi.org/10.1007/s10943-022-01559-9

Upenieks L., Hill T. D., Acevedo G. A., & Koenig H. G. (2023). Electronic church 2.0: Are virtual and in-person attendance associated with mental and physical health during the COVID-19 pandemic? *Sociology of Religion*, *84*(3), 292–323. https://doi.org/10.1093/socrel/srac043

VanderWeele, T. J. (2017). Religion and health: A synthesis. In M. J. Balboni and J. R. Peteet, (Eds.), *Spirituality and religion within the culture of medicine: From evidence to practice.* (p.p. 357-401). Oxford University Press. https://doi.org/10.1093/med/9780190272432.003.0022

Watlington, C. G., & Murphy, & C. M. (2006). The roles of religion and spirituality among African American survivors of domestic violence. *Journal of Clinical Psychology, 62*(7), 837-857. https://doi.org/10.1002/jclp.20268

Whitehead, A. L., & Perry, S. L. (2020). *Taking America back for God*. Oxford University Press. https://doi.org/10.1093/oso/9780190057886.001.0001

Wollschleger, J., & Killian, M. P. (2014). World religions and spirituality project: Emerging church. *Sociology Faculty Scholarship*. Paper 1. http://digitalcommons.whitworth.edu/sociologyfaculty/1