Rape, Suicide, and the Rise of Religious Nones

Philip Truscott, Southwest Baptist University, Missouri

Abstract

One of the most widely quoted concepts in late twentieth century criminology was the general theory of crime which proposed that insufficiency of self-control is the most important predictor of criminal behavior. The presence or absence of social bonds promoting self-control is an important element of this theory. This article argues that the decline of one important societal bond, religious affiliation, is impacting the incidence of rape. Since the 2010s, there has been a positive correlation between the proportion of the population declaring no religious affiliation (the "None" rate) in the 50 USA states and the campus rape rate. This correlation was significant in the four years from 2016 (r=0.464, p. 0.001) to 2019 (r=0.393, p. 0.005). Beginning in 2018, the None rate in the 50 states also correlates with the rape rate in the general US population (r=.343, p. 0.015) identified by Uniform Crime Report (UCR) data published by the Federal Bureau of Investigation. Was this due to a variation in actual crimes or in reporting rates? Recent data make the reporting rate explanation implausible. Furthermore, the UCR rape rate is directly correlated with another violence statistic that is not susceptible to reporting error: suicide rates published by the CDC. This research contends that suicide rates are a proxy indicator for male self-control, as three quarters of suicides are male. Rape perpetration is also overwhelmingly male. The correlation of rape rates and suicide rates in the USA rose from 2014 (r=.55, p. = 0.00001) to 2019 (r=.66, p. = 0.0000001). It is argued that declining religiosity is lowering self-control, and that this is a plausible mechanism driving both increased rape and suicide.

Keywords: *rape, sexual assault, suicide, religiosity*

Note: The data for the es cited in this article has been uploaded to the Zenodo.org data depository and can be accessed at this URL: https://zenodo.org/records/10407139

The self-control theory of crime (Gottfredson and Hirschi 1990) is bold in its claims of general applicability. It differs from classical criminology which claims that criminals calculate the amount of pleasure or pain which result from committing a crime. It also challenges sociological positivism's emphasis on the criminal's social environment and individual positivism's focus on biology. The failure of individual self-control "explains all crime, at all times" (Gottfredson and Hirschi 1990:177). Superficially, the self-control theory might seem to be a product of psychology rather than sociology, but it builds on social bond theory (Hirschi 2017) which argues that the weaker an individual's relationships with others, the weaker will be that person's self-control, and hence, the greater the probability that they commit crime.

This article explores how one type of social bond may impact acts of violence: bonds connected with religious affiliation. It focuses in particular on two types of violence that are overwhelmingly perpetrated by males: rape and suicide. Criminological literature is largely devoid of references to females perpetrating rape, while the preponderance of males perpetrating suicide is cited in some of the earliest sociological research on the subject (e.g., Durkheim 2005).

While not all modern societies define suicide as a crime, for the purposes of this research, the definition proposed by Gottfredson and Hirschi will be used. "For self-control theory, crime is defined as behaviors (events) that provide momentary or immediate satisfactions, but that have negative consequences subsequently ... they are often acts of force" (1990:11). It may not be obvious why suicide should be considered an "immediate satisfaction" unless one concedes that voluntary death is sought to escape psychological pain such as depression. Beginning in the late 2010s, the general population rape rate and the "no religion rate" in the 50 USA states start to correlate significantly. If declining religious affiliation represents a loss of an important social bond that buttresses self-control, then this finding would be an important corroboration of the general theory of crime.

Research on the culture of recent age cohorts has documented the decline of religious affiliation (Twenge 2023). "Just shy of 9 out of 10 Boomer adults in the 1970s affiliated with a religion and attended religious services at least sometimes. By the lates 2010s, only 2 out of 3 ever attended religious services" (Twenge 2023:503). Given that disaffiliation from religion is impacting younger more than older age cohorts, it is useful to consider two separate crime data collection methods that require reports to the US federal government. Uniform Crime Reports covers the general population, while the Clery Act reporting system covers the college age population and is therefore more skewed to the age cohorts that have disaffiliated in larger numbers. Data from the 2014 Pew Religious Landscape Survey show that the higher a state's "no religion rate," the higher was its campus rape rate identified by Clery statistics (Jirek and Truscott 2020).

Is the correlation of religious none rates with campus rape rates due to reporting variations or real differences in occurrence? The None Rate/Rape Rate correlation can be observed using data from the 2014 Religious Landscape Survey and campus crime data federally available under the Clery Act (US Department of Education 2022). Because the Clery data are based on rape reports, they suffer the same weakness as data reported by the FBI under the Uniform Crime Reports (UCR) program. As many rapes go unreported, there might be multiple undetectable variations in reporting rates. The most commonly used method to compare reported rapes and actual crimes is to rely on a crime survey based on a random sample of all households. The most important of these is the National Crime Victimization Survey (NCVS) conducted annually by the U.S. Department of Justice (BJS 2022). However, this survey cannot be used to calculate crime rates at the level of the 50 states because its smallest unit of geography are the four Census regions. There have been victimization surveys of the student population, but these have involved such a small number of colleges and universities that entire states were excluded (Krebs et al. 2007; Cantor et al. 2015). Thus, no counts of actual crime incidents are available at the level of all 50 states. Since more religious states might attach a greater social stigma to sexual behavior, victim-blaming and correspondingly lower reporting rates might be the reason for lower apparent crime rates.

Literature Review

The following review of literature overviews multiple aspects of research on rape, and concludes with research connecting self-control to rape, suicide, and religiosity.

Why Rape Is Not Reported

In research about why victims do not report rape, some of the reasons parallel those that deter victims of intimate partner violence from seeking police help. In Jones et al., two of the three statistically significant ($p. <0.01$) reasons were “I do not want the assailant to go to gaol” and “I know the assailant” (2009:420). However, some of the other reasons might be removed by a rape reporting process that did not involve the police as the first point of contact. “Police would be insensitive or blame me” ($p. <0.01$), “I am afraid of going to court / trial,” and “I have had bad experiences with the police in the past” (2009:420).

Religion and Rape Reporting / Rape Myth Acceptance

These few examples are part of the extensive literature on rape reporting, though articles that connect religion to rape reporting are far less numerous. Piggott and Anderson (2022) tried to discover if more religious rape victims were less likely than other victims to acknowledge that they had been raped. They based their research on a survey of 310 college-aged women. This study was particularly relevant to current research because it combined religion questions and a “Rape Attribution Questionnaire” intended to determine the extent to which respondents blamed themselves (5 items) or the other person (also 5 items). Because the

study was intended to measure rape acknowledgement, the Rape Attribution Questionnaire was re-worded to exclude the words “rape,” “rapist,” and “assault”. The authors concluded that the religiosity of the victims was not a significant predictor of whether they acknowledged having been raped. “The binary regression model using religious factors and assault characteristics to predict acknowledgement was not significant, $\chi^2(1) = 7.311$, p=.293. Neither importance of religion nor assault characteristics significantly contributed to the prediction of acknowledgement” (Piggott and Anderson 2022:8). If greater religiosity had been associated with non-acknowledgement of rape, it would have supported a reporting rate explanation of the variation in rape rates.

Noting that there is limited research on the relationship between religion and attitudes to rape, Navarro and Tewksbury (2018) recruited a student sample to address the topic of religion and rape myth acceptance. Their sample included 503 university students who were grouped into religious categories and surveyed on their acceptance/rejection of a set of rape myths. Respondents’ overall rape myth acceptance was calculated using a 22-item instrument termed the Updated Illinois Rape Myth Acceptance Scale. The study did not find evidence that greater religiosity predicted greater rape myth acceptance. "The least religious (Agnostics and Atheists) reject rape myths, whereas the most religious (Baptists and Presbyterians) show non-relationships with rape myths. Catholics accept rape myths, and religiosity functions as a moderator as highly religious Catholics reject rape myths" (Navarro and Tewksbury 2018:80).

Sexual Victimization and Religion

There have been few studies that have analyzed sexual victimization and religion in combination. A rare exception to this pattern is to be found in Vanderwoerd and Cheng (2017) who collected data from a population of religious students using a standardized questionnaire: the Sexual Experiences Survey. Their study included 668 students from private religious colleges in Ontario, Canada. Of these respondents, no men and 0.5% of the women reported being raped in the previous year compared to rape rates ranging from 3.4% to 4.9% on the same survey in comparable studies of the general student population. While media may critique religious males who deny the necessity of sexual consent, Scrivener (2022) makes a historical argument that the concept of sexual consent grew out of the Christian restriction of intercourse to monogamous marriage. Scrivener contends that there was widespread acceptance in the ancient world that all people of lower status should be sexually available to those of a higher status. Thus, the concept of rape did not exist unless it involved violating the daughters of an aristocracy. Scrivener’s claimed link between Christianity and consent is supported by contemporary research on religiosity and intimate partner violence. In a literature review of religion and family relationships, Mahoney writes that

> According to national surveys, men and women who frequently attend religious services are about half as likely as nonattenders to perpetrate physical

> aggression against intimate partners, according to both partners...More frequent attenders also report less often being a victim of partner aggression in marital, cohabiting or dating relationships. (2010:815)

Religiosity and Crime

The question of whether religiosity affects rape perpetration touches on the question of whether it lowers criminality in general. Baier and Wright (2001) studied this through a meta-analysis of research on the religion-crime association by searching the databases of *Sociological Abstracts*, *PsychINFO*, *Social Science Citation Index,* and *Academic Universe,* and were able to identify 60 relevant studies. The authors strongly rejected the null hypothesis that the effect of religion on crime was zero. This review cited one study that warrants further explanation. Bainbridge (1989) conducted a geographical analysis that included regression models using the rate of church membership as the independent variable. In this analysis, church membership was a significant negative predictor of each area's rape rate (β= -0.38, p.< 0.001) and its suicide rate (β=-0.37, p. <0.001) in 1980.

Previously published research most similar to the methodology of this article was that of Stack and Kanavy (1983) who constructed a regression model to predict the rape rate in the 50 states. They found the Roman Catholic proportion had a significant negative effect (β=-0.247, p. <0.05).

A later survey of crime and religion was published by Johnson and Jang, which examined 270 studies and concluded that based on their "review of the micro- and macro-criminological literatures on religion, any effort to explain away the religion-crime relationship is likely to be as futile as claiming crime can be completely explained by a lack of religion" (2012:127).

Stark (1996) commented on the fact that research on the relationship between religiosity and delinquency appeared in some regions of the USA but not others. This led him to develop a "moral community" theory: "religious individuals will be less likely than those who are not religious to commit delinquent acts, but only in communities where the majority of the people are actively religious" (1996:165). His research tried to identify the negative correlation between religiosity and delinquency in five different regions of the USA. The most religious of his regions was the East with 62% church membership and only 6.2% who said they had no religion. Because his data was ordinal, the Gamma statistic was used rather than the correlation coefficient. This showed a negative association between church attendance and "having trouble with the law" (*gamma* = -.32, p.< 0.01). In the "unchurched belt" (the three Pacific coast states), the rate of church membership was only 36%, and 14.1% had no religion. Here, as the moral community theory predicted, the relationship between church attendance and "having trouble with the law" was not significant (*gamma* = -.02, p. > 0.05).

Zuckerman states that "when it comes to more serious or violent crimes, such as murder, there is simply no evidence suggesting that atheist and secular people are more likely to commit such crimes than religious people" (2009:955). He argues that research has refuted the religiosity-criminality link, however, he is only able to cite three sources that support this contention.

One of Zuckerman's three sources is Cochran et al. (1994) who try to make the case that the real causes of juvenile delinquency are the need for arousal and non-religious social control variables. The authors admit that the normal process for measuring arousal is physiological, such as using electrodes attached to the scalp as with an electroencephalogram (EEG). However, no data was collected by this method. They used a self-report measure that attempted to measure the respondents' need for arousal by Likert scale questions. For example, if respondents agreed to the statement "Sometimes I rather enjoy going against the rules and doing things I'm not supposed to do," they were assessed as having a higher arousal need score. This and other statements seemed to be proxy measures for inverted religiosity: more religious youths would almost always disagree with them. Given that the authors did not verify their self-report arousals scoring with and EEG process, it is not clear how useful it is. They may have done no more than created a variable confounded by religiosity without proposing a way to decide which variable is more important. A similar objection can be raised regarding the authors' self-control variables. Since the authors do not publish a correlation matrix, the reader is unable to assess to what extent the social control variables are proxy measurements of religiosity. Since their data was not longitudinal, there is no way to know if respondents' religiosity at a younger age predicted social control scores at an older age. The same defect applies to Powell (1997).

Zuckerman's only other source is Hood et al. (2009), who do not offer any original data. The authors mention the meta-analysis by Baier and Wright (2001) cited above, and in the same paragraph go on to say that studies in this area generate "conflicting results." If they were referring to Baier and Wright specifically, it should be noted that this was not the authors' own opinion about the sixty studies they included. Baier and Wright calculated:

> The mean reported effect size was r= -.12 (SD = .09) and the median was -.11. About two thirds of the effects fell between -.05 and -.20, and, significantly none of them was positive. A test of the null hypothesis that the mean effect for religion on crime equals zero was strongly rejected at t= -11.9. (2001:13)

With 59 degrees of freedom this t value is significant ($p<0.00001$). Hood et al. (2009) go on to quote longitudinal research (Peek, Curry, and Chalfant 1985) that seems to support rather than contradict religion as a protective factor. "[O]ver time, higher delinquency rates appeared among students who declined in religiousness" (Peek, Curry, and Chalfant 1985:400).

Curiously Zuckerman also quotes another conclusion from Hood et al. (2009) that supports the concept of religion as a protective factor. "[W]hen it comes to underage alcohol consumption or illegal drug use, secular people do break the law more than religious people" (Zuckerman 2009:955). This greater alcohol consumption may be a contributing factor to male perpetration of sexual violence. A meta-analysis of the effect of alcohol consumption on male to female aggression showed "a significant overall effect (*d* = .36), indicating that male participants who consumed alcohol evidenced greater aggressive behavior toward females" (Crane et al. 2016:520).

Religiosity and Self-Control

A review of religiosity and self-control was conducted by McCullough and Willoughby (2009). They explicitly used an example of the self-suppression of violence to illustrate their concept of self-control: "We reserve the term self-control for situations in which people engage in behaviors designed to counteract or override a prepotent response ... such as assaulting someone who has angered them" (2009:72). The authors identified 12 studies of individuals using self-report data on religiousness and self-control. All but one of these studies showed positive associations between religion and self-control with correlations or standardized regression coefficients ranging from .21 to .38.

Rape and suicide are discrete topics, but the discussion below argues that they are linked. Because there is such a strong correlation between rape and suicide rates, as one occurrence (suicide) varies it suggests that the other occurrence (rape) will also vary. In this context, it is notable that the link between religion, community, and suicide is one of the oldest claims in sociology (Durkheim 1997), and considerable modern research also makes this case (O'Connor et al. 2009; Brausch, Clapham, and Littlefield 2022; Swee et al. 2020). Wu et al. completed a meta-analysis of religion and suicide and identified nine studies of the topic. This yielded a set of 2,339 cases of suicide across all the studies that were matched with 5,252 comparison participants. The authors calculated that the religious people in their match sample had a lower risk of suicide (OR=0.38 95% CI: 0.21–0.71).

Rape and Self-Control

A secondary analysis of the National Longitudinal Study of Adolescent Health (Add Health) (Williams and McCarthy 2014) found that diminished sexual self-control contributes to rape perpetration in male adolescents.

A victimology approach was taken by Franklin et al. who conducted a survey of female university students (n=2,230) and found that "self-control deficits …were significantly correlated with sexual assault victimization" (2012:1296).

A study of 69 repeat sex offenders concluded that "Sexual offenders lower in self-control exhibited behaviors during various stages of the sexual offence that were impulsive, risky, insensitive, short-sighted, physical, and aggressive" (Ha and Beauregard 2016:62).

A multi-factor analysis of student sexual assault perpetration focused on male peer groups, drug and alcohol use, pornography consumption, and self-control in combination (Franklin, Bouffard, and Pratt 2012). The authors concluded that "individuals who reported sexual assault had significantly lower levels of self-control than those who did not" (Franklin, Bouffard, and Pratt 2012:1468).

Suicide and Self-Control

Martin et al. (2023) assessed the impact of self-control on suicide ideation and attempts using a self-report inventory to assess the respondents' level of self-control. The authors calculated that greater self-control was correlated with lower suicidal ideation (r = -0.37, $p.$ = 0.000055) and suicide attempts (r = -0.26, p. = 0.0054).

Im et al. (2014) conducted a survey of Korean university students (n=400) and came to a similar conclusion that suicidal ideation was negatively correlated with psychological resilience and self-control.

A survey of male navy cadets (n=1,124) in the Peoples Republic of China (Chen, Liu, and Zhao 2022) found that morale affected suicidal ideation, but that this was partially mediated by self-control.

Methods

The Pew Religious Landscape Survey does not cover any year after 2014. However, a new survey organization, the Public Religion Research Institute (PRRI), began conducting an annual survey starting in that year (Public Religion Research Institute 2015). Each year of PRRI data is based on a sample of over 50,000 respondents. As with the Pew Religious Landscape survey, the PRRI sample was designed to represent the total US adult population from all 50 states. For each year of the period 2014 to 2019, the PRRI survey shows the proportion of the population of each state whose religion was recorded as "unaffiliated" (equivalent to religious "Nones" in the Pew survey). The following analysis refers to the proportion of unaffiliated people in each state as the "None Rate."

The PRRI data was available for the year 2013, but this data has been excluded from the present study because the definition of rape changed in 2014 for statistical reporting purposes under the Clery Act. Starting in 2014, a new rape definition was adopted by the federal Department of Education (which is responsible for enforcing the Clery Act). The Federal Bureau of Investigation (FBI) started posting rape rates under the new definition in 2013. These crime

data are collected from local police departments as part of Uniform Crime Reports (FBI 2022). The pre-2014 definition was considered too restrictive because it emphasized "forcible rape" and might have excluded a crime committed against people too frightened to fight back, or who were unable to prove such fighting. The revised definition was intended to include all penetrative incidents where the victim did not give consent. The Office of Postsecondary Education's campus security handbook defines rape as "the penetration, no matter how slight, of the vagina or anus, with any body part or object, or oral penetration by a sex organ of another person, without the consent of the victim" (Department of Education 2016:3–6).

All campus rape rates cited below are based on this new revised definition. For the purposes of calculating campus rape rates, the full federal data files were downloaded from the Web site of the U.S. Department of Education (US Department of Education 2022). These then required a significant amount of processing to compute state-by-state crime rates, since most multi-campus institutions attach crimes for all separately listed campuses to the data record of the main campus. For this reason, a few multi-campus institutions with locations in more than one state were excluded, as there was no way to know in which state to allocate all their crime incidents. An even smaller number of institutions listed a campus in a foreign country. These were excluded for the same reason. The Clery Act data include data both on reported crime incidents and the total enrollment of each institution. In the following analysis, the campus rape rate is defined as the number of reported on campus rape incidents divided by the total student enrollment in the state divided by 100,000. The Clery Act data exist for the year 2020, but the COVID-19 pandemic caused widespread campus shutdowns, so these data are not considered comparable to the figures for 2014-19.

The FBI now reports state-by-state rape rates using the revised definition of rape (Federal Bureau of Investigation 2019) that is identical to the Department of Education Handbook definition cited above. The FBI's legacy definition is not used in any of the analyses described below (except for the third column of table 4).

The analysis below also makes use of state-by-state suicide rates. This used the data extraction tool maintained by the Centers for Disease Control (CDC) covering deaths for the years 1999-2020 (CDC 2021). The causes of death used for this analysis cover all those under the heading "Intentional Self-Harm." These include the range of description codes from X60 to X84 under the International Classification of Diseases 10th revision (ICD10). It should be stressed that these state-by-state suicide rates are based on tangible events rather than mere reports (i.e., there is no data record without a corpse).

In order to assess rape reporting by year and region, the analysis below makes use of a National Crime Victimization Survey (NCVS) concatenated file (BJS 2022) which combines data from different annual waves from the year 1992 to 2021. Since the NCVS is a random survey of

US households, it is intended to allow for the estimation of the total number of crimes committed and so allows analysts to calculate the proportion of crimes that go unreported.

The correlations cited below use the Pearson Correlation Coefficient implemented in the software package SPSS version 28. The cross-tabulation of region by rape reporting uses the Pearson Chi-Square implemented by the same package.

Results

Table 1 below shows the Correlation Coefficients between the state-by-state campus rape rate, the UCR rape rate and the "no religion" rate for each year of the analysis. The COVID-19 pandemic caused considerable disruption to student living arrangements in 2020, which may help to explain a nonsignificant correlation between the None Rate and campus rape in that year (*r* = .023, p. = 0.874). However, the correlation between the None Rate and the UCR rape rate continued to be significant (*r* = .344, p.=0.015).

Table 1: Correlations between religious non-affiliation and rape rates

Year	No Religion Rate / Campus Rape Rate Correlation Coefficient (significance) (N=50)	No Religion Rate / UCR Rape Rate Correlation Coefficient (significance) (N=50)
2014	0.412 (p.=0.003)	0.115 (p=0.425)
2015	0.354 (p.=0.12)	0.188 (p.=0.19)
2016	0.464 (p=0.001)	0.088 (p.=0.542)
2017	0.448 (p.=0.001)	0.183 (p.=0.204)
2018	0.322 (p.=0.022)	.343 (p.=0.015)
2019	0.393 (p.=0.005)	0.370 (p.=0.008)
2020	0.023 (p. = 0.874)	0.344 (p. = 0.015)

Table 2 shows the correlations related to suicide in the 50 states for each year. Column 1 shows the correlation between religious non-affiliation and suicide. Column 2 shows the correlation between each state's suicide rate and the UCR rape rate. In the discussion section below, it will be argued that suicide is an effective proxy indicator for male self-control (roughly 75% of all suicides are committed by males).

Table 2: Correlations between religious non-affiliation, suicide and the UCR rape rate

Year	No Religion Rate / Suicide Rate Correlation Coefficient (significance) (N=50)	UCR Rape Rate / Suicide Rate Correlation Coefficient (significance) (N=50)
2014	0.357 (p. = 0.011)	0.566 (p. = 00001)
2015	0.242 (p. = 0.091)	0.615 (p. = 0.000002)
2016	0.230 (p.= 0.109)	0.579 (p. = 0.00001)
2017	0.274 (p. = 0.055)	0.599 (p. = 0.000004)
2018	0.317 (p. = 0.025)	0.516 (p.= 0.0001)
2019	0.378 (p. = 0.007)	0.662 (p. = 0.0000001)
2020	0.425 (p. = 0.002)	0.636 (p. = 0.0000007)

Figure 1: National UCR Rape Rate and National Non-Affiliation Rate by year

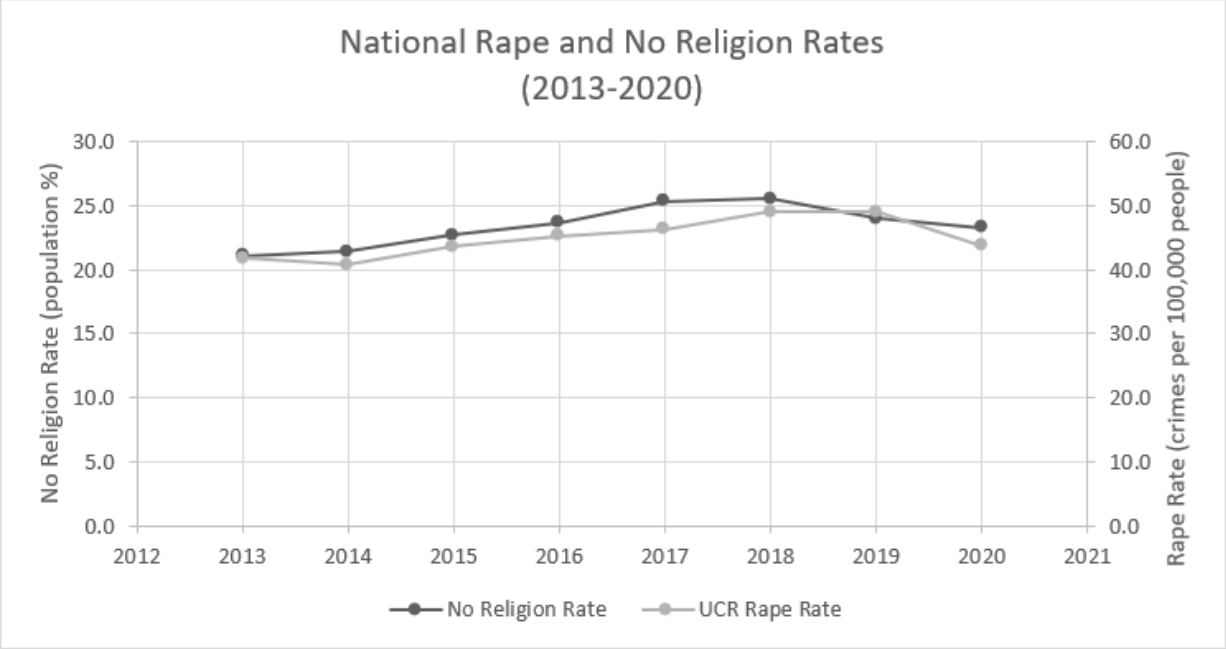

Figure 1 shows the national None Rate and the UCR rape rate for the years 2013 to 2020. Even though there are only eight years of data this represents a significant large correlation (r = 0.872, p. = 0.005). The UCR rape rate used the revised (non-forcible) definition of rape starting in 2013.

Figure 2: National Suicide Rate and National Non-Affiliation Rate by year

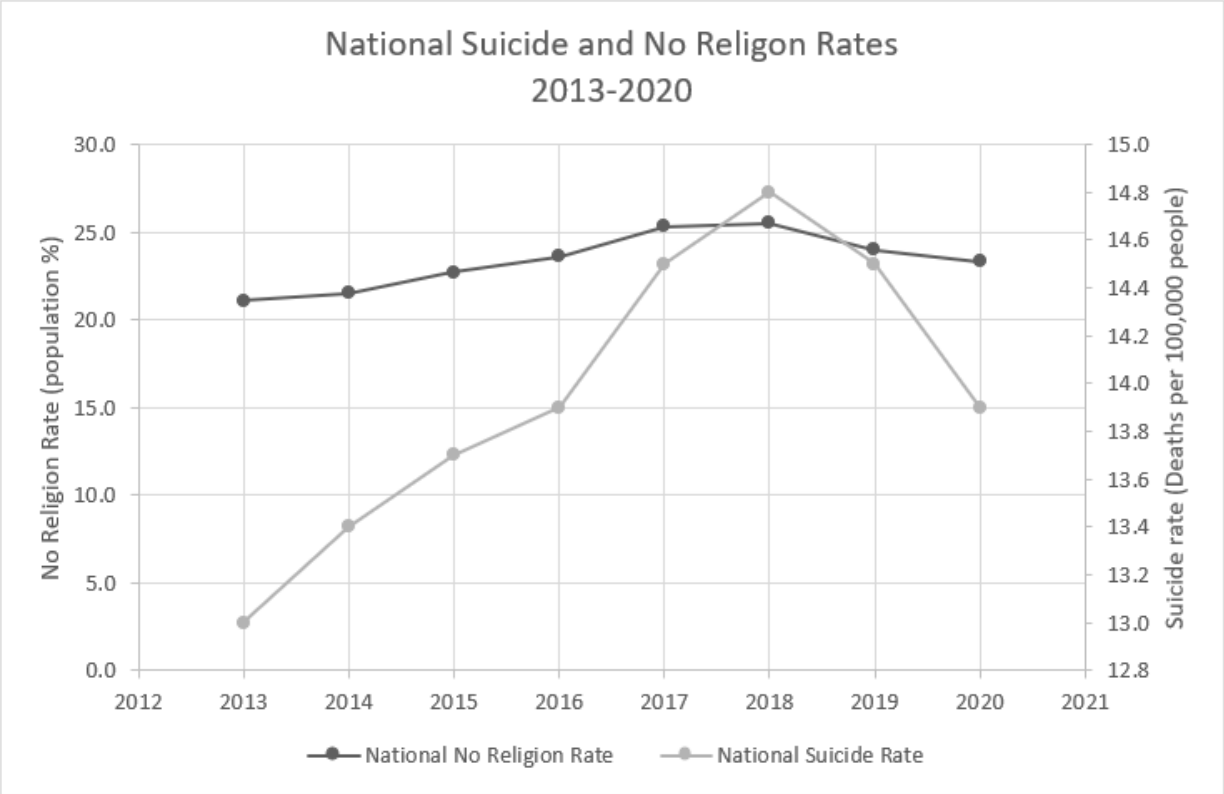

Figure 2 shows the national religious None Rate and the national suicide rate for the years 2013 to 2020. This also represents a large significant correlation (r = 0.964, p. = 0.0001).

Table 3 shows the proportion of completed rapes reported to the police from 2014 to 2019 using data from the NCVS (BJS 2022).

Table 3: NCVS Reporting of rape and sexual assault by Census Region 2007-2014

	Northeast	Midwest	South	West
REPORTED TO POLICE (NCVS)	29.1%	34.6%	47.6%	40.8%
RELIGIOUS ATTENDANCE PEW	30.4%		47.4%	

Table 3 addresses the question of rape reporting and geographical variability. It uses the same crime categories that are used to define rape and sexual assault that are used by the N-DASH crime victimization reporting tool maintained by the Bureau of Justice Statistics (BJS 2023). The Chi Square procedure shows rape reporting is statistically associated with census region ($\chi^2 = 9.734$, p. = 0.021). However, these results fail to support the claim that the culture of more religious parts of the USA causes a suppression of rape reports. Taking the average of the 2007 and 2014 waves of the Pew Religious Landscape Survey (Pew Research Center 2015), the census region with the highest worship attendance rate was the South. Taking the two most frequent categories of worship attendance ("weekly" and "more than weekly") together, the South had the highest worship rate (47.4%). It also had the highest rape reporting rate (47.6%). The Pew data showed the worship attendance rate was lowest for the Northeast Region (30.4%), which also had the lowest rape reporting rate (29.1%).

Table 4 shows evidence that while the UCR rape totals are an undercount, they are statistically correlated with the true count. Column 1 shows the estimated number of rapes and sexual assaults from the National Crime Victimization Survey weighted to reflect the full population (BJS 2023). Column 2 shows the UCR rape counts using the revised definition of rape. Column 3 shows the legacy definition counts (Federal Bureau of Investigation 2019; US DOJ FBI 2016). There is a significant correlation between the crime totals estimated from the NCVS and the UCR rape counts using the legacy definition ($r = 0.669$, p. <0.001). There is also a correlation ($r = 0.74$, p. = 0.57) between the NCVS estimated counts and the UCR rape count using the revised definition. The fact that this correlation is nonsignificant is an artifact of the shortage of available data (since the revised definition counts are only available from the year 2013).

Table 4: NCVS Estimated Rape and Sexual Assault Counts, UCR Rape Counts

Year	Rape and Sexual Assault shown by NCVS Dashboard	UCR Rape Count-Revised Definition	UCR Rape Count-Legacy Definition
1993	898,239		106,014
1994	674,291		102,216
1995	563,249		97,470
1996	437,198		96,252
1997	553,523		96,153
1998	391,101		93,144
1999	591,460		89,411
2000	366,747		90,178
2001	476,578		90,863
2002	349,805		95,235
2003	325,311		93,883
2004	255,769		95,089
2005	207,760		94,347
2006	463,598		94,472
2007	248,277		92,160
2008	349,691		90,750
2009	305,574		89,241
2010	268,574		85,593
2011	244,188		84,175
2012	346,830		85,141
2013	300,165	113,695	82,109
2014	284,345	118,027	84,864
2015	431,837	126,134	91,261
2016	298,407	132,414	96,970
2017	393,979	135,666	99,708
2018	734,632	143,765	101,363
2019	459,306	139,815	98,213

Given the strong correlations between reported rape totals and the rape totals estimated from the NCVS, it would seem reasonable for the Department of Justice to publish an estimate of total rapes using the reported rape total adjusted by the rape reporting rate in the NCVS for that year. Currently there is no official estimate for the total number of rapes in a given year (rape is combined with other forms of sexual assault by the N-DASH reporting tool).

Discussion

The campus rape rate and the no religion rate can be observed using the Pew (Pew Research Center 2015) Religious Landscape Survey (RLS) and Clery Act Data. However, the latest RLS data is from 2014, and at that time there was little data available to help decide on an explanation, or one based on reporting rates or actual crimes. One correlation that has been largely absent from the research literature is the large association between the suicide rate and the UCR rape rate in the 50 states. This was a large correlation for the entire period from 2014 (r = 0.566, p. = 00001) and 2019 (r = 0.636, p. = 0.0000007). In the same time period, suicides were preponderantly male. The lowest proportion of male suicides was 76.9% of the total in 2015. The highest proportion was 78.4% in 2019. The CDC cause of death data do not involve the possibility of a difference between reports and actual incidents because a mortality record cannot exist without an associated corpse. The large and strengthening correlations between the state suicide and rape rates make it more likely that state variations in rape rates represent real crime variations, because one tangible indicator of declining male self-control (the suicide rate) makes it plausible that another indicator of declining male self-control (actual rape attacks) might be varying in the same direction.

A plausible mediator between religious non-affiliation and rape is increased drug and alcohol use. As noted above, the non-religious are associated with increased drinking and illegal drug use (Yonker, Schnabelrauch, and DeHaan 2012). The increasing state-by-state trend towards recreational marijuana legalization may have accelerated this trend. As self-intoxication is often presented as a "victimless" crime, it is easy to believe atheists and agnostics feel free to partake once the element of religious self-regulation is removed. As noted by McCauley et al. (2010), binge-drinking, marijuana, and illicit drugs were all associated with increased probabilities of rape, in which case these victimless crimes succeeded in finding victims. To put it another way, some non-religious men made a short moral step into substance use and then, in a diminished state of self-control, made a much larger one into criminality.

Considering the period from 2014-19, Table 1 shows a significant correlation between the None Rate and Campus Rape but not the UCR Rape Rate for the earlier years in the period. A plausible reason for this is that religious non-affiliation is concentrated among the young: "nearly four in ten (39%) young adults (ages 18-29) are religiously unaffiliated—three times the unaffiliated rate (13%) among seniors (ages 65 and older)" (Jones et al. 2016:3). The correlation with the UCR Rape Rate thus appears at the end of the 2010s as younger non-affiliated people age and become a more important part of the general population.

The data presented here point in the direction of increasing religious non-affiliation leading to increases in actual crime victimization for the following reasons:

- NCVS rape reporting in the most religious census region, the South, was the highest rate (47.6%), and that of the least religious region, the Northeast, was the lowest (29.1%).
- There was a large correlation between the general population rape rate and the suicide rate in the 50 states over this period, and it is reasonable to assume that one set of mainly male-initiated occurrences (suicides) would vary alongside another male-initiated occurrence (rape attacks) as opposed to assuming that the rapes were merely an artifact of reporting patterns.
- Reported rape counts and rape counts estimated from the NCVS are strongly correlated with each other.
- The preponderance of the research literature points to a negative correlation between religiosity and crime.
- The preponderance of the research literature indicates a positive correlation between religiosity and self-control.
- The sole study on rape acknowledgement by victims failed to show an association between religiosity and rape non-acknowledgement.
- The sole study on religiosity and rape myth acceptance failed to show a significant association.
- The sole study touching on sexual violence on religious campuses supported an inverse correlation between religiosity and sexual violence.
- Religion is absent from the research literature on why rape is not reported.
- Given the research literature above, it seems plausible to assume a mechanism as follows. Declining religiosity is leading to declining self-control. This deregulation in turn is leading to more incidents of rape and suicide. There is no obvious mechanism based on rape reporting patterns that could link the three rising patterns: rape, suicide, and religious dis-affiliation.

This explanation will certainly not satisfy all social scientists. If the reader only requires evidence that satisfies "the balance of probabilities," then the argument posed here may already be sufficient. But if the reader requires proof beyond "all reasonable doubt," then there will be a demand for more evidence. Toward that end, surveys of convicted rapists would be extremely useful.

Given the low rape reporting rates in Table 3, are reported rape statistics useful? It is difficult to believe the reported rapes are merely statistical noise given the strong correlations between rape and suicide shown year after year in Table 2. The suicide rates are hard numbers based on solid data points. The correlation for the year 2020 ($r=0.636$, $p. = 0.0000007$) is so large that a reasonable person would assume both sets of numbers are measuring real events. No doubt the reported rapes are a serious undercount, but the reports are probably linked to real crimes in the same way that a random sample can represent a larger population.

Furthermore, to a certain extent, all English-speaking countries in the Global North share a similar public culture because they consume many of the same books, films, television and radio programs.

Another factor that might artificially weaken the effect of religious non-affiliation is the fact that all the correlations in Tables 1 and 2 are based on population characteristics rather than individual level data. To illustrate this effect, consider the case of the state with the highest None Rate in 2019: Vermont with a 37% rate. The effect of religious non-affiliation is diluted by the 63% with a religious affiliation. Of the 60 crime-religion studies reviewed by Baier and Wright (2001), 55 were based on population data which produce a very small average effect size (r=-0.12). If their meta-analysis had been limited to only the five church membership samples, the mean effect would have nearly doubled (r=-0.23). Similarly, if it were possible to know the religious affiliation of individuals committing rape and suicide, then some of the correlations in Tables 1 and 2 might be large (above 0.5). Figure 3 shows the campus rape rate for 2019 by deciles of religious non-affiliation, and there are only slight differences in the campus rape rate for the lowest three deciles. The campus rape rate only seems significantly larger in the highest deciles.

Figure 3: Campus Rape Rate by Decile Group of Religious Non-Affiliation

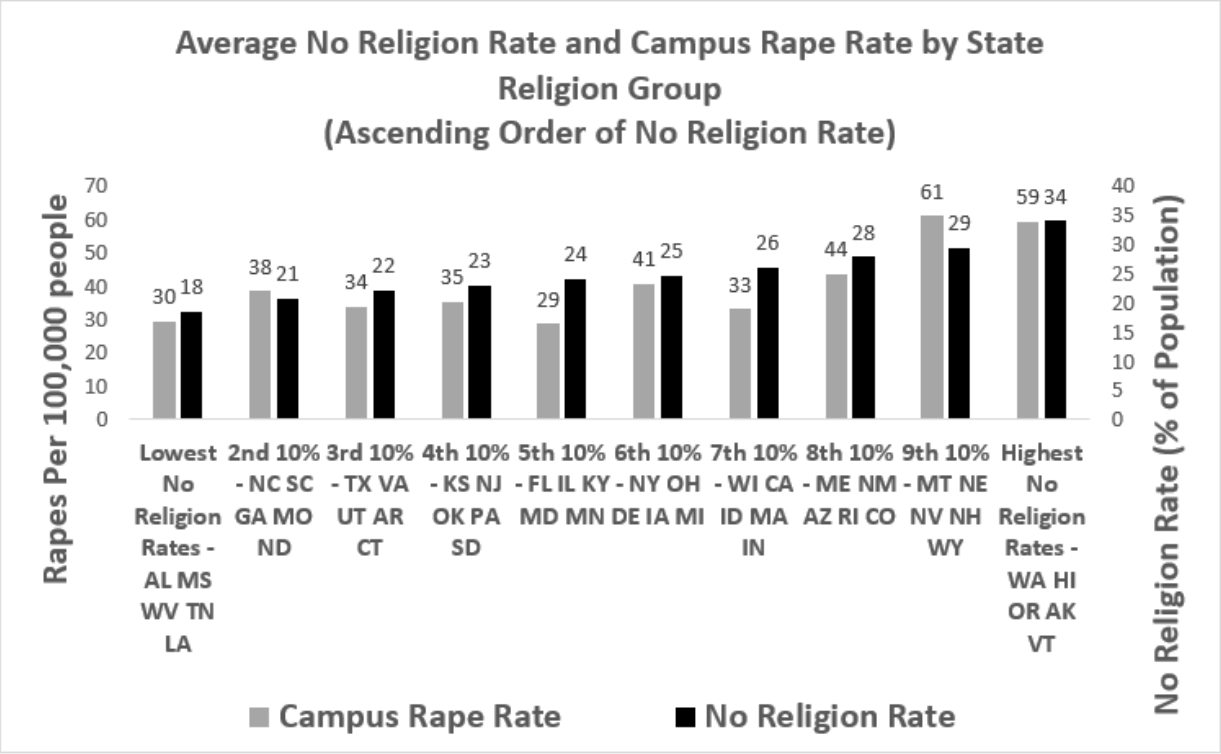

Figure 4: UCR Rape Rate by Decile Group of Religious Non-Affiliation

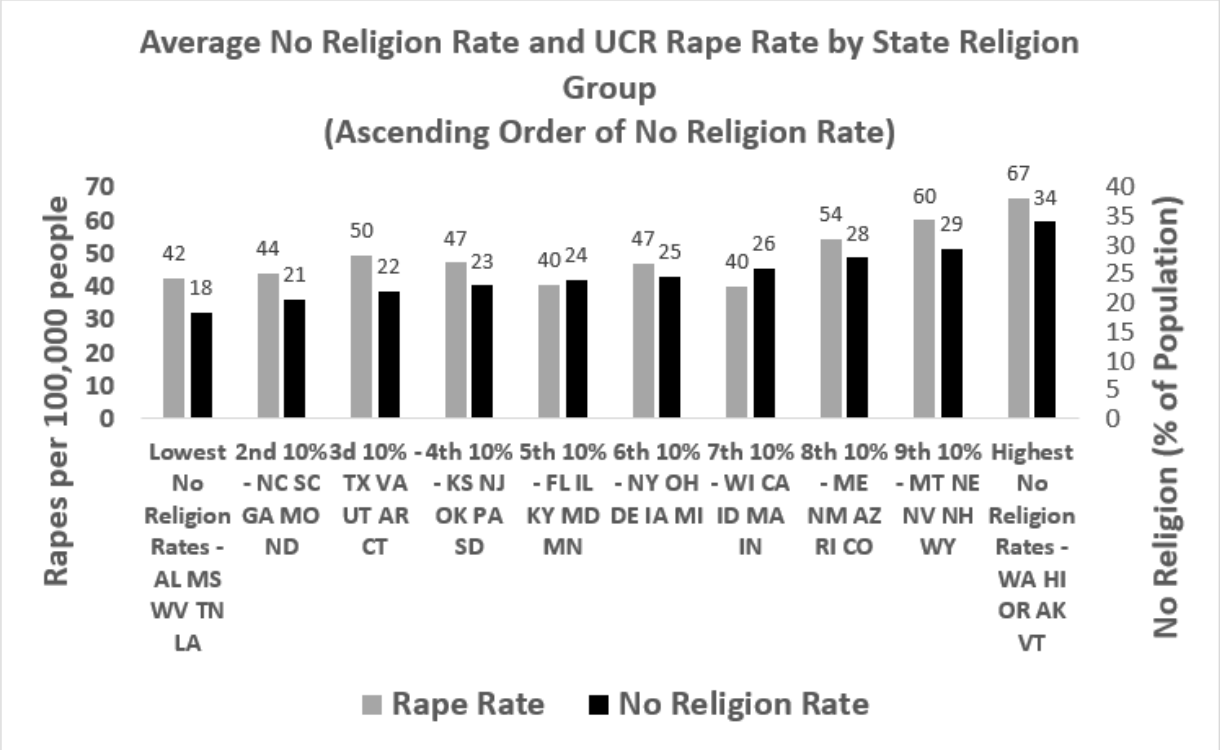

Figure 5: Suicide Rate by Decile Group of Religious Non-Affiliation

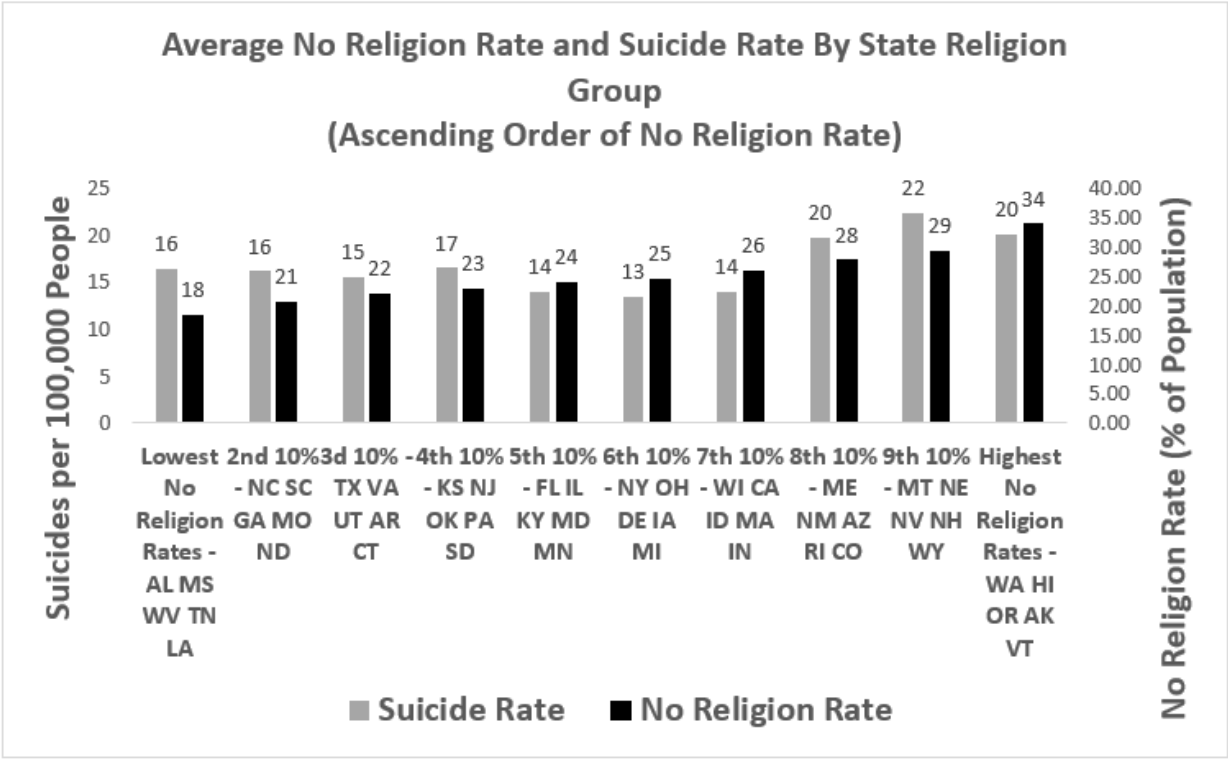

Figure 4 shows a similar non-linear pattern when it comes to the UCR rape rate. One might conclude that the non-religious are more likely to rape, but only in areas where the non-religious start approaching a majority (an argument based on "Amoral Communities" rather than "Moral Communities").

Debate about the relevance of the reported rape statistics would disappear if the USA implemented an effective policy to close the rape reporting gap. Such a policy has been implemented by a small number of police departments that allow victims the option of filing an "information only" rape report if they prefer to avoid the stress of prosecution. This voluntary program could be elevated to a national policy as follows. Federal legislation could require the health care professionals who collect data for rape kits to designate a relevant staff member as a "Rape Examiner." That person would be required to ask the victims if they want to make a police report or file an information only report. If an information only report is requested, then the Rape Examiner would be required to transmit the event to the Department of Justice through a password protect Web site. The event would then be added to the rape totals for the jurisdiction where the rape took place. The research cited above (Jones et al. 2009b) shows that fear of the police and fear of going to trial are two of the most common reasons for not reporting a rape. By definition, an information only report cannot be used for prosecution, because the perpetrator is not named. Moreover, as many health care professions are majority female, the victims' fear or hostile male questioning would be largely removed.

Conclusion

Much of the material in this article echoes one of the most important founding texts of sociology, Emile Durkheim's *Suicide: A Study in Sociology* (2005) which was originally published in 1897. Durkheim claimed that religion had the effect of reducing the incidence of suicide by requiring people to live "in greater union" (2005:114) leading to greater solidarity. The current article also parallels Durkheim's methodology which made extensive use of suicide and religious affiliation rates for different geographical areas.

The claims made here can be made with different levels of confidence as follows:

1. Considering the 50 USA states and the years 2018-2020 (n=150), there is a non-random correlation between no relation rates and the UCR rape rate ($r = 0.353$, $p. < 0.00001$), and between no religion rates and suicide rates ($r = 0.377$, $p. < 0.00001$). Excluding the 2020 COVID year data (n=100), there is also a non-random correlation between no religion rates and campus rape rates ($r = 0.343$, $p. < 0.00001$).

2. Given these correlations and the strong direct correlation between the UCR rape rate and CDC identified suicide incidents, it is claimed that the UCR rape rate does reflect real data. It is an undercount that is statistically linked to the real number of rape incidents. The UCR rape counts cannot be dismissed as mere statistical noise. This is also supported by the year-by-year correlation between UCR rape counts and the counts derived from the NCVS.

Any argument that goes beyond these claims to attribute causality cannot be made with the same level of confidence. However, given the literature reviewed above, it is reasonable to suggest that declining religiosity is contributing to reduced self-control. As reduced self-control predicts greater crime (Gottfredson and Hirschi 1990), this is a reasonable hypothesis given the data, but it is asserted here with less assurance than points 1 and 2 above.

Based on the balance of probabilities, this article proposes that increasing rates of religious dis-affiliation are contributing to increased rape and suicide rates. Granted, this quantitative conclusion is unlikely to be palatable to all the political actors connected with the topic. Further data is needed, particularly qualitative and longitudinal data. A crime victimization survey large enough to calculate rape victimization rates for all 50 states could settle the reportage versus real occurrence question. However, this would merely help to further diagnose the disease without treating it. A widely publicized non-police method of rape reporting could mitigate both the crime and the trauma. Knowing the time, date, and location of rapes that now go unreported would help law enforcers to detect crime patterns. Reducing victims' fear of reporting would maximize the number who get treated for the trauma they have suffered.

References

Baier, Colin J., and Bradley R. E. Wright. 2001. "'If You Love Me, Keep My Commandments': A Meta-Analysis of the Effect of Religion on Crime." *Journal of Research in Crime and Delinquency* 38(1):3–21. doi: 10.1177/0022427801038001001.

Bainbridge, William Sims. 1989. "The Religious Ecology of Deviance." *American Sociological Review* 54(2):288–95. doi: 10.2307/2095796.

Barker, Brittany, Ashley Goodman, and Kora DeBeck. 2017. "Reclaiming Indigenous Identities: Culture as Strength against Suicide among Indigenous Youth in Canada." *Canadian Journal of Public Health* 108(2):e208–10. doi: 10.17269/CJPH.108.5754.

BJS. 2022. *National Crime Victimization Survey, Concatenated File, [United States], 1992-2021. Inter-University Consortium for Political and Social Research [Distributor]*. United States. Bureau of Justice Statistics.

BJS. 2023. "NCVS Dashboard." *Bureau of Justice Statistics NCVS Dashboard*. Retrieved (https://ncvs.bjs.ojp.gov/Home).

Brausch, Amy M., Rebekah B. Clapham, and Andrew K. Littlefield. 2022. "Identifying Specific Emotion Regulation Deficits That Associate with Nonsuicidal Self-Injury and Suicide Ideation in Adolescents." *Journal of Youth & Adolescence* 51(3):556–69. doi: 10.1007/s10964-021-01525-w.

Cantor, D., B. Fisher, S. Chibnall, R. Townsend, H. Lee, C. Bruce, and G. Thomas. 2015. "Report on the AAU Campus Climate Survey on Sexual Assault and Sexual Misconduct."

CDC. 2021. *Mortality 1999-2020 on CDC WONDER Online Database*. Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System.

Chen, Outong, Ranran Liu, and Xiaojing Zhao. 2022. "Role of Self-Control and Self-Construal in the Army Morale and Suicidal Ideation of Chinese Military Cadets." *Frontiers in Psychology* 13. doi: 10.3389/fpsyg.2022.904170.

Cochran, John K., Peter B. Wood, and Bruce J. Arneklev. 1994. "Is the Religiosity-Delinquency Relationship Spurious? A Test of Arousal and Social Control Theories." *Journal of Research in Crime and Delinquency* 31(1):92–123.

Crane, Cory A., Stephanie A. Godleski, Sarahmona M. Przybyla, Robert C. Schlauch, and Maria Testa. 2016. "The Proximal Effects of Acute Alcohol Consumption on Male-to-Female Aggression: A Meta-Analytic Review of the Experimental Literature." *Trauma, Violence, & Abuse* 17(5):520–31. doi: 10.1177/1524838015584374.

Department of Education. 2016. *The Handbook for Campus Safety and Security Reporting*. US Department of Education.

Dickson, Joanne M., Kate Cruise, Clare A. McCall, and Peter J. Taylor. 2019. "A Systematic Review of the Antecedents and Prevalence of Suicide, Self-Harm and Suicide Ideation in Australian Aboriginal and Torres Strait Islander Youth." *International Journal of Environmental Research and Public Health* 16(17):3154. doi: 10.3390/ijerph16173154.

Durkheim, Emile. 2005. *Suicide: A Study in Sociology*. 2nd edition. New York: Routledge.

FBI. 2022. "Crime Data Explorer." Accessed December 29, 2022 (https://crime-data-explorer.app.cloud.gov/pages/home).

Federal Bureau of Investigation. 2019. "FBI - Uniform Crime Reports." *Uniform Crime Reports*. Accessed August 29, 2023 (https://ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019/tables/table-8/table-8-state-cuts/missouri.xls).

Franklin, Cortney A., Leana Allen Bouffard, and Travis C. Pratt. 2012. "Sexual Assault on the College Campus: Fraternity Affiliation, Male Peer Support, and Low Self-Control." *Criminal Justice and Behavior* 39(11):1457–80. doi: 10.1177/0093854812456527.

Franklin, Cortney A., Travis W. Franklin, Matt R. Nobles, and Glen A. Kercher. 2012. "Assessing the Effect of Routine Activity Theory and Self-Control on Property, Personal, and Sexual Assault Victimization." *Criminal Justice and Behavior* 39(10):1296–1315. doi: 10.1177/0093854812453673.

Gottfredson, Michael R., and Travis Hirschi. 1990. *A General Theory of Crime*. Stanford, CA: Stanford University Press.

Ha, Olivia Katherine, and Eric Beauregard. 2016. "Sex Offending and Low Self-Control: An Extension and Test of the General Theory of Crime." *Journal of Criminal Justice* 47:62–73. doi: 10.1016/j.jcrimjus.2016.07.005.

Hirschi, Travis. 2017. *Causes of Delinquency*. New York: Routledge.

Hood, Ralph W., Peter C. Hill, and Bernard Spilka. 2009. *The Psychology of Religion: An Empirical Approach* 4th ed. New York: The Guilford Press.

Im, Sookbin, Myounglyun Heo, Se Young Kim, Hye Young Ahn, Saet Byul Kang, Mi Song Kim, Hea Mee Mun, Sun Ha Park, A. Rang Won, Ji Hye Lee, and Mi So Cho. 2014. "Influences of Psychological Resilience and Self-Control on Suicidal Ideation of Undergraduate Students." *Journal of Korean Academy of Psychiatric and Mental Health Nursing* 23(4):278–87.

Jirek, Sarah L., and Philip Truscott. 2020. "Geographical Variation in the Relationship Between Religiosity and Campus Sexual Assault: Differences in Prevalence or Reporting?" *Social Work & Christianity* | EBSCOhost." 47(4):45–70. doi: 10.34043/SWC.V47I3.140.

Johnson, B. R., and S. J. Jang. 2012. "Crime and Religion: Assessing the Role of the Faith Factor." Pp. 117–50 in *Contemporary Issues in Criminological Theory and Research: The Role of Social Institutions*, edited by R. Rosenfeld, K. Quinet, and C. Garcia. Belmont, CA: Wadsworth; Cengage Learning [distributor].

Jones, Jeffrey S., Carmen Alexander, Barbara N. Wynn, Linda Rossman, and Chris Dunnuck. 2009. "Why Women Don't Report Sexual Assault to the Police: The Influence of Psychosocial Variables and Traumatic Injury." *The Journal of Emergency Medicine* 36(4):417–24. doi: 10.1016/j.jemermed.2007.10.077.

Jones, Robert P., Daniel Cox, Betsy Cooper, and Rachel Lienesch. 2016. *EXODUS: Why Americans Are Leaving Religion - and Why They're Unlikely to Come Back*. Washington, DC: Public Religion Research Institute.

Krebs, C. P., C. H. Lindquist, T. D. Warner, B. Fisher, and S. L. Martin. 2007. "The Campus Sexual Assault (CSA) Study."

Mahoney, Annette. 2010. "Religion in Families, 1999-2009: A Relational Spirituality Framework." *Journal of Marriage and Family* 72(4):805–27.

Martin, Aleena, Mitchell Oehlman, Jacinta Hawgood, and John O'Gorman. 2023. "The Role of Impulsivity and Self-Control in Suicidal Ideation and Suicide Attempt." *International Journal of Environmental Research and Public Health* 20(6):5012. doi: 10.3390/ijerph20065012.

McCauley, Jenna L., Kenneth J. Ruggiero, Heidi S. Resnick, and Dean G. Kilpatrick. 2010. "Incapacitated, Forcible, and Drug/Alcohol-Facilitated Rape in Relation to Binge Drinking, Marijuana Use, and Illicit Drug Use: A National Survey." *Journal of Traumatic Stress* 23(1):132–40. doi: 10.1002/jts.20489.

McCullough, Michael E., and Brian L. B. Willoughby. 2009. "Religion, Self-Regulation, and Self-Control: Associations, Explanations, and Implications." *Psychological Bulletin* 135:69–93. doi: 10.1037/a0014213.

Navarro, John C., and Richard Tewksbury. 2018. "Deconstructing the Associations of Religiosity, Christian Denominations, and Non-Religions to Rape Myth Acceptance among University Students." *Deviant Behavior* 39(1):80–93. doi: 10.1080/01639625.2016.1260386.

O'Connor, Rory C., Louisa Fraser, Marie-Claire Whyte, Siobhan MacHale, and George Masterton. 2009. "Self-Regulation of Unattainable Goals in Suicide Attempters: The Relationship between Goal Disengagement, Goal Reengagement and Suicidal Ideation." *Behaviour Research & Therapy* 47(2):164–69. doi: 10.1016/j.brat.2008.11.001.

Peek, Charles W., Evans W. Curry, and H. Paul Chalfant. 1985. "Religiosity and Delinquency Over Time: Deviance Deterrence and Deviance Amplification." *Social Science Quarterly* 6(1):120–31.

Pew Research Center. 2015. *U.S. Public Becoming Less Religious*. Pew Research Center.

Piggott, Danielle M., and RaeAnn E. Anderson. 2022. "Religion After Rape: Changes in Faith and Hindered Acknowledgment." *Journal of Interpersonal Violence* 1. doi: 10.1177/08862605221109913.

Powell, Kathleen B. 1997. "Correlates of Violent and Nonviolent Behavior among Vulnerable Inner-City Youths." *Family and Community Health* 20(2):38–47.

Public Religion Research Institute. 2015. *PRRI Religion and Politics Tracking Survey*. Washington, DC: PRRI.

Scrivener, Glen. 2022. *The Air We Breathe: How We All Came to Believe in Freedom, Kindness, Progress, and Equality*. Epsom, UK: The Good Book Company.

Stack, Steven, and Mary Jeanne Kanavy. 1983. "The Effect of Religion on Forcible Rape: A Structural Analysis." *Journal for the Scientific Study of Religion* 22(1):67–74. doi: 10.2307/1385592.

Stark, Rodney. 1996. "Religion as Context: Hellfire and Delinquency One More Time." *Sociology of Religion* 57(2):163. doi: 10.2307/3711948.

Swee, Genevieve, Ian Shochet, Wendell Cockshaw, and Leanne Hides. 2020. "Emotion Regulation as a Risk Factor for Suicide Ideation among Adolescents and Young Adults: The Mediating Role of Belongingness." *Journal of Youth & Adolescence* 49(11):2265–74. doi: 10.1007/s10964-020-01301-2.

Twenge, Jean M. 2023. *Generations: The Real Differences Between Gen Z, Millennials, Gen X, Boomers, and Silents—and What They Mean for America's Future*. New York: Simon and Schuster.

US Department of Education. 2022. "Campus Safety and Security." Accessed December 29, 2022 (https://ope.ed.gov/campussafety/#/).

US DOJ FBI. 2016. *Crime in the United States, 2012*. Washington, DC: United States Department of Justice.

Vanderwoerd, James R., and Albert Cheng. 2017. "Sexual Violence on Religious Campuses." *Canadian Journal of Higher Education* 47(2):1–21.

Williams, Monica, and Bill McCarthy. 2014. "Assessing Stereotypes of Adolescent Rape." *Journal of Criminal Justice* 42(6):557–67. doi: 10.1016/j.jcrimjus.2014.09.010.

Yonker, Julie E., Chelsea A. Schnabelrauch, and Laura G. DeHaan. 2012. "The Relationship between Spirituality and Religiosity on Psychological Outcomes in Adolescents and Emerging Adults: A Meta-Analytic Review." *Journal of Adolescence* 35(2):299–314. doi: 10.1016/j.adolescence.2011.08.010.

Zuckerman, Phil. 2009. "Atheism, Secularity, and Well-Being: How the Findings of Social Science Counter Negative Stereotypes and Assumptions." *Sociology Compass* 3(6):949–71. doi: 10.1111/j.1751-9020.2009.00247.x.

Direct correspondence to Philip Truscott at Philip.David.Truscott@gmail.com