

The Pennsylvania State University

The Graduate School

**RELIGIOUS IDENTITY AND ADOLESCENT DELINQUENCY:
A COMPARISON OF MUSLIM, CHRISTIAN, AND NON-RELIGIOUS YOUTH IN THE
UNITED KINGDOM**

A Thesis in

Criminology

by

Christopher Seto

© 2020 Christopher Seto

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Arts

May 2020

The thesis of Christopher Seto was reviewed and approved by the following:

Jeremy Staff
Professor of Sociology, Criminology, and Demography
Thesis Adviser

Corina Graif
Associate Professor of Sociology and Criminology
Research Associate, Population Research Institute

Roger Finke
Distinguished Professor of Sociology, Religious Studies, and International Affairs
Director of the Association of Religion Data Archives

Thomas A. Loughran
Professor of Sociology and Criminology
Director, Graduate Program in Criminology

ABSTRACT

Though most scholars agree that possessing a religious identity is associated with reduced crime and delinquency, less consensus exists regarding the mechanisms through which identification with a religion inhibits deviant behavior, and few studies have compared these mechanisms between different religions within the same national context. In the present study, I compare the adolescent delinquency associated with Muslim, Christian, and non-religious identities of youth in the United Kingdom, offering a criminological assessment of theories which posit stronger religious effects for members of a religious minority group, relative to their majority-religious peers. I also investigate mechanisms linking religious identity to lowered delinquency and compare the relative salience of each mechanism for Muslims and Christians.

To address these questions, I utilized data from the Millennium Cohort Study (MCS), a longitudinal, nationally representative survey from birth which allowed for the examination of relevant variables throughout childhood. I estimated a series of logistic regression models predicting adolescent delinquency and tested mediation using the Karlson-Holm-Breen method. Consistent with existing theories of religious effects, results show that non-religious identification is associated with the highest delinquency, followed by Christian (religious majority) identity, with Muslim (religious minority) identity associated with the lowest delinquency. Similar factors explain protective religious effects for both Muslims and Christians. In particular, greater attachment to school and parental supervision are important mechanisms which help to explain lower delinquency for both religious groups.

TABLE OF CONTENTS

| | |
|---|-----|
| LIST OF TABLES | v |
| LIST OF FIGURES | vi |
| ACKNOWLEDGEMENTS | vii |
| INTRODUCTION | 1 |
| LITERATURE REVIEW | 5 |
| Differences in Religious Commitment, Socialization, and Context | 8 |
| Religious Commitment | 9 |
| Religious Socialization..... | 11 |
| Religious Context..... | 13 |
| Mechanisms Linking Religion and Delinquency | 15 |
| DATA AND METHODS | 23 |
| Analytic Sample and Focal Independent Variable | 23 |
| Focal Dependent Variable | 25 |
| Sociodemographic and Parental Control Variables | 26 |
| Potential Mechanisms | 27 |
| Conceptual Model | 31 |
| Analytic Strategy..... | 33 |
| RESULTS | 35 |
| Sensitivity Analyses | 43 |
| DISCUSSION AND CONCLUSION | 48 |
| REFERENCES | 56 |

LIST OF TABLES

| | |
|---|----|
| Table 1. Weighted, Descriptive Statistics for Entire Analytic Sample | 25 |
| Table 2. Weighted, Descriptive Statistics by Religious Group | 36 |
| Table 3. Estimated Odds Ratios and 95% Confidence Intervals for Binary Measure of Delinquency Regressed on Religious Identity, Controls, and Potential Mediators | 39 |
| Table 4. KHB Decomposition of Total, Direct, and Indirect Effects of Religious Identity on Delinquency | 41 |
| Table 5. Estimated Odds Ratios and 95% Confidence Intervals for Variety Score (5 Delinquency Items) Regressed on Religious Identity, Controls, and Potential Mediators | 44 |
| Table 6. Estimated Odds Ratios and 95% Confidence Intervals for Variety Score (7 Delinquency Items) Regressed on Religious Identity, Controls, and Potential Mediators | 46 |
| Table 7. Summarized KHB Decomposition of Total, Direct, and Indirect Effects of Religious Identity on Delinquency for 5-Item and 7-Item Variety Scores | 47 |

LIST OF FIGURES

| | |
|---|----|
| Figure 1. Conceptual Model of Religious Effects on Adolescent Delinquency | 32 |
|---|----|

ACKNOWLEDGEMENTS

This study uses data from the Millennium Cohort Study (MCS), which is funded by both the UK government and the Economic and Social Research Council UK (ESRC). Grant AA019606 from the National Institute on Alcohol Abuse and Alcoholism supported measures of alcohol use at modal age 11.

I would also like to thank Jeremy Staff, Corina Graif, and Roger Finke for their invaluable guidance and feedback throughout the research process.

INTRODUCTION

Scholarly interest in the effects of religion on crime and deviant behavior has a long history within the social sciences, an attention which reflects the ubiquity of religious practice and its relevance to criminological theory. In 2010, over 80% of people worldwide were religiously affiliated (Pew Research 2012). The beliefs and practices associated with most religions include regular social interactions with other religious people, routine involvement in a religious organization, belief in a moral order, and anticipation of supernatural rewards and sanctions. As such, the general consensus that religion reduces crime and other socially deviant behavior (Baier and Wright 2001; Johnson and Jang 2011; Adamczyk, Freilich and Kim 2017) is intuitive and consistent with most major theories of crime and including social learning, social control, routine activities, and deterrence theories.

Despite decades of research into religion's effects on crime and delinquency, a number of opportunities for scholarly inquiry remain. First, most studies have drawn samples from the United States and focused exclusively on Christianity (see meta-analyses by Baier and Wright 2001; Johnson and Jang 2011). Relatively little attention has been given to understanding religious effects for non-Christians, or to comparative analyses between religions (though exceptions are reviewed below). When conducted within a shared societal context, comparative analyses can provide valuable empirical assessments of theories which posit that religious effects vary based on a religion's situation within broader society (e.g., Stark and Finke 2000). Secondly, researchers have called for further investigations into the mechanisms through which religion induces conformity (Johnson and Jang 2011; Adamczyk et al. 2017). Participation in a religion involves a number of social and psychological processes that are theoretically linked to reductions of deviant behavior, and this multidimensionality makes isolating important

mechanisms challenging, especially because possibly protective factors tend to be correlated with one another. Despite this challenge, isolating salient mediators is a worthwhile criminological endeavor that allows for the comparison and subsequent assessment of general theories of crime and delinquency. Finally, many prior studies lack longitudinal data, limiting their ability to examine protective factors which may have developed early in life over the course of one's socialization into a religion. Developmental models of the religion-crime relationship may offer important insights into criminality across the life course (Johnson and Jang 2011).

In this study, I compare the adolescent delinquent behavior associated with religious minority identity (Muslim), religious majority identity (Christian), and non-religious identity in the United Kingdom with two main goals. The first goal is to, with a criminological focus, empirically assess theories of religion which posit stronger religious effects for members of a minority religion relative to their majority religious peers. Scholars have argued that religious salience and commitment is increased for followers of religions which exist in tension with secular society (i.e., religious minority groups), requiring their followers to bear social costs associated with membership (Finke and Stark 1992; Iannaccone 1992; Stark and Finke 2000). Relatedly, religious minorities may also undergo a more stringent process of religious socialization (e.g., Scourfield et al. 2013) and reside within religiously homogenous communities. Because religious involvement, belief, and community membership have consistently been found to curb deviant behavior (Adamczyk et al. 2011; Jang and Johnson 2011; Regnerus 2003a; Stark and Bainbridge 1996), I hypothesize that these heightened aspects of minority religions will lead to reduced delinquency for minority-religious adherents, relative to their majority-religious peers.

Secondly, motivated by multiple theoretical perspectives of criminology, I investigate the mechanisms through which the adoption of a religious identity prevents delinquent behavior. Possible mechanisms are numerous and include, among others, increased social control, increased self-control, associations with prosocial peer groups, and the mitigation of criminogenic strain (Johnson and Jang 2011). Identifying salient mechanisms for two different religions (in this study, Islam and Christianity) is important to understanding why each religion is, or is not, protective. Followers of different religions may be kept from deviant behavior by vastly different processes, or this protection may operate through similar mechanisms across religions. Findings from the present study will help to illuminate this largely unexplored question, making an important contribution to the literature of religious effects on deviant behavior.

In the following sections, I first review prior research which has compared crime and delinquency using samples comprised of both Muslim and Christian subgroups. Next, I outline key differences in the religious experiences of British Muslim and British Christian youth, drawing on theoretical work within the sociology of religion and empirical research focused on these religious groups. Specifically, I present reasons to expect differences in religious *commitment, socialization, and community context*, between British Muslims and British Christians. Concluding my coverage of relevant background, I propose several theoretically informed mechanisms, specific pathways through which the process of religious socialization (and consequent adoption of religious identity) may affect delinquent behavior. I explain how each hypothesized mechanism is driven by religious commitment, socialization, and community context, producing differences among Muslims, Christians, and the non-religious, along with consequent differences in delinquency.

I use data from the Millennium Cohort Study (MCS), an ongoing, nationally representative, prospective survey of youth in the United Kingdom who were born between September 2000 and January 2002. Family and cohort-member data was initially collected when the children were 9 months old (N= 18,552), with follow-up interviews and a battery of assessments conducted at modal ages 3, 5, 7, 11, and 14 years of age. I use self-reported measures at modal age 14 years, along with family and individual measures collected at earlier waves to examine between-person differences in delinquent behavior. Associations between religious identification and delinquency are estimated using logistic regression, and Karlson-Holm-Breen (KHB) analysis is used to assess mediation. Following these primary analyses, I conduct several tests to determine the sensitivity of my results to alternative model specifications.

LITERATURE REVIEW

To date, few studies have compared the protective effects of different major religions on the deviant behaviors of adherents. However, most studies which have compared the effects of Christianity and Islam indicate that both religions have some protective effect, and that effects may vary by cultural context. Brauer, Antonaccio, and Tittle (2013) compared criminal behavior between adult respondents from Ukraine, a majority-Christian nation, and Bangladesh, a majority-Muslim nation, as well as assessing mediating processes. They found that for both samples, higher religiosity was predictive of lower likelihood of crime. However, the protective effects of Islam became statistically nonsignificant after the introduction of controls for family and early-life context. The authors interpret this finding as evidence of different processes of socialization into each faith, suggesting that childhood is an especially important time for Muslim socialization in Bangladesh. Regarding mediation, they report that for Bangladeshi Muslims, religious controls were the most salient mediators while for Ukrainian Christians, moral values seemed to be more important. Brauer et al. also note overall stronger effects of religion in Ukraine than in Bangladesh. Because Ukraine is the less religious country of the two, the authors suggest that the contrast of Christian communities against the less religious national context of the Ukraine is responsible for the stronger effects. They do note, however, that this finding is not conclusive due to their single comparison between countries and call for further research along these lines.

In a similar comparative analysis, Klanjsek, Vazsonyi, and Trejos-Castillo (2012) compared the delinquency of university students across four countries, sampling from regions with a high degree of homogeneity in the following religions: Islam (Bosnia and Herzegovina), Eastern Orthodox Christianity (Serbia), Roman Catholicism (Slovenia), and Protestant

Christianity (United States). They also measured intrinsic and extrinsic qualities of their respondents' experiences of religion. Religion is intrinsic to the extent to which an adherent has internalized the beliefs and values of the faith. Extrinsic religion is instrumental in nature, for example one might join a religion in order to access the social support of that religious community (Allport and Ross 1967). Consistent with prior research, Klanjsek et al. found that only intrinsic religiosity had a direct effect on deviance, and this effect was only present in their two most religious cultural contexts: The majority-Muslim region of Bosnia and Herzegovina and the majority-Protestant region of the United States. These results offer cross-religious support for the moral communities model (Stark et al. 1982; Stark and Bainbridge 1996) and the idea that contextual factors may condition the religion-crime relationship for individuals.

Taken together, the comparative analyses outlined above offer some foundational findings for the present study, while also highlighting important and unexplored questions. Both studies found that Christianity and Islam are protective against criminal behavior, but with important differences. For example, Brauer et al. (2013) reported that the mechanisms inducing conformity may vary by religion, and that socialization into each religion may occur through different processes. Interestingly, the two studies diverged regarding their findings on the moderating effects of religious context. Brauer et al. found that religious involvement was more protective in the *less* religious country, while Klanjsek et al. (2012) found stronger effects in countries with *higher* aggregate religiosity. These divergent findings display the need for further research into the conditioning influence of religious context on the behavioral effects of individual religiosity.

In addition to studies that compare the criminal behavior of Muslims and Christians in different national contexts, a recent study compared the violent behavior of German Muslims to

that of German Christians. Using a nationally representative sample of male, ninth grade students, Baier (2014) investigated the effects of personal religiosity on violence for both Christian and Muslim young men. He found that, while religiosity was negatively correlated with violence by Christians, religiosity was positively correlated with violence by Muslims, after controlling for alcohol consumption. He identified norms of masculinity and violent media consumption as mediators of this association.

While Baier's findings are important to the literature of comparative religious effects on deviant behavior, findings from this study also underscore the need for future research along these lines. First, Baier (2014) focuses not on the direct effect of identifying with either Christianity or Islam, but on how the effects of religiosity (operationalized as a scale measuring prayer, worship, and the importance of religion) are different between German Muslims and German Christians. In other words, the study focuses on the interaction between religious identity and religiosity. An equally important (and perhaps more foundational) question is whether religious identity itself has a direct effect on delinquent behavior. Additionally, the sample is drawn from Germany, a nation which has experienced a massive influx of Muslim refugees since 2010 (Pew Research 2017). Because some research suggests that refugee experiences may be linked with poor adjustment and subsequent violence (Spencer and Le 2006), Baier's findings raise the question of whether these patterns are generalizable to other countries.

A review of these comparative studies also highlights an important consideration for such research, that of sample age. Note that each study drew from a different population in constructing an analytic sample: Brauer et al. (2013) from adults in the general population, Klanjsek et al. (2012) from university students, and Baier (2014) from ninth grade male students.

The present study most closely follows Baier, analyzing a representative sample of age fourteen adolescents, but (unlike Baier's sample), is not restricted to only males. While sample design should be based on the research questions at hand, I contend that studying religious effects on delinquent activity occurring in early adolescence has two primary advantages over studying other age groups. First, prior research has consistently shown adolescence to be the period of life during which criminal behavior is most prevalent, even among individuals who would not offend at other ages (Moffitt 1993); this prevalence should help to identify protective religious effects, differentiating youth who do not offend for religious reasons from the general population. Second, most people receive religious socialization from their family of origin and religious organizations in which their families participate (Hoge, Petrillo, and Smith 1982; Sherkat and Wilson 1995). As such, surveying an age group that still resides with these socializing agents should facilitate the detection of important behavioral influences (e.g., parental style and child-parent relationships). These are factors which may continue to curb deviance throughout the life course, but would likely be more difficult to directly observe in later years.

Differences in Religious Commitment, Socialization, and Context

In the United Kingdom, Muslims are a clear religious minority, comprising about 4.4% of the general population in 2010, while Christians are a majority, comprising about 70% of the general population in 2010 (Pew Research 2012). Below, I discuss three primary reasons why British Muslims, as members of a religious minority, may experience additional protections against deviant behavior, relative to their Christian peers. These are (1) a greater degree of religious commitment, (2) exposure to more religious socialization, and (3) situation within religiously homogenous communities. Though I offer theoretical and empirical reasons to believe that the minority-religious status of British Muslims bolsters the protective effects of

their religious identity against delinquency in these ways, it is important to note that differences in delinquency or, indeed, religiosity between British Christians and British Muslims may result from differences other than the relative cultural ubiquity of each religion. Alternative explanations and ideas for future research comparing the deviant behavior of adherents to different religions are discussed following results.

Religious Commitment

Because religious beliefs and involvement tend to prevent antisocial behavior, higher commitment levels should translate directly into lower levels of delinquency. By “commitment” I refer to the perceived importance of religion and overall impact of religious practice on the rest of one’s life. Members of a religious minority group typically have higher average religious commitment compared to members of a majority religion, and this commitment differential is a result of the difference in broader cultural acceptance of the two groups. In their general theory of religious effects on human behavior, Stark and Finke (2000) describe this characteristic of a religion as its “tension” with broader society.

“The higher the tension of their religious group, the less distinction people draw between religious and secular matters: religious doctrines and practices impinge on everything else, defining with whom they associate, how they spend their leisure time, sometimes even how they dress and speak. Examples such as Hasidic Jews, Mennonites, or Sikhs demonstrate the point. But even among groups in less tension, there is variation in the extensiveness of commitment. For an American to be an Episcopalian or for an Italian to be a Catholic has for more limited consequences than to be a Jehovah’s Witness or a Mormon in either nation (2000:128).”

Commitment is increased for high-tension religions because adherents often must bear stigmas and pay social costs associated with religious membership. Religion infringes upon other aspects of their lives to a greater degree than for members of low-tension religions. High “prices” of this kind effectively prune away less committed members, strengthening the group by limiting membership to only those with high commitment. This process increases the importance of religious identity and quality of the religious experience for all remaining members, which further solidifies religious commitment (Finke and Stark 1992; Iannaccone 1992; Stark and Finke 2000). Offering empirical support for this theory, a 2001 study found that religion is more important for members of religious minorities in England and Wales, compared to its importance for Christians. Muslims in England and Wales, along with every other religious minority group surveyed, gave religion an average ranking among the top three most important attributes of their identity (in response to a question which asked about ten different attributes). Among Christian respondents, religion was given an average ranking of seventh (O’beirne 2004).

Indeed, high-commitment religion may be a means through which the minority group is able to maintain its cultural identity in spite of stigma and discrimination, especially when ethnic and religious identity overlap (Bruce 1996; Scourfield et al. 2013), as is the case for most British Muslims. According to the 2011 census, only 7.8% of Muslims in the UK are White British while 67.6% report their ethnicity as Asian British. Of these, the largest ethnic groups are Pakistani, Bangladeshi, and Indian (Muslim Council 2015). Bruce (1996) describes this process of “cultural defense” in his discussion of religion and modernity:

“Where there are two (or more) communities in conflict and they are of different religions (for example, Protestants and Catholics in Ulster, or Serbs, Croats, and Bosnian Muslims in what used to be Yugoslavia), then the religious identity of

each can acquire a new significance and call forth a new loyalty as religious identity becomes a way of asserting ethnic pride...” (1996: 96).

Recent empirical work has demonstrated a link between religious involvement (service attendance, prayer) among Muslim immigrants to the European continent and the attitudinal receptivity of their host countries. Lower levels of receptivity toward Muslim immigrants is associated with higher levels of Muslim religious involvement, demonstrating the inverse relationship between the broader culture’s acceptance of a religious group and the commitment of the group’s members (Connor 2010).

Religious Socialization

In addition to higher levels of group religious commitment, members of a religious minority are also likely to be exposed to a greater degree of religious socialization, relative to their majority religious peers, which further reduces delinquent behavior. The *Handbook of Sociology of Religion* defines religious socialization as “an interactive process through which social agents influence individuals’ religious beliefs and understandings” (Sherkat 2003: 151). Parents are especially salient influences in this regard; people usually grow up to identify with the religion in which they were raised (Sherkat and Wilson 1995; Stark and Finke 2000). As such, a high degree of religious socialization may be especially protective against adolescent delinquency (compared to deviant behavior during other stages of life), as most adolescents live with their parents and experience parental influences on a daily basis.

There are two primary reasons why identification with a minority religious group likely involves a greater degree of socialization than identification with a majority religious group. First, as discussed above, members of a minority religion tend to have overall higher religious commitment in all areas of life, and this includes raising children. On average, children born to

such families will be raised by parents for whom religion is more important than it is for their majority-religious counterparts. Indeed, research finds that British Muslim parents are more likely than British Christian parents to report religion as being important to how they raise their children, with many Muslim parents describing their religious views as foundational to teaching their children morality (Becher 2008). Furthermore, a 2003 study conducted using intergenerational religious data from England and Wales finds that Muslims and other minority religions have a much higher retention rate across generations relative to Christians (Scourfield et al. 2013). In other words, religious minority groups are substantially more successful at socializing new members compared with the religious majority, suggesting that the religious socialization of children is especially important to parents in these groups.

Secondly, minority religions are relatively unlikely to receive converts, meaning that almost all members had to have been socialized into the religion by their families, likely from birth. When people do convert to a new religion, either from a non-religious or religious background, they are likely to choose a religion which conserves social and religious capital. In other words, people are most likely to select a new religion which 1) keeps their existing personal relationships intact and 2) requires the least learning of new religious practices and beliefs (Stark and Finke 2000). As such, majority religions (i.e., religions which enjoy widespread practice and a high degree of cultural acceptance within a nation) are more likely than minority religions to receive converts who were raised in non-religious or weakly-religious families. Selection into a majority religion is unlikely to upset one's non-religious family members and friends, due to the high degree of cultural acceptance of this religion. Furthermore, the widespread practice and knowledge of this religious tradition means that relatively little additional religious capital is needed in order to become a functioning adherent.

In contrast, conversion to a minority religion, one which has relatively few members and less cultural acceptance, is far less likely both because of the reduced opportunity for exposure to socializing experiences and the much higher (social and religious) capital costs. Consider the process required for a someone to convert to a minority religion. First, they would require some degree of exposure to this religion, an opportunity which may be unlikely simply due to the religion's relatively low membership. If this person does decide to convert, they would likely have to learn an entirely new set of beliefs, practices, and traditions, cultural goods with which they are probably unfamiliar because of the religion's minority status. In other words, such a conversion would be costly in terms of religious capital. Additionally, members of a minority religion may face stigmas and negative stereotypes, so converts may disrupt relationships with their friends and family who hold negative views of their new religious affiliation, damaging existing social capital. In short, such a conversion is unlikely, meaning that members of a religious minority were likely socialized into this religion throughout their childhood by their families. Proximity to agents of religious socialization throughout childhood and adolescence provides additional protection against delinquent behavior, and may partially account for differences in delinquency among religious groups in the United Kingdom.

Religious Context

Following the 2001 UK census, which included a voluntary question about religious identity, researchers found that Muslims in the United Kingdom tend to be residentially clustered into a large number of small communities, each with a high degree of ethnic and religious homogeneity (Peach 2006; Office for National Statistics 2012). Scholars have noted the role which racism, institutional discrimination, and socioeconomic constraints played in forming these segregated communities, which are often characterized by a high degree of neighborhood

deprivation (Phillips 2006; Phillips and Harrison 2010). Despite this disadvantage, these communities may help to regulate the behavior of youth, due to their high degree of religious homogeneity, dense social networks, and a high degree of informal social control based on a consensus of cultural and religious norms (Peach 2006; Scourfield et al. 2013). Recent qualitative work conducted within a Muslim community in the Welsh city of Cardiff also suggests that religious community membership may have benefits for Muslim children, noting:

“The children in our study spent time with grandparents, aunts, uncles, friends, neighbors, and babysitters. For almost all families, the vast majorities of these informal social connections, even outside the biological family, were with other Muslims and in most cases people from the same ethnic background, with a strong emphasis on bonding rather than bridging...The establishment of close social networks of wider family and Muslim friends therefore serves to maintain a ‘moral community’ and ‘moral space’ suffused with Islamic values (Scourfield et al. 2013).”

Indeed, the idea of religious communities buffering against crime and delinquency has received broad, empirical support. In formulating the moral communities model of religious effects on delinquency, Stark et al. (1982) sampled high school students around the United States and demonstrated a strong negative association between individual religiosity and delinquency only in religious areas of the country (see also Stark and Bainbridge 1996). Other studies find that community-level religious homogeneity exerts an independent effect on the behavior of community members, curbing the deviant behavior of religious and non-religious individuals alike (Regnerus 2003a). These findings suggest that the situation of British Muslims within religious communities may work to strengthen religious effects on the behavior of Muslim

adolescents and further reduce delinquent behavior, relative to their Christian and non-religious peers.

Mechanisms Linking Religion and Delinquency

As detailed above, British Muslim youth, as members of a religious minority group, should differ from their Christian and non-religious peers in the following ways: (1) Muslim youth have higher average religious commitment, (2) Muslim youth experience a greater degree of religious socialization, primarily from family members who also have high religious commitment, and (3) Muslim youth are situated within communities of religious homogeneity. For these reasons, religious identity should be especially effective in preventing deviance for Muslim youth, resulting in their having the lowest incidence of delinquency and differentiating them from both Christians and non-religious youth. Religious identity should also protect Christians, albeit to a lesser degree, and result in lower delinquency among Christians compared to their non-religious peers, whose deviance will not be buffered at all by religiously derived protections. Having proposed these differences in the religious experiences of Muslims and Christians in the United Kingdom, I now turn to some specific mechanisms through which religion is thought to reduce deviant behavior. These are (1) self-control, (2) attachments to conventional society, (3) socially learned moral values, (4) strain mitigation, (5) parental religious affiliation and supervision, and (6) decreased exposure to alcohol at an early age. In addition to assessing the relative protective effects of each religious identity, my goal is to test each of the mechanisms detailed below in order to determine the relative salience of each for British Muslims and British Christians.

Self-Control

Self-control is a popular concept within criminology and one which may be linked to religiosity. Indeed, some scholars suggest that the association between religion and crime may be confounded by individual traits such as self-control or thrill-seeking, which are causally related to both low religiosity and high crime (Ellis 1987), a view consistent with Gottfredson and Hirschi's (1990) proposition that the individual trait of self-control explains all variation in criminal and analogous behavior. For example, a person with low self-control or a propensity toward thrill seeking is unlikely to be successful integrating religious activities (e.g., lengthy worship services) or religious beliefs (e.g., postponing earthly pleasure for the promise of gratification in the afterlife) into their lifestyle. Such a person is also at an increased risk of criminal offending. However, empirical tests suggest that religiosity has an effect on crime which is not confounded with self-control (Welch, Tittle and Grasmick 2006).

Self-control may also mediate the relationship between religion and crime, if religious involvement increases an individual's self-control thereby decreasing their risk of offending. This model is better integrated with the religious socialization of children, as children do not select their family's religion based on prior, individual preferences. Any correlation between childhood self-control and religious affiliation is therefore likely due to religious socialization of the child, rather than the child's selection into a religion based on their existing level of self-control. Unobserved, genetic traits might also account for a portion of this correlation, if parents with high self-control select religion and then genetically transmit high self-control to their children. A comprehensive meta-analysis on the topic finds that (1) religion does increase the self-control of adherents over time and (2) children raised by religious families have higher self-control than other children, controlling for a host of potential confounders (McCullough and Willoughby 2009). These findings offer support for the socialization model of religious effects

on children's self-control. In the context of the present study, differences in self-control among the three groups would likely be attributable to differences in degree of religious socialization, along with differences in commitment to religious ideals of self-discipline and respect for authority.

Attachments to Conventional Society

Attachments to prosocial institutions and people may also mediate the negative relationship between religion and delinquency, an idea consistent with social bond theory, which argues that individuals will be protected from deviance to the extent that they are integrated with conventional society (Hirschi 1969). These attachments may be explicitly religious in nature; belonging to a religion usually constitutes an attachment to a religious organization and leads to relationships with other religious adherents. Inherent in these relationships are expectations for conformity, which regulate the behavior of group members. In addition to the creation of religious attachments, secular attachments may also be strengthened by religious involvement. Prior research has identified a connection between religious socialization and increased educational motivation, aspirations, and achievement (Regnerus 2003b; Milot and Ludden 2009). As such, differences in educational motivation among British religious groups may indicate differences in religious socialization for group members. As school is one of the primary conventional institutions with which young people have frequent contact, attachments in this realm may especially salient for reducing delinquency during adolescence. Indeed, behavioral and emotional engagement in school is a strong predictor of lowered delinquency among adolescents (Hirschfield and Gasper 2011). Engagement in conventional activities like school may also promote conformity simply by limiting the available time and energy one has to engage in deviant activities, or by increasing the risk of deviant behavior by giving the potential more to

lose. For example, a person who has already invested a great deal of time in their education may be especially reticent to risk future conventional success by engaging in criminal behavior. These ideas of involvement in a conventional activity and commitment to conformity as mechanisms for the reduction of deviance are also key conceptual components of social bond theory (Hirschi 1969).

Learned Moral Values

In addition to increasing conformity through heightened self-control and conventional attachments, religious organizations usually espouse prosocial values. The transmission of learned values, either conventional or criminal, is a key theoretical component of differential association theory (Sutherland 1947), later extended as the social learning perspective (Akers 1998). In these theories, deviant behavior is viewed as a function of the attitudes, norms, and values learned through one's social contexts. Involvement in religion supplies a religious adherent with explicit prosocial values and attitudes which are reinforced by membership in a likeminded community. Membership may also limit an adherent's exposure to norms conducive to criminal behavior. According to these perspectives, both the exposure to conventional norms and the isolation from criminal norms have a negative effect on a religious person's criminal behavior.

Recent empirical work suggest that learned religious narratives are important in the development of moral reasoning (McKenzie and Jensen 2017), and religious people tend to hold more prosocial values and attitudes than their non-religious counterparts. In a series of four studies designed to measure the impact of religiosity on prosocial values, Saroglou et al. (2005) found that religion was negatively correlated with willingness to engage in physical aggression towards others and positively associated with willingness to help an associate, empathy, and

altruism. Learned beliefs about the morality of criminal behavior have also been shown to mediate religion's effect on self-reported likelihood of engaging in such behavior (Simons et al. 2004; Brauer, Antonaccio, and Tittle 2013), and believing that a behavior is "wrong" strengthens the protective effect of religiosity on that behavior (Desmond et al. 2008). For British Muslims, Christians, and non-religious respondents, differences in the perceived wrongness of delinquent behaviors may indicate differences in religious socialization and consequent prosocial beliefs.

Strain Mitigation

Religion may also prevent crime and delinquency by reducing the emotional strain experienced by adherents following stressful life events. In general strain theory, Agnew (1992; 2006) argues that these events produce negative emotions which may be criminogenic if not managed through conventional avenues. Although Agnew did not discuss religion as a coping mechanism in his original formulation of the theory, he did posit that social support would serve as an effective means of mitigating strain through noncriminal means, a resource which is generally available to adherents through their religious communities. Religious people may also engage in *spiritual coping*, defined as "an expression of a sense of spirituality, a secure relationship with God, a belief that there is meaning to be found in life, and a sense of spiritual connectedness with others" (Pargament et al. 1998: 712), which may attenuate the strain-crime relationship by buffering against the emotional consequences of stressful life events. Indeed, religion has been consistently linked to improved mental health (Koenig and Larson 2001), and empirical tests of general strain theory have shown that religious and spiritual coping mechanisms are effective in managing stress, reducing the relationship between negative affect and criminal behavior (Piquero and Sealock 2000; Jang and Johnson 2003). For respondents in the present study, differences in emotional strain among religious groups may be indicative of

differences in religious commitment, as individuals with higher commitment may be more effective at employing spiritual coping to mitigate strain. Furthermore, such differences may indicate differences in religious context, as community membership is an important conduit for religion-facilitated social support (Krause et al. 2001).

Parental Religion and Supervision

All hypothesized mediators discussed so far have involved social or psychological mechanisms relating to the respondents' own experiences of religion. However, parental attributes may also be important to explaining the effects of religious identity on adolescent delinquency; after all, most children adopt their parents' religious affiliations (Sherkat and Wilson 1995) and much adolescent behavior is influenced by parental behavior. In this sense, parental religion and behavior may be thought of as a confounding factor (i.e., causally precedes both child religious socialization and child delinquency), albeit one which is highly relevant to understanding why religious children may be protected from delinquency. If religious parents behave in ways that prevent delinquency on the part of their children, parental affiliation may be important to explaining group differences among Muslims, Christians, and non-religious youth. As previously argued, the relative difficulty in converting to a minority religion increases the probability of a Muslim child in the UK having Muslim parents, compared to the probability of a Christian child in the UK having Christian parents. Because of the socialized nature of religion, both of these groups are more likely to have religious parents than non-religious youth. These differences in parental religion may partially explain differences in delinquent offending among members of these three groups.

Parental supervision is a primary way in which parental religion may affect child delinquency, especially during early adolescence when most children still live with their parents.

In this way, religious upbringing may be linked to lowered delinquency through reduced opportunity for delinquent offending. Opportunity may be conceived as the convergence of a potential offender and target of the criminal act, in a location without a capable guardian (Cohen and Felson 1979). Parents who more consistently monitor their children reduce opportunity for delinquency by serving as guardians against such behavior. Children who are more heavily supervised may also be less likely to encounter potential targets for delinquent acts, further reducing opportunity. Indeed, prior research identified a connection between high levels of parental child-monitoring and subsequent reductions in deviant child behavior (Barnes et al. 2006). Parental supervision may help to explain the protective effects of religion against delinquency because some studies have linked parent religiosity to higher levels of child-monitoring and the prioritization their children's conformity to behavioral moral standards (Bartkowski and Xu 2000; Smith 2003). For adolescents in the present study, differences in parental supervision are likely tied to group differences in prevalence of religious parents, such that British Muslims, who are the most likely to have religious parents are (on average) supervised the most, while non-religious youth, who are the least likely to have religious parents, are supervised the least. Differences in supervision may also be tied to parental religious commitment, such that parents with higher commitment engage in greater child supervision, curbing the delinquent behavior of their children. This process may also be affected by religious context, as religious parents may find it easier to monitor their children in religious communities with high network closure (Smith 2003).

Early Initiation into Drinking Alcohol

Finally, religious youth may be at a lowered risk of delinquency due to their relative lack of exposure to alcohol during early adolescence. Reduced early-life alcohol consumption among

religious adolescents may reduce subsequent delinquent risk, as exposure to alcohol at a young age may negatively affect neurocognitive development and is linked to a variety of risk-seeking and externalizing behaviors (Zeigler et al. 2005; Staff et al 2019). Prior research finds that underage drinking is linked to higher levels of delinquency, even after controlling for a number of endogenous risk factors (French and Maclean 2006), as well as linked to violence (Rossow, Pape, and Wichstrøm 1999; Swahn et al. 2004).

The importance of this mechanism likely varies by religion and religious groups, based on the group's acceptance of alcohol. For example, the mediator of alcohol exposure may be especially salient for Muslim youth, as Islam has specific prohibitions against alcohol consumption. Apart from prohibitions associated with particular religious groups, general religious involvement is protective against early-life substance use. Multiple meta-analyses on the topic find that higher levels of general religious involvement and religious salience are predictive of lower levels of substance use among juveniles (Yeung, Chan, and Lee 2009; Kelly et al. 2015).

DATA AND METHODS

Analytic Sample and Focal Independent Variable

Data are from the Millennium Cohort Study (MCS), a nationally representative, longitudinal study of children born in the United Kingdom (i.e., England, Wales, Scotland, and Northern Ireland) between September 2000 and January 2002. In the initial survey, 9-month old children (N=18,818) were sampled using a strategy which clustered families by electoral wards, oversampling from ethnic minority and low socioeconomic status groups. Interviews with the children's caretakers were conducted during the initial sampling, and follow up interviews were conducted when the children were 3, 5, 7, 11, and 14 modal years of age. During the second wave of data collection (modal age 3 years), 1,389 families were added to the sample. Cohort members themselves were interviewed at modal ages 11 years and 14 years. Throughout the survey, physical, cognitive, and emotional measures were also collected. Across waves, the survey experienced some attrition; of the 18,818 children initially sampled, 11,872 (63%) responded to the survey at age 14 years. I utilize survey-provided weights in all subsequent analyses to adjust for this loss of data, as well as for the complex sampling procedure (Dex and Joshi 2005; Plewis 2007).

In the present study, I use an analytic sample of cohort members who had a valid statistical weight and self-reported a religious identification of Muslim, Christian, or non-religious when they were age 14 years. I do not include groups other religious groups in the analyses, as these groups are small enough to preclude statistically meaningful comparisons, and lacked representation across all regions. For example, only the survey given to respondents in England captured any responses of "Hindu," and only 173 respondents (about 1.5% of respondents to the age 14 survey) responded in this way. Youth residing in Northern Ireland

(about 9.5% of respondents to the age 14 survey) were not included in these analyses because the survey administered in Northern Ireland did not list “Muslim” as a separate category from “other religion.” While I imported the non-religious and Muslim categories directly from all versions of the survey, the version given to Scottish respondents listed multiple Christian denominations (Church of Scotland, Roman Catholic, other Christian), which I combined into a single category for analytical comparisons. Because these denominations were not included as response categories in the surveys used in England and Wales, identifying denominational differences within Christianity is outside the scope of the current study.

After restricting the analytic sample in this way, 9,772 of the productive cases at modal age 14 remained (about 82% of all productive cases at this sweep). Of these cases, most had complete data regarding relevant variables; missing data for these variables ranged from 0% to 9%. I used multiple imputation to reduce potential bias from missing data (Rubin 1987), imputing 20 datasets via chained regressions using the “mi estimate” command in Stata 15 (StataCorp 2017).

Table 1 displays weighted, descriptive statistics for the full analytic sample. As shown, most adolescents (60.4%) report no religious affiliation at age 14, a finding consistent with other recent surveys finding that British young people are, in aggregate, less religious than prior generations (National Centre 2012). Christians emerge as the largest adolescent religious group, comprising 31.6% of the sample, while Muslims make up 8.0% of the sample.

Table 1. Weighted, Descriptive Statistics for Entire Analytic Sample

| | Mean or percentage | SE |
|-----------------------------------|--------------------|--------|
| Non-Religious | 60.4% | (.013) |
| Christian | 31.6% | (.010) |
| Muslim | 8.0% | (.013) |
| Delinquent | 8.6% | (.004) |
| Male | 51.8% | (.006) |
| White British | 82.1% | (.016) |
| Age fourteen or older | 76.8% | (.006) |
| At least 1 immigrant parent | 15.5% | (.013) |
| Highest parent education | | |
| NVQ 1 | 6.3% | (.004) |
| NVQ 2 | 23.9% | (.007) |
| NVQ 3 | 13.1% | (.005) |
| NVQ 4 | 32.4% | (.008) |
| NVQ 5 | 13.3% | (.006) |
| None or Foreign | 11.1% | (.007) |
| Externalizing behavior | 0.21 | (.005) |
| Educational motivation | 2.88 | (.007) |
| Perception that stealing is wrong | 3.91 | (.005) |
| Perception that graffiti is wrong | 3.87 | (.006) |
| Perception that fighting is wrong | 3.52 | (.010) |
| Emotional wellbeing | 5.42 | (.016) |
| At least 1 religious parent | 58.4% | (.011) |
| Parental supervision | 3.38 | (.011) |
| Child drank alcohol by age 11 | 13.8% | (.006) |

N=9,772 (20 imputed datasets)

Focal Dependent Variable

The outcome of interest is measured using a series of questions about theft, violence, and other forms of delinquency. At modal age 14, respondents were asked whether they had engaged in specific behaviors at any time during the past year. Using their responses, I constructed a dichotomous measure of delinquency for use in the primary analyses. Respondents were coded as (1) if they had engaged in at least one of the behaviors and coded as (0) if they had not engaged in any of the behaviors. These questions were also used to construct a variety score used

in subsequent sensitivity analyses (presented following primary results). To measure delinquency, the following questions were asked of respondents:

- (a) whether they had taken anything from a shop without paying for it
- (b) whether they had stolen anything from someone, such as a mobile phone or money.
- (c) whether they had used a weapon or hit someone with a weapon.
- (d) whether they had on purpose damaged anything in a public place that didn't belong to them, for example by burning, smashing or breaking things like cars, bus shelters and rubbish bins.
- (e) whether they had written things or spray painted on a building, fence or train or anywhere else where they shouldn't have.

As shown in Table 1, 8.6% of the sample reported in engaging in at least one of these behaviors within the past year, when asked at modal age 14.

Sociodemographic and Parental Control Variables

Sociodemographic control variables include race, sex, and age of the adolescent, as well as parents' highest educational attainment and parent's immigration status. I coarsened race to a binary measure of White British or non-White British. This coarsening was necessary due to concerns about collinearity between Muslim identity and Asian British identity. For example, almost 99% of respondents in the analytic sample who identified as "Pakistani or Bangladeshi" also identified as Muslim. As shown in Table 1, 82.1% of the sample is classified as White British. Sex is coded as (0) "female" and (1) "male." As shown, there are slightly more males than females in the sample (51.8%). The age variable reflects whether the respondent was 13 years of age (0) or 14 through 15 years of age (1) at the time of the wave 6 interview; the majority of respondents were at least 14 when interviewed (76.8%). Parental educational

attainment was operationalized using the National Vocational Qualification scale (NVQ) and derived from interviews with the primary care provider (and partner, if applicable) at all waves of data collection. Categories were NVQ-1, corresponding to routine labor, through NVQ-5, corresponding to postgraduate education. In cases of two adult caretakers with different educational attainment, the higher NVQ category was recorded. In addition to 5 levels of NVQ, an additional category was created for cases in which both caretakers reported either no NVQ attainment or foreign educational credentials. Table 1 displays the distribution of parental education. In the second wave of data collection, primary caregivers and partners were asked about whether they were born in the United Kingdom or immigrated from a different country. I coded parental immigration status as (1) if either of the caregivers reported having immigrated, and as (0) if both reported being born in the United Kingdom. As shown, 15.5% of the sample has at least one immigrant caretaker.

Potential Mechanisms

I test the mechanisms of self-control, attachments to prosocial institutions, learned moral values, emotional wellbeing, parental religion and supervision, and early initiation into drinking alcohol. These variables were assessed at timepoints based on theoretical considerations. Because religious socialization is a temporal process which, for this sample, likely takes place throughout childhood, self-control and learned moral values which result from this socialization process should be measurable prior to age 14, when delinquent behavior was assessed. As such, intervening variables capturing self-control and learned values are measured at the previous sweep (modal age 11 years). Measures for attachments to conventional institutions, parental supervision, and emotional strain are measured concurrent with the age 14 outcome, as these mechanisms are likely to be most salient when temporally proximate to the delinquent act itself.

In other words, lack of attachments, exposure to an opportunity for delinquency, or criminogenic strain at age 11 years is unlikely to cause a delinquent act 3 years later, but these may be powerful “in the moment” causes of delinquency. Early initiation into drinking alcohol is measured at age 11 years, the first wave in which the children were asked about their alcohol consumption. Parental religious affiliation was recorded during sweeps 1 and 2, when children were modal ages 9 months and 3 years, respectively. The operationalization of all hypothesized mechanisms is described in detail below:

Self-Control

At age 11, hyperactivity and conduct problems, as measured by the Strengths and Difficulties Questionnaire (SDQ) (Goodman 2001) were assessed by the children’s caretakers. Parents were given a series of prompts about their child’s ability to sit still, focus on tasks, follow instructions, and obey rules, and asked how much each description applied to their child. Possible responses were “not true,” “somewhat true,” and “certainly true.” Ten items measuring hyperactivity and conduct were combined into a mean scale of problematic externalizing behavior ($\alpha = 0.81$), for which higher scores indicate greater frequency of externalizing behavior (and lower self-control). Due to the skewed distribution of this variable, the scale was log transformed. This age-lagged measure should capture differences in child self-control which manifest by age 11 years and may mediate differences in delinquency among religious groups at age 14 years.

Attachments to Conventional Society

I operationalized the children’s attachments to prosocial institutions using their engagement in school. This measure was chosen because rich data regarding the children’s level of interest in school activities were collected at age 14 years, and because engagement in school

has been shown by past work to be protective against delinquency (Hirschfield and Gasper 2011). I constructed a mean scale from six questions ($\alpha = 0.75$) that asked about the adolescents' motivation, enjoyment, and level of energy while at school. Each question asked about the frequency of these experiences, and 4 possible responses ranged from "never" (coded as 1) to "all the time" (coded as 4). As shown in Table 1, the mean score for this measure is 2.9, which is close to an average answer of "most of the time" in response to a question about the frequency of a positive school experience.

Learned Moral Values

At age 11 years, children were asked about the morality of stealing, graffitiing, and fighting. Response categories were (1) "not wrong," (2) "don't know," (3) "a bit wrong," (4) "very wrong." These three measures, operationalizing moral beliefs about the actions which comprise the delinquency outcome, are included in the model as separate, continuous variables with each unit change corresponding to a level of agreement in the "wrongness" of a particular behavior. As shown in Table 1, all mean responses for these measures are between 3 and 4, showing that, on average, respondents felt that these behaviors were all between "a bit wrong" and "very wrong." If religion reduces delinquency by influencing specific learned values and teaching adherents that certain behaviors are morally unacceptable, these beliefs, formed during childhood, may mediate estimated behavioral differences between religious groups at age 14 years.

Strain Mitigation

I operationalized emotional strain using a six-question mean scale ($\alpha = 0.86$) designed to tap each respondent's overall wellbeing. Questions asked about the respondents' happiness regarding different aspects of their life such as family and friends (measured at age 14 years),

and a scale of 7 responses was available, with (1) corresponding to “not happy at all” and (7) corresponding to “completely happy.” Adolescents with low amounts of strain in their daily lives should have relatively high scores on this scale, while adolescents experiencing high amounts of strain should score lower. As shown in Table 1, respondents reported an average score of 5.4, corresponding to intermediate to high levels of happiness.

Parental Religion and Supervision

I constructed a binary measure of whether the children came from a family in which at least one of the caretakers provided a religious affiliation, in sweep 1 (modal age 9 months) or sweep 2 (modal age 3 years). This measure of parental religious identity during childhood serves as a proxy for religious upbringing and associated protective factors. As shown in Table 1, 58% of adolescents in the analytic sample had at least 1 religious parent early in childhood. In order to explicitly measure parental supervision, I constructed a three-item scale using the respondents’ reports of how frequently their parents know where they are, what they are doing, and whom they are with. Possible answers ranged from “never” (coded as 1) through “always” (coded as 4). I used responses to these questions to construct a scale ($\alpha = 0.81$) of parental supervision for which higher values indicate more supervision and lower values indicate less supervision. As shown in Table 1, the mean score for this measure is 3.4, which corresponds to an average response between “usually” and “always.”

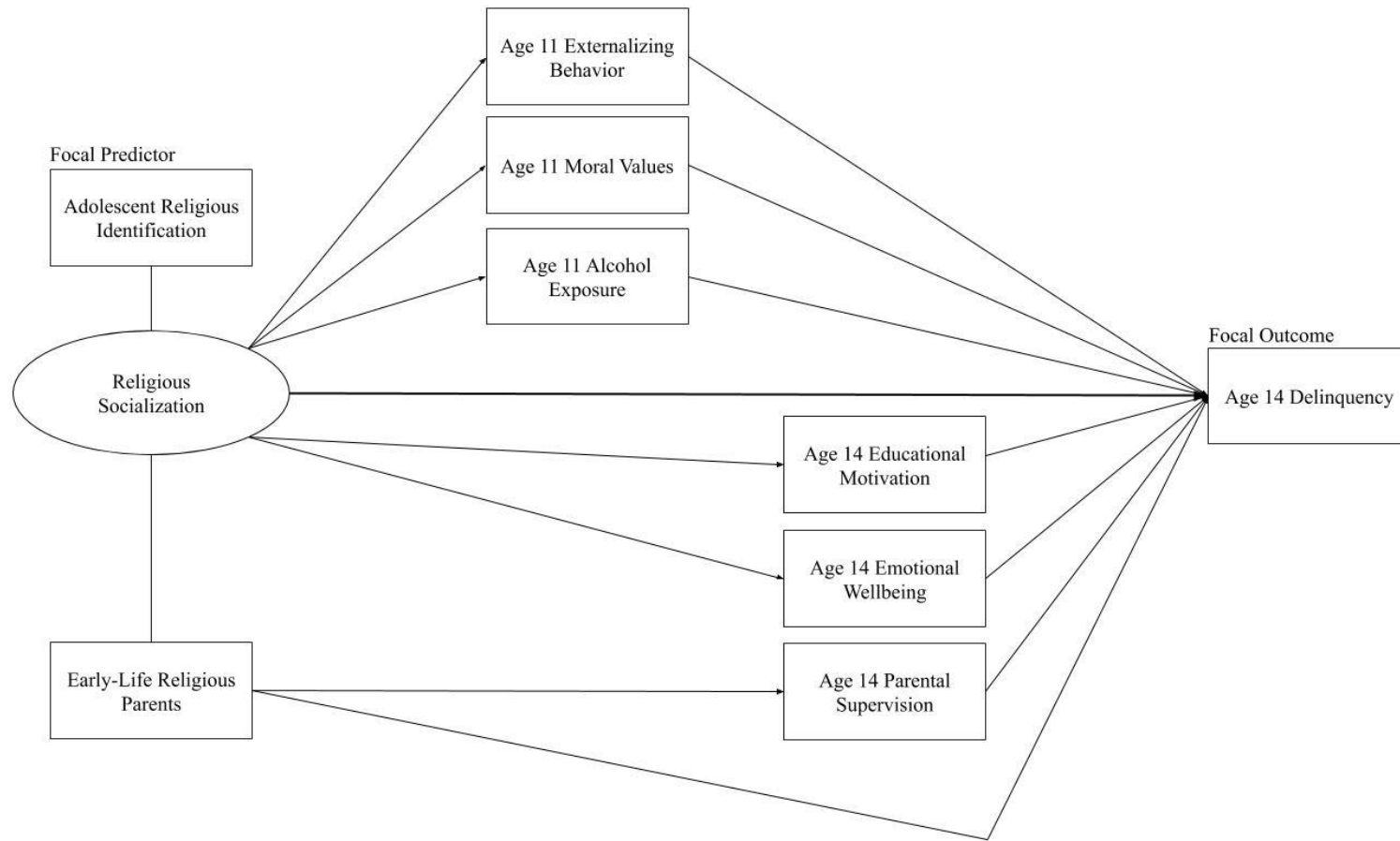
Early Initiation into Drinking Alcohol

At age 11 years, children were asked whether they had “ever had an alcoholic drink, more than a few sips.” I include responses to this question as a binary indicator of whether respondents have been initiated into drinking by this age. As shown in Table 1, 13.8% of children reported having an alcoholic drink by age 11 years.

Conceptual Model

Figure 1 displays a conceptual model of how key variables and constructs for this study relate to one another. As shown, adolescent religious identity (the focal predictor) is used as a proxy for socialization into that religion, a process which likely occurs throughout childhood, leading to the adoption of religious identity by adolescence. Also correlated with religious socialization is having a religious parent early in life, a family characteristic which may directly protect against delinquency or indirectly curb delinquency through increased parental supervision. Externalizing behavior (capturing childhood self-control), moral values, alcohol exposure, educational motivation (capturing conventional attachments), and emotional wellbeing are depicted as mediators of the relationship between the experience of religious socialization and adolescent delinquency, though a direct effect is assumed to exist, even after taking these mechanisms into account.

Figure 1. Conceptual Model of Religious Effects on Adolescent Delinquency



Analytic Strategy

In order to address the stated goals of this study, I first examine the association between religious identity and delinquency descriptively, assessing the percent of respondents from each religious group who reported committing a delinquent act within the past year. I also examine bivariate associations between religious identity and potential mechanisms, in order to assess whether the groups differ in the expected directions (i.e., that Muslims have the highest protection and lowest risk, while non-religious respondents have the highest risk and lowest protection).

Next, I use binary logistic regression to estimate associations between delinquency and religious identity, net of sociodemographic controls. As stated, I expect non-religious identity to be associated with the highest delinquency, followed by Christian identity, with Muslim identity associated with the lowest delinquency. For ease of comparison, Christian identity will serve as the reference group, given the theoretical reasons to expect intermediate delinquency from this group. Following the estimation of this model, I introduce all potential mediators into the model as covariates in order to examine how this group of variables impacts the observed differences in estimated odds of delinquency among religious groups. Finding that these variables predict delinquency while diminishing the observed association between religious identity and delinquency would be supportive of mediation through these pathways. However, due to the rescaling of logistic regression models which occurs when new covariates are introduced, a direct comparison of coefficients in nested models is not an appropriate way to assess and quantify mediation (Karlson and Holm 2011).

Instead, I use Karlson-Holm-Breen (KHB) mediation analysis which was developed for use in logistic regression and other nonlinear models (Karlson and Holm 2011; Karlson, Holm

and Breen 2012). In a logistic regression framework, KHB analysis adjusts for the model rescaling when comparing coefficients between nested models, providing estimates for the total, direct, and indirect effect of a focal predictor on the log odds of a binary outcome. KHB analysis also allows for the disentanglement of multiple mediators and the determination of the contribution of each mediator to explaining the observed association. Using KHB disentanglement, I conclude the primary analyses with an assessment the relative salience of each mechanism for each group. Finally, I modify the operationalization of delinquent behavior in order to determine the sensitivity of my findings to these alternative model specifications. Results from all analyses are combined across imputed datasets (Rubin 1987), and models adjust for survey design and sample attrition using longitudinal weights provided by the MCS.

RESULTS

Table 2 displays weighted, descriptive statistics, disaggregated by religious group. Percentages and means are shown for dichotomous and continuous variables, respectively. A comparison of delinquency prevalence across the groups offers preliminary support for theoretical expectations; non-religious adolescents engage in the most delinquency (10.1%), followed by Christian adolescents (6.8%), with Muslim adolescents engaged in the least delinquency (4.4%). The three groups also differed in the expected directions on most of the hypothesized mechanisms, suggesting that religious identity is an important determinant of these protective mechanisms. For example, mean emotional wellbeing scores increases steadily across the three groups, with the non-religious children scoring lowest (with a mean score of 5.35) and Muslim children scoring highest (with a mean score of 5.68). These differences support the proposition that religious coping is an effective means of mitigating emotional strain, especially for minority religions for whom religious commitment is the highest. Consistent with theoretically derived expectations about religious socialization, a particularly high proportion (nearly 97%) of Muslims had at least one early-life religious caretaker, suggesting that religious socialization by the family is almost always part of adolescent Muslim identity formation. This is distinct from Christians, only about 78% of whom had at least one early-life religious caretaker, suggesting that religious socialization by the family is less necessary to the identity formation of this majority-religious group. As expected, non-religious adolescents had a lower percent of religious caretakers than either religious group.

Table 2. Weighted, Descriptive Statistics by Religious Group

| | Non-religious youth only | | Christian youth only | | Muslim youth only | |
|-----------------------------------|--------------------------|--------|----------------------|--------|--------------------|--------|
| | Mean or percentage | SE | Mean or percentage | SE | Mean or percentage | SE |
| Delinquent | 10.1% | (.005) | 6.8% | (.006) | 4.4% | (.007) |
| Male | 55.5% | (.008) | 45.4% | (.011) | 49.1% | (.021) |
| White British | 92.4% | (.006) | 82.4% | (.023) | 2.9% | (.008) |
| Age fourteen or older | 77.5% | (.007) | 75.8% | (.010) | 75.6% | (.018) |
| At least 1 immigrant parent | 6.8% | (.005) | 14.7% | (.018) | 83.6% | (.019) |
| Highest parent education | | | | | | |
| NVQ 1 | 6.7% | (.005) | 5.0% | (.007) | 8.2% | (.009) |
| NVQ 2 | 26.1% | (.009) | 21.3% | (.010) | 17.8% | (.018) |
| NVQ 3 | 14.3% | (.006) | 11.8% | (.007) | 8.7% | (.012) |
| NVQ 4 | 30.8% | (.008) | 38.5% | (.012) | 19.5% | (.016) |
| NVQ 5 | 12.4% | (.006) | 15.9% | (.008) | 9.2% | (.011) |
| None or Foreign | 9.6% | (.006) | 7.5% | (.009) | 36.6% | (.025) |
| Externalizing behavior | 0.22 | (.005) | 0.17 | (.008) | 0.22 | (.012) |
| Educational motivation | 2.83 | (.009) | 2.93 | (.012) | 3.05 | (.025) |
| Perception that stealing is wrong | 3.91 | (.007) | 3.93 | (.008) | 3.90 | (.016) |
| Perception that graffiti is wrong | 3.87 | (.008) | 3.88 | (.012) | 3.87 | (.018) |
| Perception that fighting is wrong | 3.48 | (.014) | 3.58 | (.016) | 3.53 | (.032) |
| Emotional wellbeing | 5.35 | (.020) | 5.49 | (.028) | 5.68 | (.042) |
| At least 1 religious parent | 43.1% | (.010) | 78.1% | (.012) | 96.8% | (.010) |
| Parental supervision | 3.33 | (.013) | 3.43 | (.016) | 3.62 | (.021) |
| Child drank alcohol by age 11 | 16.0% | (.007) | 12.6% | (.008) | 1.8% | (.007) |

N=9,772 (20 imputed datasets)

These patterns are repeated for most other hypothesized mechanisms, with non-religious children least protected against delinquency and Muslim children most protected. For example, mean level of educational motivation differs across the groups such that non-religious adolescents report the lowest motivation (2.83) and Muslim adolescents report the highest (3.05). Likewise, Muslims are the most heavily supervised group, with a mean score of 3.62 on parental supervision, followed by Christians (3.43), followed by non-religious youth (3.33). Early initiation into drinking alcohol, a risk factor for later delinquent offending, displays the opposite pattern; non-religious children report the highest incidence of drinking (16%), while Muslim children report the lowest incidence (1.8%). Interestingly, the groups average similar scores when asked about the morality of stealing, graffitiing, and fighting, suggesting a degree of consensus about the “wrongness” of delinquency, even if the uniformity of these beliefs is not reflected in behavior. The three groups also display little mean differences in externalizing behaviors; Non-religious and Muslim children have identical scores of 0.22, while Christian children score slightly lower with a group mean of 0.17.

Table 3, Model 1, displays estimated odds ratios from a logistic regression model in which delinquent behavior was regressed on religious identification and sociodemographic control variables. Note that in this and subsequent models, Christian identification serves as the reference group for Muslim and non-religious identification. This reference was chosen based on the expectation that Christian respondents would display intermediate delinquency, facilitating easy comparisons among all three groups. Net of individual and family sociodemographic controls, Muslim identity is associated with a 52% reduction in the odds of committing a delinquent act (OR=0.48, $p<0.01$), compared to Christian identity. Non-religious identity is associated with a 51% increase in the odds of a delinquent act (OR=1.51, $p<0.001$), relative to

Christian identity. Though the comparison is not explicitly shown in the Table, Muslim identity is associated with a 68% reduction in odds of delinquency compared to non-religious identity (OR=0.32, $p<0.001$). These estimates offer further support for theoretical expectations within a multivariable regression framework.

Table 3, Model 2 displays new odds ratios following the introduction of all potential intervening variables into the model, each accounting for a mechanism through which religion may reduce adolescent delinquency. After all potential mediators are introduced to the model, the strength of religious identity as a predictor of delinquency is substantially diminished. Now, Muslim identity is associated with a 20% reduction in the odds of committing a delinquent act (OR=0.80), compared to Christian identity, while non-religious identity is associated with a 21% increase in the odds of a delinquent act (OR=1.21). These differences are no longer statistically significant at conventional levels (i.e., $p<0.05$). Additionally, several of the potential mediators are robust predictors of age 14 delinquency. Specifically, age 11 educational motivation is a protective factor, with a unit increase in motivation corresponding to a 57% decrease in odds of delinquency (OR=0.43, $p<0.001$). Of the measures of learned morality, only the belief that stealing is wrong emerged as even a significant predictor of behavior (OR=0.77, $p<0.05$). Emotional wellbeing and caregiver supervision are both protective; each unit increase in wellbeing is associated with a 12% reduction in odds of delinquency (OR=0.88, $p<0.05$), while each unit increase in supervision corresponds to a 64% reduction in odds of delinquency (OR=0.36, $p<0.001$). Finally, initiation into drinking alcohol by age 11 years corresponds to a 59% increase in odds of delinquency by age 14 (OR=1.59, $p<0.01$).

Table 3. Estimated Odds Ratios and 95% Confidence Intervals for Binary Measure of Delinquency Regressed on Religious Identity, Controls, and Potential Mediators

| | Model 1 | | Model 2 | |
|--|----------|-------------|----------|-------------|
| | OR | 95% CI | OR | 95% CI |
| Religious Identity (Ref. Christian) | | | | |
| Non-Religious | 1.51 *** | [1.21,1.89] | 1.21 | [0.94,1.54] |
| Muslim | 0.48 ** | [0.28,0.81] | 0.80 | [0.44,1.43] |
| Male | 1.41 ** | [1.15,1.74] | 1.36 ** | [1.09,1.69] |
| White British | 0.68 * | [0.5,0.94] | 0.74 | [0.54,1.02] |
| Age fourteen or older | 1.25 | [0.99,1.59] | 1.22 | [0.94,1.59] |
| At least 1 immigrant parent | 0.91 | [0.59,1.4] | 1.10 | [0.7,1.73] |
| Highest parent education (Ref. none/foreign) | | | | |
| NVQ 1 | 1.16 | [0.7,1.91] | 1.19 | [0.65,2.18] |
| NVQ 2 | 1.13 | [0.79,1.62] | 1.50 | [0.99,2.29] |
| NVQ 3 | 0.91 | [0.62,1.34] | 1.37 | [0.86,2.18] |
| NVQ 4 | 0.88 | [0.64,1.21] | 1.43 | [0.97,2.11] |
| NVQ 5 | 0.89 | [0.62,1.29] | 1.59 * | [1.2,53] |
| Externalizing behavior | | | 1.34 | [0.87,2.08] |
| Educational motivation | | | 0.43 *** | [0.33,0.56] |
| Perception that stealing is wrong | | | 0.77 * | [0.59,1] |
| Perception that graffiti is wrong | | | 0.89 | [0.71,1.12] |
| Perception that fighting is wrong | | | 0.87 | [0.75,1.01] |
| Emotional wellbeing | | | 0.88 * | [0.79,0.97] |
| At least 1 religious parent | | | 0.91 | [0.72,1.15] |
| Parental supervision | | | 0.36 *** | [0.32,0.41] |
| Child drank alcohol by age 11 | | | 1.59 ** | [1.2,2.1] |

N=9,772 (20 imputed datasets), ***p < .001; ** p < .01; * p < .05

Taken together, the reduction in magnitude of the religious identity coefficients and the emergence of the hypothesized mediators as predictors of delinquency are supportive of mediation through these pathways. However, coefficients within nested logistic regression models cannot be directly compared because of the rescaling that occurs when new covariates are added to the model (Karlson and Holm 2011). Because of this rescaling, further analysis is needed in order to quantify the portion of the effect of religious identity which acts through the mediators, as well as to determine the contribution of each mechanism to this indirect effect. KHB mediation analysis addresses both needs, accounting for the rescaling of nested, nonlinear

models when calculating the indirect effect, and disentangling the contribution of each mediator while controlling for all the others.

Table 4 shows estimates generated by the KHB decomposition, displayed as logged odds ratios. Again, Christian respondents serve as the reference group for Muslim and non-religious respondents. The “total effect” coefficients represent the association between each religious identity and delinquency without controlling for any of the mechanisms, but adjusting for the rescaling of the model which will occur when these mechanisms are included. The “direct effect” coefficients show the portion of these associations which remain unaccounted for after the inclusion of the mechanisms, and the “indirect effect” coefficients show the portions of these associations that can be explained by including the mechanisms. The table also displays a “confounding percent” for each religious identity; this statistic is calculated by dividing the indirect effect by the total effect and may be interpreted as the percent of the initially observed association between that religious identity and delinquency which is explained by the mechanisms.

As shown in Table 4, most of the association between religious identity and delinquency is explained by variation in the hypothesized mechanisms. Taken together, the mechanisms account for 58.3% of the association between non-religious identity and *higher* delinquency, relative to Christian identity, while the mechanisms account for 68.9% of the association between Muslim identity and *lower* delinquency, relative to Christian identity. Further supporting partial mediation through these pathways, the “indirect effect” coefficients for both identities are statistically significant ($p < 0.01$ for non-religious identity; $p < 0.001$ for Muslim identity), while the “direct effect” coefficients are not significantly different from 0.

Table 4. KHB Decomposition of Total, Direct, and Indirect Effects of Religious Identity on Delinquency

| | Non-Religious (Ref. Christian) | | | Muslim (Ref. Christian) | | |
|-----------------------------------|--------------------------------|--------|--------------|-------------------------|--------|--------------|
| | Log Odds | SE | Percent Red. | Log Odds | SE | Percent Red. |
| Total Effect | .449 *** | (.123) | | -.729 * | (.296) | |
| Direct Effect | .187 | (.127) | | -.226 | (.305) | |
| Indirect Effect | .262 ** | (.088) | | -.503 *** | (.085) | |
| Externalizing behavior | .011 | (.009) | 2.5% | -.002 | (.006) | 0.2% |
| Educational motivation | .087 | (.019) | 19.4% | -.139 | (.038) | 19.1% |
| Perception that stealing is wrong | .011 | (.007) | 2.5% | -.001 | (.008) | 0.1% |
| Perception that graffiti is wrong | .005 | (.004) | 1.0% | -.003 | (.007) | 0.3% |
| Perception that fighting is wrong | .001 | (.002) | 0.2% | -.001 | (.004) | 0.1% |
| Emotional wellbeing | .024 | (.011) | 5.3% | -.042 | (.019) | 5.7% |
| At least 1 religious parent | .032 | (.039) | 7.1% | -.016 | (.020) | 2.2% |
| Parental supervision | .081 | (.020) | 18.0% | -.268 | (.048) | 36.7% |
| Child drank alcohol by age 11 | .010 | (.006) | 2.1% | -.031 | (.012) | 4.3% |
| Conf. Percent | | | 58.3% | | | 68.9% |

N=9,772 (20 imputed datasets); ***p < .001; ** p < .01; * p < .05

In order to determine the relative salience of each mechanism, I conducted a KHB disentanglement analysis, the results of which are also presented in Table 4. The coefficients aligned with each variable represent the portion of the association between religious identity and delinquency explained by that particular variable. As such, for each religious identity, the coefficients for all mechanisms sum to the indirect effect. The “percent reduced” column shows these individual coefficients divided by the “total effect” coefficient for each religious identity, effectively ranking the mediators in terms of their salience to explaining the association between religious identity and delinquency.

As shown, educational motivation and parental supervision emerge as particularly salient mechanisms for both religious identities. Educational motivation accounts for 19.4% of the effect of non-religious identity vs. Christian identity and 19.1% of the effect of Muslim identity vs. Christian identity. Caregiver supervision makes up 18.0% of the effect of non-religious identity vs. Christian identity and 36.7% of the effect of Muslim identity vs. Christian identity.

The other individual mechanisms were revealed as somewhat less salient, explaining substantially less of the association between religious identity and delinquency. For example, differences in emotional wellbeing account for 5.3% of the effect of being non-religious vs. Christian and 5.7% of the effect of being Muslim vs. Christian. Early initiation into drinking alcohol accounted for only 2.1% of the estimated difference between non-religious and Christian delinquency and 4.3% of the estimated difference between Muslim and Christian delinquency. Externalizing problem behaviors (measuring child self-control), beliefs about whether delinquent acts were “right or wrong,” and having at least one religious caregiver also comprised a relatively small portion of the indirect effect for both religions, controlling for all other hypothesized mechanisms.

Sensitivity Analyses

In order to assess the robustness of these findings, I repeated the analyses using a variety score as a measure of delinquency. Variety scores are reliable measures of the seriousness of criminal behavior (Sweeten 2012), and operationalizing the outcome in this way may reveal new group differences. All variables in the model remain the same, except for the measure of delinquent behavior, which is now measured as a bounded count ranging from 0-5 and representing the number of different delinquent acts which respondents reported committing. I used binomial regression to model this outcome; given the bounded nature of the outcome (cannot exceed 5), a binomial model is more appropriate than modeling strategies for unbounded counts such as negative binomial regression. For these models, coefficients may be interpreted as the change in the odds of an additional act of delinquent behavior (Britt, Rocque and Zimmerman 2017).

Estimates from this regression are shown in Table 5. As shown, the general pattern identified in the previous series of logistic models is replicated, with minor differences. Model 1 shows that the effect of Muslim identity, relative to Christian identity, is no longer statistically significant, although the direction of the coefficient is unchanged and its magnitude is similar to prior results (OR=0.55). Non-religious identity, relative to Christian identity, is associated with a 38% increase in the odds of an additional act of delinquency and is statistically significant at conventional levels (OR=1.38, $p<0.05$). Though the comparison is not explicitly shown in the table, Muslim identity does have a statistically significant, protective effect compared to non-religious identity (OR = 0.40, $p<0.05$). These findings suggest that, while the additional protection offered by minority status seems to differentiate Muslim identity from Christian identity with respect to some delinquency vs. no delinquency, the two religions offer more similar protection against the

commission of a variety of delinquent acts. Consistent with the previous analyses, following the introduction of all hypothesized mechanisms, estimated differences between religious effects are substantially diminished and no longer statistically significant.

Table 5. Estimated Odds Ratios and 95% Confidence Intervals for Variety Score (5 Delinquency Items) Regressed on Religious Identity, Controls, and Potential Mediators

| | Model 1 | | Model 2 | |
|--|----------|-------------|----------|-------------|
| | OR | 95% CI | OR | 95% CI |
| Religious Identity (Ref. Christian) | | | | |
| Non-Religious | 1.38 * | [1.07,1.78] | 1.06 | [0.81,1.38] |
| Muslim | 0.55 | [0.26,1.17] | 0.97 | [0.45,2.09] |
| Male | 1.54 *** | [1.25,1.89] | 1.47 *** | [1.19,1.81] |
| White British | 0.78 | [0.52,1.18] | 0.89 | [0.61,1.29] |
| Age fourteen or older | 1.16 | [0.88,1.52] | 1.11 | [0.84,1.45] |
| At least 1 immigrant parent | 0.86 | [0.53,1.4] | 1.08 | [0.67,1.73] |
| Highest parent education (Ref. none/foreign) | | | | |
| NVQ 1 | 1.10 | [0.64,1.88] | 1.13 | [0.64,2] |
| NVQ 2 | 0.97 | [0.62,1.52] | 1.30 | [0.83,2.05] |
| NVQ 3 | 0.81 | [0.5,1.32] | 1.26 | [0.79,2.03] |
| NVQ 4 | 0.77 | [0.5,1.18] | 1.32 | [0.88,1.96] |
| NVQ 5 | 0.72 | [0.45,1.15] | 1.35 | [0.85,2.14] |
| Externalizing behavior | | | 1.47 | [0.94,2.29] |
| Educational motivation | | | 0.42 *** | [0.32,0.54] |
| Perception that stealing is wrong | | | 0.89 | [0.76,1.05] |
| Perception that graffiti is wrong | | | 0.75 * | [0.59,0.97] |
| Perception that fighting is wrong | | | 0.99 | [0.81,1.21] |
| Emotional wellbeing | | | 0.91 | [0.81,1.01] |
| At least 1 religious parent | | | 0.86 | [0.68,1.09] |
| Parental supervision | | | 0.39 *** | [0.35,0.44] |
| Child drank alcohol by age 11 | | | 1.48 ** | [1.11,1.97] |

N=9,772 (20 imputed datasets), ***p < .001; ** p < .01; * p < .05

To further examine the consistency of the results across multiple measures of delinquency, I added two additional delinquent behaviors to the variety score: violence without a weapon and public disorderly conduct. The following questions were used to assess these behaviors, respectively:

- (1) In the last 12 months have you pushed or shoved/hit/slapped/punched someone?

(2) In the last 12 months have you been noisy or rude in a public place so that people complained or got you into trouble?

These behaviors were not considered in constructing the original binary measure of delinquency for two reasons. First, about 30% of the analytic sample reported engaging in violence without a weapon within the past year and about 12% reported being noisy in public. Due to the relative frequency of these behaviors, I was concerned that the inclusion of these criteria in the binary measure of delinquency would mask meaningful distinctions between respondents who engaged in more serious, infrequent delinquent acts and those who did not. Second, though it is possible that these behaviors constitute serious acts of delinquency, because of how the questions are worded, non-delinquent acts could also qualify (e.g., an adolescent might answer affirmatively to the unarmed violence question if they had pushed someone while playing a contact sport). Including these behaviors in a variety score somewhat mitigates these concerns by preserving greater variation in the measure of delinquency.

Table 6 displays estimated odds ratios from a binomial regression model predicting this 7-item variety score. When only religious identity and sociodemographic controls are included (Model 1), Muslim identity, relative to Christian identity, exerts a statistically significant and protective effect (OR=0.56, $p<0.001$). However, non-religious identity does not have a large or statistically significant effect relative to Christian identity (OR=1.06). After all hypothesized mediators are added to the model, the effect of Muslim identity is somewhat diminished, though still statistically significant (OR=0.78, $p<0.05$). Interestingly, when these mediating pathways are controlled, non-religious identity seems to exert a statistically significant, protective effect, relative to Christian identity (OR=0.89, $p<0.05$). This finding may suggest statistical suppression wherein Christianity is protective against these behaviors for some adolescents and associated

with higher delinquency for others. After protective mechanisms are controlled for, Christian identity only captures respondents with higher delinquency than their non-religious peers. Future research should examine this relationship, specifically under what circumstances does identifying with a religion actually *increase* delinquency.

Table 6. Estimated Odds Ratios and 95% Confidence Intervals for Variety Score (7 Delinquency Items) Regressed on Religious Identity, Controls, and Potential Mediators

| | Model 1 | | Model 2 | |
|--|----------|-------------|----------|-------------|
| | OR | 95% CI | OR | 95% CI |
| Religious Identity (Ref. Christian) | | | | |
| Non-Religious | 1.06 | [0.96,1.18] | 0.89 * | [0.8,0.98] |
| Muslim | 0.56 *** | [0.45,0.69] | 0.78 * | [0.62,0.98] |
| Male | 1.69 *** | [1.54,1.87] | 1.66 *** | [1.51,1.82] |
| White British | 0.76 *** | [0.66,0.88] | 0.81 ** | [0.71,0.93] |
| Age fourteen or older | 1.14 * | [1.02,1.28] | 1.11 | [0.99,1.23] |
| At least 1 immigrant parent | 0.95 | [0.81,1.12] | 1.06 | [0.9,1.23] |
| Highest parent education (Ref. none/foreign) | | | | |
| NVQ 1 | 1.00 | [0.77,1.3] | 1.00 | [0.77,1.28] |
| NVQ 2 | 0.96 | [0.79,1.17] | 1.11 | [0.92,1.34] |
| NVQ 3 | 0.89 | [0.73,1.09] | 1.12 | [0.93,1.36] |
| NVQ 4 | 0.84 | [0.7,1.01] | 1.10 | [0.93,1.31] |
| NVQ 5 | 0.82 | [0.68,1.01] | 1.15 | [0.95,1.39] |
| Externalizing behavior | | | 1.14 | [0.95,1.36] |
| Educational motivation | | | 0.54 *** | [0.48,0.61] |
| Perception that stealing is wrong | | | 0.90 *** | [0.84,0.96] |
| Perception that graffiti is wrong | | | 0.97 | [0.84,1.11] |
| Perception that fighting is wrong | | | 0.96 | [0.86,1.07] |
| Emotional wellbeing | | | 0.92 ** | [0.88,0.97] |
| At least 1 religious parent | | | 0.94 | [0.85,1.03] |
| Parental supervision | | | 0.52 *** | [0.49,0.55] |
| Child drank alcohol by age 11 | | | 1.34 *** | [1.18,1.52] |

N=9,772 (20 imputed datasets), ***p < .001; ** p < .01; * p < .05

Table 7 displays total, direct, and indirect effects for both sets of binomial models, which were obtained using KHB analysis. While KHB analysis has been applied to models predicting count outcomes before (Felson et al. 2018), its use in this context is experimental, and results should be interpreted with caution (Kohler, Karlson, and Holm 2011). As shown in Table 7,

results of the KHB analysis on the 5-item variety score binomial model closely reflect prior results; both religious effects are shown to act primarily through the hypothesized mechanisms (83.4% for non-religious vs. Christian, 94.6% of Muslim vs. Christian). The primary difference between these results and those obtained earlier (the KHB analysis of the logistic regression model shown in Table 4) is that Muslim identity (relative to Christian identity) is no longer a statistically significant predictor of delinquency before the inclusion of the mechanisms.

Results become less clear for the binomial model predicting 7-item delinquency, especially the comparison of non-religious identity to Christian identity. As previously noted, non-religious identity (compared to Christian identity) is not a predictor of the 7-item delinquency outcome, prior to the inclusion of the mechanisms. After these mediating pathways are controlled, non-religious identity predicts *lower* levels of delinquency compared to Christian identity, resulting in a confounding percent greater than 100% (336.3%). More similar to prior results, the Muslim-Christian comparison of 7-item delinquency shows that Muslim identity is initially protective, and that 56.7% of this effect acts through the mediators.

Table 7. Summarized KHB Decomposition of Total, Direct, and Indirect Effects of Religious Identity on Delinquency for 5-Item and 7-Item Variety Scores

| | Non-Religious (ref Christian) | | Muslim (ref Christian) | |
|-----------------------------|-------------------------------|--------|------------------------|--------|
| | Log Odds | SE | Log Odds | SE |
| 5-item Variety Score | | | | |
| Total Effect | 0.326 * | (.129) | -0.504 | (.394) |
| Direct Effect | 0.054 | (.140) | -0.027 | (.403) |
| Indirect Effect | 0.272 ** | (.083) | -0.477 *** | (.080) |
| Conf. Percent | 83.4% | | 94.6% | |
| 7-item Variety Score | | | | |
| Total Effect | 0.051 | (.049) | -0.585 *** | (.119) |
| Direct Effect | -0.122 * | (.052) | -0.253 * | (.119) |
| Indirect Effect | 0.173 ** | (.053) | -0.332 *** | (.052) |
| Conf. Percent | 336.3% | | 56.7% | |

N=9,772 (20 imputed datasets); ***p < .001; ** p < .01; * p < .05

DISCUSSION AND CONCLUSION

Despite longstanding academic interest in the relationship between religion and delinquency, relatively few studies have examined populations outside the United States or compared relative effects of religions with differential cultural acceptance. Such comparative religious analyses are important because they allow for the evaluation of general theories of religion and religious effects on behavior. Specifically, scholars have argued that “tension” with secular society drives religious commitment and the salience of religion to the lives of adherents (Stark and Finke 2000). This theory has important criminological implications; because religion involves a number of processes which promote prosocial behavior, higher levels of religious commitment among these high-tension religions should lead to lower levels of deviance among adherents.

The present study offers a test of the applicability of this theory to criminology, comparing the delinquent behavior of British Muslim, British Christian, and non-religious British youth. Drawing from these theories of religion, and from recent research focused on the religious experiences of religious groups in the United Kingdom, I presented reasons to expect that minority religious groups would have higher religious commitment, socialization, and interactions with a religious community (compared to their majority religious peers), leading to lower levels of delinquent behavior among minority religious adolescents. Consistent with these expectations, I found that British Muslim identity is associated with the lowest level of delinquency, followed by Christian identity, with non-religious identity associated with the highest prevalence of delinquency. These findings offer support for a model wherein religious identity is generally protective against delinquent behavior, but identification with a high-

tension, minority religion produces greater conformity than identification with a low-tension, majority religion.

Research comparing religious effects on behavior between two religions within the same social context is limited, and these findings represent an important advancement of this literature. For example, in a recent analysis of violent behavior among Christian and Muslim young men in Germany, Baier (2014) found that religiosity is protective against violence only for Christians. In Baier's analysis, Muslim religiosity was not initially associated with violence, and then positively associated with violence, after a control for alcohol consumption was added to the model. These findings are markedly different from my own; I consistently found that British Muslim youth were the least likely to engage in delinquent behavior across several different operationalizations of the outcome. Though the current study's methodology diverges from Baier's work in several key ways (for example, Baier's analytic sample was composed only of male students and focused only on violence rather than general delinquency) these divergent findings highlight the need for further comparative research in different national contexts. As previously noted, some research has associated the unique challenges experienced by refugees with subsequent violent behavior (Spencer and Le 2006). As such, some disparities between Baier's findings and my own may be partially attributable to a difference in the compositions of the Muslim populations of Germany and the United Kingdom (see Pew Research 2017 for a summary of Muslim immigration patterns to European nations within the past decade). More broadly, the addition of my findings to the broader literature of religious effects on delinquency highlights the need for sensitivity to the national context of any analysis, as well as how this context may influence results.

Additionally, scholars have called for further research into the mechanisms through which religion influences crime and other deviant behavior (e.g., Adamczyk et al. 2017). Because religious involvement is associated with a number of processes thought to induce conformity and prosocial behavior, identifying the primary mechanisms through which religious involvement reduces crime is often challenging. The present study contributes to this ongoing conversation in several key ways. First, I estimated models which included several, distinct mechanisms as covariates and performed KHB analysis to assess their relevance simultaneously. Because of the correlated nature of protective religious mechanisms, controlling for other possible pathways while assessing the salience of a particular mechanism is important. Without adequate controls, e.g., if each hypothesized mediator were to be assessed one at a time, the actual contribution of a mediator may be inflated by its correlation with other mediators. By simultaneously evaluating multiple mechanisms representing several criminological perspectives (e.g., control theories, social learning, opportunity), the present study is able to present a clearer picture of the important mechanisms which help to explain the association between adolescent religious identity and delinquent behavior.

Additionally, the longitudinal nature of the data used for these analyses allowed for the measurement of relevant processes throughout childhood. For example, the variables measuring self-control and moral values (both thought to develop over the course of religious socialization) were observed at an earlier age than the delinquent behavior. Because adolescent religious identity is typically a product of socialization throughout childhood, cohort data measured from birth offer an advantage over cross-sectional surveys, which may miss important early life processes connected to the development of religious identity. For example, cross-sectional research may overestimate the effects of religious identity by failing to control for early-life

confounders or overlook important mediators of religious effects that developed at an earlier time.

Finally, the present work contributes to our understanding of the processes through which religion influences delinquency by comparing these processes between adherents to two different religions. A true understanding of religion's effect on conformity necessitates such comparative analyses; evaluating the extent to which a particular process explains religious effects for one religion does not necessarily produce findings generalizable to other religious traditions. In other words, even if two religions tend to produce prosocial behavior among adherents, only a comparative test of the mediating processes can determine whether these religions influence behavior through similar or vastly different means.

Assessing whether there are "universal" protective mechanisms associated with religion is beyond the scope of this study, but my findings do point toward processes which are especially important to regulating the behavior of both British Muslims and British Christians alike. Though associations between religious identity and adolescent delinquency were partially explained by a number of mechanisms, parental supervision and children's educational motivation were especially salient in explaining the lowered delinquency of both religious identities.

These findings are an important addition to prior work which has compared these mediating processes across religious traditions. For example, in their comparison of Bangladeshi Muslims and Ukrainian Christians, Brauer et al. (2013) identified social and self-control mechanisms to be especially salient to preventing crime in Bangladesh and moral beliefs to be more important in the Ukraine. Although different social and psychological processes may take precedence in different countries, my findings suggest that, in a sample drawn from the United

Kingdom, different religions curb delinquency during adolescence through similar processes of social control, both through bonds to school and parental supervision.

Sensitivity analyses conducted using alternative specifications of delinquent behavior also produced important findings. Specifically, operationalizing delinquent behavior as a 5-item variety score instead of as a binary outcome somewhat reduced the stark difference in estimated odds of delinquent behavior between Muslims and Christians. In this model, Muslim identity was not a statistically significant protective factor relative to Christian identity, although both religious identities were significantly associated with lower delinquency relative to non-religious identity. This finding suggests that variation in commitment, socialization, and context may be less salient in determining a religious group's protection against serious delinquency, as indicated by the nonsignificant coefficient for Muslim identity relative to Christian identity in this model. In terms of serious, persistent delinquency, all religious identities may offer similar protection compared to holding no religious identity.

Following this initial sensitivity analysis, I modified the variety score to include two, more frequently reported delinquent behaviors (non-weapon violence and public rudeness). As a predictor of this 7-item variety score, Christian identity is not statistically different from non-religious identity, while Muslim identity continues to be associated with less delinquency relative to either. This finding suggests that, while majority-religious identity tends to be protective against relatively infrequent behaviors which are clear acts of delinquency, e.g., theft and vandalism, it tends to be less protective against more frequently reported behaviors like public rudeness. Although it is likely that non-weapon violence included some instances of serious violence, the wording of this question would also have applied to more innocuous behaviors like playfully pushing a friend or playing a contact sport. This ambiguity, combined

with the fact that almost a third of the sample reported engaging in non-weapon violence in the past year, lead me to omit non-weapon violence from the operationalization of delinquent behavior used in the primary analysis.

The present study is not without limitations. First, causality cannot be assumed for the observed associations, though the relationships presented align with theoretical expectations and existing literature regarding the effect of religion on delinquency. The prospective nature of the MCS allows for the inclusion of earlier-life risk factors and parent-reported control variables, which aids causal inference, but further analyses are required to quantify the causal impact of religious identity on delinquent behavior.

Relatedly, religious identity overlaps with a number of other cultural factors which may not be entirely accounted for by available controls. The present study lacks measures of religiosity such as religious salience and religious commitment, which may better capture how a respondent feels about their religion and the degree to which they have internalized religious norms and beliefs. Unfortunately, as the MCS is a general study of child development and not focused on religion, these measures are not available in the MCS data. As such, caution is warranted when interpreting the results, as differences in religious commitment, socialization, and communities are not directly observable. Therefore, group differences in measured mechanisms may not be entirely due to religious differences. For example, prior research notes the importance which many British Muslim families place on education and social mobility (Becher 2008). As such, greater levels of attachment to school among Muslim youth may not be directly attributable to religious values, but rather to these familial values. Likewise, religious effects on deviant behavior do not necessarily result from the religion's cultural standing (majority or minority status). For example, some prior research attributes lower levels of crime in

majority-Muslim countries the religious homogeneity of these countries and specific attributes of the Islamic faith and (Serajzadeh 2001). Future research comparing the crime and delinquency of adherents to different religions should isolate differences which are attributable to (1) the cultural situation of each religious group and (2) religion-specific differences that are independent of broader social context.

To these ends, extensions of this research should seek to incorporate diverse measures of religiosity and non-religious cultural attributes. Future research should also examine these associations in other cultures, as the effects may be conditioned by the religious “climate” of the nation at hand, and test whether the patterns observed in the present study are unique to a Muslim-Christian comparison or invariant across other minority-majority religion comparisons. Considering the relative socioeconomic disadvantage of many British Muslims, such extensions of the current research would be a valuable contribution to the existing literature on resilience which considers religion a buffer against adverse, criminogenic conditions. For example, extensions of this research might well be integrated with existing research of the Protestant Black church and its protective role in American neighborhoods of concentrated disadvantage (e.g., Harris and Ulmer 2017).

In sum, this research contributes to the literature of the relationship between religious identity and deviant behavior in the following ways. First, this study constitutes one of the first comparative analyses of a minority and a majority religion focused on adolescent criminal behavior. Consistent with theoretically derived expectations, I find that adolescent adherents to the minority religion engage in less delinquency than their majority religious peers, but that adolescents who identify with the majority religion are still less delinquent than their non-religious peers. Second, the data, methodology, and comparative nature of this study allow for an

important investigation of the relative salience of protective mechanisms between religions. I find that similar variables tend to be important to explaining lower delinquency among both Christians with Muslims. In particular, differences in educational motivation and parental supervision are most important to explaining both associations, though other mediators made small contributions. These findings suggest that there may be general, trans-religious processes through which involvement in religion inhibits crime, though further comparative work is needed to test this possibility. Future work should explore whether intervening variables which were especially salient in this analysis are similarly powerful explainers of protective effects in other contexts and for other religions.

REFERENCES

- Adamczyk, Amy, Joshua D. Freilich, and Chunrye Kim. 2017. "Religion and Crime: A Systematic Review and Assessment of Next Steps." *Sociology of Religion: A Quarterly Review* 78(2):192–232.
- Agnew, Robert. 1992. "Theory of Crime and Delinquency." *Criminology* 30(1):47–87.
- Agnew, Robert. 2006. *Pressured into Crime: A General Theory of Crime and Deviance*. Boston, MA: Northeastern University Press.
- Akers, R. 1998. *Social Learning and Social Structure: A General Theory of Crime and Deviance*. Boston, MA: Northeastern University Press.
- Allport, G. W. and Michael J. Ross. 1967. "Religious Orientation and Prejudice." *Journal of Personality and Social Psychology* 5(4): 432–443.
- Baier, Colin and Bradley Wright. 2001. "If You Love Me, Keep My Commandments." *Journal of Research in Crime and Delinquency* 38(1):3–21.
- Baier, Dirk. 2014. "The Influence of Religiosity on Violent Behavior of Adolescents." *Journal of Interpersonal Violence* 29(1):102–127.
- Barnes, Grace M., Joseph H. Hoffman, John W. Welte, Michael P. Farrell, and Barbara A. Dintcheff. 2006. "Effects of Parental Monitoring and Peer Deviance on Substance Use and Delinquency." *Journal of Marriage and Family* 68(4):1084–1104.
- Bartkowski, John P., and Xiaohe Xu. 2000. "Distant Patriarchs or Expressive Dads? The Discourse and Practice of Fathering in Conservative Protestant Families." *The Sociological Quarterly* 41: 465–485.
- Becher, Harriet. 2008. *Family Practices in South Asian Muslim Families: Parenting in a Multi-Faith Britain*. Basingstoke: Palgrave Macmillan.

- Britt, Chester L., Michael Rocque, Gregory M. Zimmerman. 2018. "The Analysis of Bounded Count Data in Criminology". *Journal of Quantitative Criminology* 34: 591-607.
- Brauer, Jonathan R., Olena Antonaccio, and Charles R. Tittle. 2013. "Does Religion Suppress, Socialize, Soothe, or Support? Exploring Religiosity's Influence on Crime." *Journal for the Scientific Study of Religion* 52(4):753-774.
- Bruce, Steve. 1996. *Religion in the Modern World: From Cathedrals to Cults*. Oxford: Oxford University Press.
- Cohen, Lawrence E. and Marcus Felson. 1979. "Social Change and Crime Rate Trends: A Routine Activity Approach." *American Sociological Review* 44(4):588-608
- Connor, Phillip. 2010. "Contexts of Immigrant Receptivity and Immigrant Religious Outcomes: The Case of Muslims in Western Europe." *Ethnic and Racial Studies* 33(3):376-403.
- Desmond, Scott A., Sarah E. Soper, David J. Purpura and Elizabeth Smith. 2008. "Religiosity, Moral Beliefs, and Delinquency: Does the Effect of Religiosity on Delinquency Depend on Moral Beliefs?" *Sociological Spectrum*, 29(1): 51-71
- Dex, S., and Joshi, H. (Eds.). 2005. *Children of the 21st century from birth to nine months*. Bristol, UK: The Policy Press.
- Ellis, Lee. 1987. "Religiosity and Criminality from the Perspective of Arousal Theory." *Journal of Research in Crime and Delinquency*. 24(3):215-232
- Felson, Richard B., Mark T. Berg, Ethan M. Rogers, and Andrew Krajewski. 2018. "Disputatiousness and the Offender – Victim Overlap". *Journal of Research in Crime and Delinquency*. 55(3): 351-389.
- Finke, Roger and Rodney Stark. 1992. *The Churching of America 1776-1990*. New Brunswick, N.J.: Rutgers University Press.

- French, Michael T., and Johanna C. Maclean. 2006. "Underage Alcohol Use, Delinquency, and Criminal Activity." *Health Economics* 15:1261-1281
- Goodman, R. 2001. "Psychometric properties of the Strengths and Difficulties Questionnaire (SDQ)." *Journal of the American Academy of Child and Adolescent Psychiatry* 40:1337–1345.
- Gottfredson, M. and Hirschi, T. 1990. *A General Theory of Crime*. Stanford, CA: Stanford University Press.
- Harris, Casey T. and Jeffery T. Ulmer. 2017. "'Mighty Like A River': The Black Protestant Church and Violence in Black Communities." *The Sociological Quarterly* 58(2):295–314.
- Hirschfield, Paul J. and Joseph Gasper. 2011. "The Relationship Between School Engagement and Delinquency in Late Childhood and Early Adolescence." *Journal of Youth and Adolescence* 40(1):3–22.
- Hirschi, Travis. 1969. *Causes of Delinquency*. Berkeley, CA: University of California Press.
- Hoge, Dean R., Gregory H. Petrillo, and Ella I. Smith. 1982. "Transmission of Religious and Social Values from Parents to Teenage Children." *Journal of Marriage and the Family* 44(3):569-580.
- Iannaccone, Laurence R. 1992. "Sacrifice and Stigma: Reducing Free-Riding in Cults, Communes, and Other Collectives." *Journal of Political Economy* 100(2):271–291.
- Jang, Sung Joon and Byron R. Johnson. 2003. "Strain, Negative Emotions, and Deviant Coping among African Americans: A Test of General Strain Theory." *Journal of Quantitative Criminology* 19(1):79–105.

- Johnson, Byron R. and Sung Joon Jang. 2011. "Crime and Religion: Assessing the Role of the Faith Factor." *Contemporary Issues in Criminological Theory and Research: The Role of Social Institutions*. edited by Richard Rosenfeld, Kenna Quinet, and Crystal Garcia, 117-149. Boston, MA: Wadsworth, Cengage Learning.
- Karlson, Kristian B., and Holm, A. 2011. "Decomposing Primary and Secondary Effects: A New Decomposition Method." *Research in Stratification and Social Mobility* 29: 221–237.
- Karlson, Kristian B., Holm, Anders, and Breen, Richard. 2012. "Comparing Regression Coefficients between Same-sample Nested Models Using Logit and Probit: A New Method." *Sociological Methodology* 42:286-313.
- Kelly, P. Elizabeth, Joshua R. Polanin, Sung Joon Jang, and Byron R. Johnson. 2015. "Religion, Delinquency, and Drug Use: A Meta-Analysis." *Criminal Justice Review* 40(4):505–523.
- Klanjšek, Rudi, Alexander T. Vazsonyi, and Elizabeth Trejos-Castillo. 2012. "Religious Orientation, Low Self-Control, and Deviance: Muslims, Catholics, Eastern Orthodox-, and 'Bible Belt' Christians." *Journal of Adolescence* 35(3):671–82.
- Koenig, Harold G. and David B. Larson. 2001. "Religion and Mental Health: Evidence for an Association." *International Review of Psychiatry* 13(2):67–78.
- Kohler, U., Karlson, K. B., and Holm, A. (2011). Comparing coefficients of nested nonlinear probability models." *The Stata Journal* 11(3), 420-438.
- Krause, Neal, Christopher G. Ellison, Benjamin A. Shaw, John P. Marcum, and Jason D. Boardman. 2001. "Church-Based Social Support and Religious Coping." *Journal for the Scientific Study of Religion* 40(4):637–56.

- McCullough, Michael E. and Brian L. B. Willoughby. 2009. "Religion, Self-Regulation, and Self-Control: Associations, Explanations, and Implications." *Psychological Bulletin* 135(1):69–93.
- McKenzie, Jessica, and Lene Arnett Jensen. 2017. "Charting the Moral Life Courses: A Theory of Moral Development in U.S. Evangelical and Mainline Protestant Cultures." *Culture and Psychology* 23(4):433-460.
- Milot, Alyssa S. and Alison Bryant Ludden. 2009. "The Effects of Religion and Gender on Well-Being, Substance Use, and Academic Engagement Among Rural Adolescents." *Youth and Society* 40(3):403–425.
- Moffitt, Terrie E. 1993. Adolescent Limited and Life-Course Persistent Antisocial Behavior: A Developmental Taxonomy. *Psychological Review* 100(4): 674-701.
- Muslim Council of Britain. 2015. *British Muslims in the Numbers*. London.
- National Centre for Social Research. 2012. *British Social Attitudes 28*. London.
- O’Beirne, Maria. 2004. *Religion in England and Wales: Findings from the 2001 Home Office Citizenship Survey*. Home Office Research Study 274. London: Home Office Research, Development, and Statistics Directorate.
- Office for National Statistics. 2012. *Religion in England and Wales 2011*. Newport, South Wales: Office for National Statistics.
- Pargament, Kenneth I., Bruce W. Smith, Harold G. Koenig, and Lisa Perez. 1998. "Patterns of Positive and Negative Religious Coping with Major Life Stressors." *Journal for the Scientific Study of Religion* 37(4):710–724.
- Peach, Ceri. 2006. "Islam, Ethnicity and South Asian Religions in the London 2001 Census." *Transactions of the Institute of British Geographers* 31(3):353–370.

- Pew Research Center. 2012. *The Global Religious Landscape*. Washington DC: Pew Research Center.
- Pew Research Center. 2017. *Europe's Growing Muslim Population*. Washington DC: Pew Research Center.
- Phillips, Deborah and Malcolm Harrison. 2010. "Constructing an Integrated Society: Historical Lessons for Tackling Black and Minority Ethnic Housing Segregation in Britain." *Housing Studies* 25(2):221–235.
- Phillips, Deborah. 2006. "Parallel Lives? Challenging Discourses of British Muslim Self-Segregation." *Environment and Planning D: Society and Space* 24(1):25–40.
- Piquero, Nicole Leeper and Miriam D. Sealock. 2000. "Generalizing General Strain Theory: An Examination of an Offending Population." *Justice Quarterly* 17(3):449-484.
- Plewis, I. 2007. *The Millennium Cohort Study: Technical report on sampling* (4th ed.). London: Centre for Longitudinal Studies, Institute of Education.
- Regnerus, Mark D. 2003a. "Moral Communities and Adolescent Delinquency: Religious Contexts and Community Social Control" *The Sociological Quarterly* 44(4):523–554.
- Regnerus, Mark D. 2003b. "Shaping Schooling Success: Religious Socialization and Educational Outcomes in Metropolitan Public Schools." *Journal for the Scientific Study of Religion* 39(3):363–370.
- Rossow, Ingeborg, Hilde Pape, and Lars Wichstrøm. 1999. "Young, Wet and Wild? Associations between Alcohol Intoxication and Violent Behaviour in Adolescence." *Addiction* 94(7):1017–1031.
- Rubin, Donald, B. 1987. *Multiple Imputation for Nonresponse in Surveys*. Wiley: New York, NY.

- Saroglou, Vassilis, Isabelle Pichon, Laurence Trompette, Marijke Verschueren, and Rebecca Dernelle. 2005. "Prosocial Behavior and Religion: New Evidence Based on Projective Measures and Peer Ratings." *Journal for the Scientific Study of Religion* 44(3):323–348.
- Scourfield, Jonathan, Sophie Gilliat-Ray, Asma Khan, and Sameh Otri. 2013. *Muslim Childhood*. Oxford: Oxford University Press.
- Serajzadeh, Seyed Hossein. 2001. Islam and crime: The Moral Community of Muslims. *Journal of Arabic and Islamic Studies* 4(1):111-131.
- Sherkat, Darren E. and John Wilson. 1995. "Preferences, Constraints, and Choices in Religious Markets: An Examination of Religious Switching and Apostasy." *Social Forces* 73(3):993–1026.
- Sherkat, Darren. 2003. "Religious Socialization: Sources of Influence and Influences of Agency." Pp. 151-163 in *Handbook of the Sociology of Religion*, edited by Michelle Dillon. Cambridge: Cambridge University Press.
- Simons, Leslie Gordon, Ronald L. Simons, and Rand D. Conger. 2004. "Identifying the Mechanisms Whereby Family Religiosity Influences the Probability of Adolescent Antisocial Behavior." *Journal of Comparative Family Studies* 35:547–563
- Smith, Christian. 2003. "Research Note: Religious Participation and Parental Moral Expectations and Supervision of American Youth" *Review of Religious Research* 44(4):414-424
- Spencer, James H., and Thao N. Le. 2006. "Parent Refugee Status, Immigration Stressors, and Southeast Asian Youth Violence." *Journal of Immigrant Health*. 8:359–368.
- Staff, Jeremy, Jennifer Maggs, Rebecca Bucci, and Jessica Mongilio. 2019. "Changes in Externalizing Behaviors After Children First Have an Alcoholic Drink and First Drink Heavily." *Journal of Studies on Alcohol and Drugs*. 80(4):472–479.

- Stark, Rodney, and Finke, Roger. 2000. *Acts of Faith: Explaining the Human Side of Religion*. Berkeley: University of California Press.
- Stark, Rodney, and William Sims Bainbridge. 1996. *Religion, Deviance, and Social Control*. New York: Routledge
- Stark, Rodney, Lori Kent, and Daniel P. Doyle. 1982. "Religion and Delinquency: The Ecology of a 'Lost' Relationship." *Journal of Research in Crime and Delinquency* (77):4–24.
- StataCorp. 2017. Stata Statistical Software: Release 15. College Station, TX: StataCorp LLC.
- Sutherland, Edwin H. 1947. *Principles of Criminology* (4th ed.). Philadelphia: J.B. Lippincott Co.
- Swahn, Monica H., Thomas R. Simon, Bart J. Hammig, and Janet L. Guerrero. 2004. "Alcohol-Consumption Behaviors and Risk for Physical Fighting and Injuries among Adolescent Drinkers." *Addictive Behaviors*. 29:959–963.
- Sweeten, Gary. 2012. "Scaling Criminal Offending". *Journal of Quantitative Criminology* 28:533-57.
- Welch, M. R., C. R. Tittle, and H. G. Grasmick. 2006. "Christian Religiosity, Self-Control and Social Conformity." *Social Forces* 84(3):1605–1623.
- Yeung, Jerf W. K., Yuk-Chung Chan, and Boris L. K. Lee. 2009. "Youth Religiosity and Substance Use: A Meta-Analysis from 1995 to 2007." *Psychological Reports* 105(1):255-266.
- Zeigler, Donald W., Claire C. Wang, Richard A. Yoast, Barry D. Dickinson, Mary Anne McCaffree, Carolyn B. Robinowitz, and Melvyn L. Sterling. 2005. "The Neurocognitive Effects of Alcohol on Adolescents and College Students." *Preventative Medicine* 40:23-32.