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Scriptural legitimation and the mobilisation of support for religious violence: experimental evidence across three religions and seven countries

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ABSTRACT

In their attempts to mobilise supporters and justify their actions, violent religious extremists often refer to parts of scripture that legitimize violence against supposed enemies of the faith. Accounts of religious extremism are divided on whether such references to scripture have genuine motivating and mobilising power. We investigate whether references to legitimations of violence in religious scripture can raise support for religious violence by implementing a survey experiment among 8,000 Christian, Muslim and Jewish believers in seven countries across Europe, North America, the Middle East and Africa. We find that priming individuals with isomorphic pro-violence quotes from Bible, Torah or Quran raises attitudinal support for religious violence significantly. Effect sizes are particularly large among those with a fundamentalist conception of their religion. Our results show that religious scripture can be effectively used to mobilise support for violence. The findings thus mark a counterpoint to theoretical arguments that question the causal role of religion and have important implications for de-radicalization policies.

Introduction

The number of casualties of terrorism worldwide has increased sharply, reaching almost 200,000 deaths over the ten-year period 2007–2016. In contrast to the 1970s and 1980s, when ethnic and left-revolutionary groups predominated, global terrorism more recently has become dominated by groups acting in the name of religion.[1] Most of the deadliest recent terror groups fall in the category of Islamic religious extremism, most importantly the Islamic State (IS) in the Middle East, the Afghan and Pakistani Taliban, and Boko Haram in Nigeria and surrounding countries. Attacks by Christian extremist groups like the Ugandan Lord's Resistance Army and the Anti-Balaka groups in the Central African Republic have also resulted in many casualties. Many of the deadliest recent terror attacks in the immigration contexts of the United

States and Western Europe over the last two decades have likewise been committed in the name of religion. In addition to these terror attacks in Western immigration countries, thousands of young people have travelled to Syria, Iraq and in smaller numbers to Afghanistan, Pakistan, Chechnya and Somalia to join Islamist terror groups whose declared aim is to fight on behalf of their religion against supposed enemies of the faith.

But what is religious about religiously motivated violence? This seemingly simple question is both hotly contested, and of crucial importance to design effective counter-strategies. What is not in doubt is that religious extremists claim that they draw inspiration from scriptural sources and that they frequently quote from religious scripture in their attempts to mobilise supporters. In his trial statement, the Jewish religious extremist Yigal Amir, the murderer of Israeli prime minister Yitzhak Rabin, said that he had drawn inspiration from the Biblical precedent of Jael, who killed the Philistine warlord Sisera (Peri 2000). The symbol of the priest Phineas, who killed to prevent immoral acts, was invoked on numerous occasions by American terrorists to sanction attacks against abortion clinics or FBI buildings (Pratt 2010). In Al Qaida's 'Declaration of Jihad on the Americans Occupying the Country of the Two Sacred Places', issued in August 1996, Osama Bin Laden cites Islamic scripture numerous times, for instance, this verse from the Quran: 'But when the forbidden months are past, then fight and slay the Pagans wherever ye find them, and seise them, beleaguer them, and lie in wait for them in every stratagem (of war)' [Al Tawbah: 5].[2] These are not isolated examples. Among a collection of 2,000 texts written by Islamic extremists to legitimize attacks or to mobilise supporters, about three quarters refer to parts of scripture that condone or prescribe violence (Halverson, Furlow, and Corman 2012).

Whether such references to scripture by prominent religious extremists can actually motivate support for violence among broader target populations or not is open to academic and political debate (see Dawson 2018, 2019). However, the fact that leaders and recruiters of extremist movements make frequent use of references to religious scripture in their attempts to rally support demonstrates that they believe in the mobilising power of scripture. To investigate whether this belief is justified, we implemented a survey experiment among 8,000 Christian, Muslim, and Jewish respondents in seven countries situated across North America, Europe, the Middle East, and Africa – namely the United States, Germany, Cyprus, Lebanon, Israel, Palestine, and Kenya. This set of countries offers a broad basis for generalisations about the capacity of references to religious scripture to mobilise support for religious violence, not just because of its broad geographical scope, but also because it covers countries where the various religious groups are in a minority or majority position, as well as where they derive from migration or are of native origin. Our study is moreover the first to explore the causal role of violence legitimations in religious scripture on attitudes towards religious violence in a comparative perspective across the three Abrahamic religions. Our findings show that priming individuals with isomorphic pro-violence quotes from the Bible, Torah, or the Quran raises attitudinal support for religious violence significantly across all three religious groups and in widely varying country settings. Effect sizes are particularly large among Muslims in our sample, and among those with a fundamentalist, literalist conception of their religion.

Theory and research questions

A variety of scholars are skeptical about the notion that religious motivations or ideology play a causal role in explaining religious violence. Rather, they point to economic grievances (e.g. Gurr 2006; Mousseau 2011; Piazza 2011), political marginalisation (e.g. Pargeter 2009; Della Porta 2013), overlapping social identities (e.g. Basedau, Vüllers, and Körner 2013), or psychological trauma (e.g. Speckhard and Ahkmedova 2006) as salient determinants. The declared religious motivations of terrorists have been questioned as a legitimising cover for other power or profit-driven purposes (e.g. Stern 2003). As Dawson (2019, 80) has noted, 'the entire discussion of religious terrorism is permeated by a subtle yet significant conceptual bias against accepting religion as a *sui generis* source of motivation, born perhaps of the secular backgrounds and training of most terrorism scholars'. Indeed, sociologists of religion have been more willing to consider religious ideology, especially in its fundamentalist guise, as a prime motivational force. Bruce (2000) argues that references to religious scripture should not be dismissed and that the prioritisation of religious identity indeed drives individuals to commit violence (similarly Juergensmeyer 2007). This debate about the relevance of religion as a motivational force has been difficult to resolve with observational data from biographical interviews and cross-sectional surveys because of the inherent difficulty of distinguishing true motivations from (post-hoc) justifications (Dawson 2019, 78). Experimental evidence would allow more confident causal conclusions. Bushman et al. (2007) have shown that individuals in Christian societies exposed to God-sanctioned biblical accounts of violence are more likely to display aggressive behaviour, especially if they believe in God. Apart from the latter study, which was conducted with students only, we are not aware of any other research that has experimentally investigated the impact of exposure to scriptural content on violence support.

The holy books of all three monotheistic religions—Islam, Christianity, and Judaism – contain various verses that legitimate violence against individuals who commit acts against the true faith. These verses ostracise atheists, apostates, and adulterers, to name but a few. By confronting believers in a controlled experimental design with such violence-legitimising verses, we investigate whether they have the potential to raise levels of support for religious violence, as extremist recruiters apparently believe they do. In addition we ask whether adherents of the three Abrahamic religions react similarly when encountering calls to violence based on scripture, and whether the mobilising power of scriptural violence legitimations differs across types of believers. To this latter end, we investigate three moderator variables that tap into different aspects of religiosity: observance, knowledge, and fundamentalism.

In line with the idea that violence is contrary to the true nature of religion, some have claimed that perpetrators and supporters of violence are found primarily among those who are less religiously observant and less knowledgeable about the content of scripture. Religiously observant and knowledgeable individuals may be able to counterbalance scriptural legitimations of violence with knowledge of other parts of religious practice or scripture that instruct believers toward tolerance and peacefulness (e.g. Wiktorowicz 2005; Neo et al. 2017). However, susceptibility to extremist mobilisation might also be higher among those who are religiously observant and know more about their religious tradition, because to them religion is more salient and scripture more meaningful. Empirical evidence on this question is rare, mostly non-experimental, and inconclusive. In a study among

Palestinians, Ginges, Hansen, and Norenzayan (2009) found a positive relationship between mosque attendance and support for suicide attacks, but no such relationship with the frequency of prayer.[3] Graeme et al. (2013) studied the role of knowledge of Islam – measured by factual questions about religious scripture and doctrine that have unambiguous answers, such as the percentage of income that Muslims are required to give as alms (zakat) – among Pakistani Muslims and found that more knowledge was associated, though not very strongly, with lower support for several Islamist terror groups. On the basis of in-depth interviews and long-term observation of IS-activists, Wood (2016) however shows that they often possess detailed knowledge of Quranic and other religious source texts, which they use to legitimize their apocalyptic version of Islamism. By studying the role of religious observance and knowledge in an experimental setting and across various religious groups and contexts, we aim to provide more systematic evidence on the question whether observant believers and those who know more about the content of scripture are more or less likely to be swayed by mobilisation attempts that refer to scriptural legitimations of violence.

Alternatively, it might be not so much the degree but the type of religiosity – moderate or fundamentalist – that matters. Religious fundamentalist ideology has been widely held responsible for driving extremist violence, but empirical evidence on the matter is scarce. Previous research has mainly focused on Christian fundamentalism and has found it to be strongly associated with negative attitudes towards out-groups such as homosexuals (e.g. Laythe et al. 2002), adherents of other religions (e.g. Glock and Stark 1966; Altemeyer 2003), and racial and ethnic minorities (e.g. Eisinga, Konig, and Scheepers 1995). A smaller number of studies have also established the relationship between religious fundamentalism and outgroup hostility among Muslims (Hunsberger 1996; Hunsberger, Owusu, and Duck 1999; Koopmans 2015). However, while a connection between fundamentalist religiosity and support for religious violence is frequently posited in theoretical and descriptive studies of religious extremism, there is a lack of rigorous empirical investigations of this relationship (see Rogers et al. 2007). It seems plausible, however, that the hostile attitudes towards out-groups that are strongly associated with fundamentalism lower the barrier towards support for violence against proclaimed enemies of the faith. Moreover, one of the defining features of fundamentalism is a belief in the literal interpretation of scripture (Altemeyer and Hunsberger 1992, 118). We therefore expect religious fundamentalists to be particularly susceptible to mobilisation attempts by extremists who present them with scriptural instructions and legitimations for the use of violence.

Another central finding from the literature on religious fundamentalism and out-group hostility highlights religious fundamentalism as the decisive aspect of religiosity that drives prejudice. Once fundamentalism is controlled, most studies among Christians find that religious observance or other measures of the degree of religiosity do not influence outgroup hostility (e.g. Kirkpatrick, Hood, and Hartz 1991; Altemeyer and Hunsberger 1992). A comparative study among Christians and Muslims found that for the latter the effect of religiosity on outgroup hostility does not disappear entirely after controlling for fundamentalism, although it is strongly reduced in size (Koopmans 2015, 49). Based on this discussion, we will test all three aspects of religiosity – religious observance, religious knowledge, and religious fundamentalism – simultaneously to investigate whether religious fundamentalism emerges as the primary driver of support for violence.

Data and experimental verification strategy

To ascertain a high level of external validity, we used stratified telephone, face-to-face, and in one case an online survey on religion and society among over 8,000 Christian, Muslim, and Jewish respondents in seven countries. Religious groups that are a in minority position in a particular country (e.g. Muslims in Kenya or Jews in the United States) were oversampled. Table A1 in the Appendix shows respondent numbers by religious group and country. There are a total number of 3007 Christian, 1018 Jewish, and 4064 Muslim respondents in the sample. The sample sizes per country range from 843 respondents in Palestine to 1357 respondents in Cyprus. In Lebanon, we additionally used quotas to ensure that the sample adequately represented the various denominations within Islam (Shiite and Sunni) and Christianity (Maronite and Melkite Catholics, Eastern Orthodox and Protestant) in the country. Likewise, the Jewish sample in Israel is representative for the various strands within Israeli Judaism (secular, traditional, orthodox and ultra-orthodox). In all countries, gender and age quotas were enforced. All surveys were done nationwide, except in Kenya where this was not feasible and the sample is based on the two largest cities, Nairobi and Mombasa, as well as two rural regions, one predominantly Muslim (Malindi), another predominantly Christian (Nakuru). Religious group membership was determined based on the self-identification of the respondents by way of the question 'To which religion do you belong?'. Respondents indicating no religious affiliation or, in very few cases, affiliation to another religion (e.g. Hinduism), were dropped from the analysis. The survey included questions about religious observance, fundamentalism, religious knowledge and socio-economic status. More information about the survey design can be found in the Online Appendix 2.

At the end of the survey, respondents were randomly assigned to a treatment or a control condition (for balance checks, see Figure S1 in the Online Appendix 1). The treatment condition provided a legitimation for the use of lethal violence in the name of religion, which was based on two isomorphic scriptural verses found in the Bible and Torah book Deuteronomy (verse 17: 2–5) and in the Quran Surah 5, Al Mai'dah (verse 33). In the treatment condition, respondents were primed with the following true statement:

> According to the [Christian respondent: Bible Book Deuteronomy / Jewish respondent: Torah Book Deuteronomy / Muslim respondent: Quran, Surah 5, Al Ma'idah], those who cause mischief and do evil in the eyes of God should be killed.

In the control condition, individuals were not assigned any prime. Individuals in both the treatment and control conditions were then asked the following question: 'What do you personally think? Should people who cause mischief and do evil in the eyes of God be killed?' The answer options, scored on a 5-point Likert-scale, ranged from 'completely disagree' to 'completely agree'. By comparing outcomes in treatment and control conditions, we test whether references to violence-legitimising scriptural sources increase target audience support for the use of violence against the null hypothesis that believers' attitudes towards violence remain unaffected by such attempts to mobilise support for violence.

As an alternative to the no-prime control group, we considered a placebo group that received a prime referring to 'some people', which we included in the US study. The idea behind this placebo was that perhaps even a maximally neutral reference to some outside source of legitimation such as 'some people' would already increase individuals' support for religious violence. If that were the case, an increase in violence support in the treatment

condition would not be attributable to religious legitimation specifically but to the presence of any kind of outside legitimation. In this condition, respondents received the following question: 'According to some people, those who cause mischief and do evil in the eyes of God should be killed. What do you personally think? Should people who cause mischief and do evil in the eyes of God be killed?' Results of the US study indicated that this prime was not perceived as neutral and lowered rather than raised support for violence compared to both the no-prime and religious treatment conditions (see Online Appendix 1 Figure S2). That respondents lowered rather than increased their endorsement of violence when primed with violence support by 'some people' suggests that they probably thought of people belonging to different religions or denominations than their own. We conclude from this that priming with another legitimising source or agent – even if formulated as neutrally as possible – cannot be considered as a control or placebo condition but rather constitutes a treatment in its own right. We did not use the 'some people' treatment in the other country surveys and use the question without any priming as the control condition, which gives the level of support for violence in the absence of any legitimising prime.

We measure religious observance by two practices that are central to all three Abrahamic religions: praying at least once a day and visiting a house of worship (church, mosque or synagogue) at least once a week. However, in Islam and Judaism visiting the mosque or synagogue is less central to observance for women. Therefore, we count covering the hair as an alternative form of observance for women who indicate that they do not regularly visit a mosque or synagogue. As a robustness test, we also operationalise religious observance in exactly the same way for men and women, without considering covering. The results have been included in the Online Appendix of the paper and do not deviate in substantively relevant ways from our main findings (see Online Appendix 1 Figure S3).

Religious knowledge is measured by the number of correct answers to three pretested multiple-choice questions on the content of the Bible, Torah and Quran that have unambiguous correct answers. One of these, the name of the son that God instructed Abraham to sacrifice, is common to all three religions; the other two questions are religion-specific. For instance, we asked Christians what happened on Pentecost and Muslims where the Mi'raj (Mohammed's ascent to heaven) took place (full question wordings and answer options can be found in the Appendix at the end of the paper). Finally, religious fundamentalism is operationalised by a scale (with a Cronbach's alpha value of .80) composed of eight well-established items that include the literal and unalterable interpretation of scripture ('There is only one correct interpretation of the [Bible/Qur'an/Torah] to which every [Christian/Muslim/Jew] should stick'), the superiority of one's own faith ('[Christianity/Islam/Judaism] is superior to other religions'), and the precedence of religious prescriptions over secular laws ('The rules of the [Bible/Quran/Torah] are more important to me than the current laws of [survey country]'). Full wordings of all eight items can be found in the Appendix at the end of the paper (see Altemeyer and Hunsberger 1992; Brettfeld and Wetzels 2007; Roex, van Stiphout, and Tillie 2010; Koopmans 2015). It is important to note that the use of violence as a means to attain religious aims is not included in the definition of fundamentalism, nor in the items by which it is measured. Appendix A at the end of the paper gives the exact wording and answer options of all questions as well as summary statistics for the three religious moderator variables (see Online Appendix 2 for the exact wording and answer options of the questions regarding the control variables). For the multivariate analyses reported in Table 1 below

Table 1. Multivariate regression of violence support on treatment, religiosity, and control variables.

	Dependent variable: Support for violence			
	Entire sample (1)	Christian (2)	Jewish (3)	Muslim (4)
Treatment	0.33***	0.15***	0.09	0.42***
	(0.03)	(0.04)	(0.08)	(0.05)
Muslim (reference: Christian)	0.62***			
	(0.03)			
Jewish	0.07			
	(0.06)			
Religious observance	−0.01	−0.03	−0.13*	0.08*
	(0.02)	(0.03)	(0.05)	(0.04)
Religious knowledge	−0.07***	−0.06*	−0.23***	−0.05
	(0.02)	(0.03)	(0.05)	(0.03)
Religious fundamentalism	0.20***	0.14***	0.41***	0.30***
	(0.02)	(0.03)	(0.04)	(0.04)
Religious observance × treatment	0.05	0.02	0.05	0.06
	(0.03)	(0.05)	(0.08)	(0.05)
Religious knowledge × treatment	0.07**	0.02	0.13	0.10*
	(0.03)	(0.04)	(0.07)	(0.04)
Religious fundamentalism × treatment	0.17***	0.09*	0.04	0.26***
	(0.03)	(0.04)	(0.06)	(0.06)
Age	−0.002*	−0.005***	−0.002	−0.002
	(0.001)	(0.001)	(0.002)	(0.002)
Male	0.02	−0.07+	−0.02	0.09*
	(0.03)	(0.04)	(0.05)	(0.04)
Education	−0.06***	−0.07**	0.05	−0.08***
	(0.01)	(0.02)	(0.03)	(0.02)
Income	−0.03*	−0.04	−0.05	−0.03
	(0.02)	(0.02)	(0.03)	(0.02)
Income Missing	0.05	−0.05	−0.12	0.18**
	(0.04)	(0.05)	(0.07)	(0.06)
Country	Yes	Yes	Yes	Yes
Observations	7,263	2,770	959	3,534
Adjusted R^2	0.35	0.20	0.32	0.29

Notes: The table shows standardised coefficients from OLS regressions (with standard errors in parentheses) of the entire sample (column 1) and each included religious group (columns 2–4). The coefficients for observance, knowledge, fundamentalism, education and income are standardised. See Online Appendix 1 Table S1 for the full regression table including the country fixed effects coefficients; *$p < .05$; **$p < .01$; ***$p < .001$.

we additionally controlled for gender, age (in years), education (a 7-point scale based on the International Standard Classification of Education – ISCED), and income (measured across 16 income brackets in the US and across 7 income brackets in the other survey countries). Because different currencies and income levels were used in the different countries, we standardise income by country. Not all respondents wanted to share their income with us (18.6% of respondents) and therefore we also include a variable for missing income information in the multivariate regressions. Table A2 in the Appendix shows descriptive statistics for all variables used in the analysis.

Because the status of scripture, and the levels and meaning of observance, religious knowledge and fundamentalism may differ across the three religious traditions, we report analyses both for the full sample, and for the three religious groups separately.

Treatment main effects of scriptural violence legitimation

We start by looking at the treatment main effect, overall and by religious group and country. Because the treatment was randomly assigned we can measure the treatment

effect simply by the difference between the treatment and control groups. The reported significance levels are therefore computed by way of OLS regressions without any control variables. In Figure 1, panel A, we plot the percentage of respondents who agreed or completely agreed (scores 4 and 5 on the five-point scale) that those who cause mischief and do evil in the eyes of God should be killed, by religious group and treatment or control condition. The results demonstrate that there is a consistent and fairly strong effect of priming individuals with scriptural quotes on violence legitimisation. On average across all religious groups and countries, 18 percent of respondents supported the use of violence in the control condition, compared to 30 percent in the treatment condition with the scriptural prime (significant at $p < .001$, see Online Appendix 1 Table S2). The figure also reveals important differences across the three religious groups, both regarding baseline levels of support for violence in the control condition, and regarding the size of the treatment effect. Among Jews and Christians, baseline levels are low, at three and nine percent, respectively. For both groups, support for violence in the treatment condition is significantly higher (at $p < .05$) but the increase is modest in size, to seven and twelve percent, respectively. Among Muslims, baseline levels are higher (29 percent support for violence) and they increase strongly to 47 percent in the treatment condition ($p < .001$).
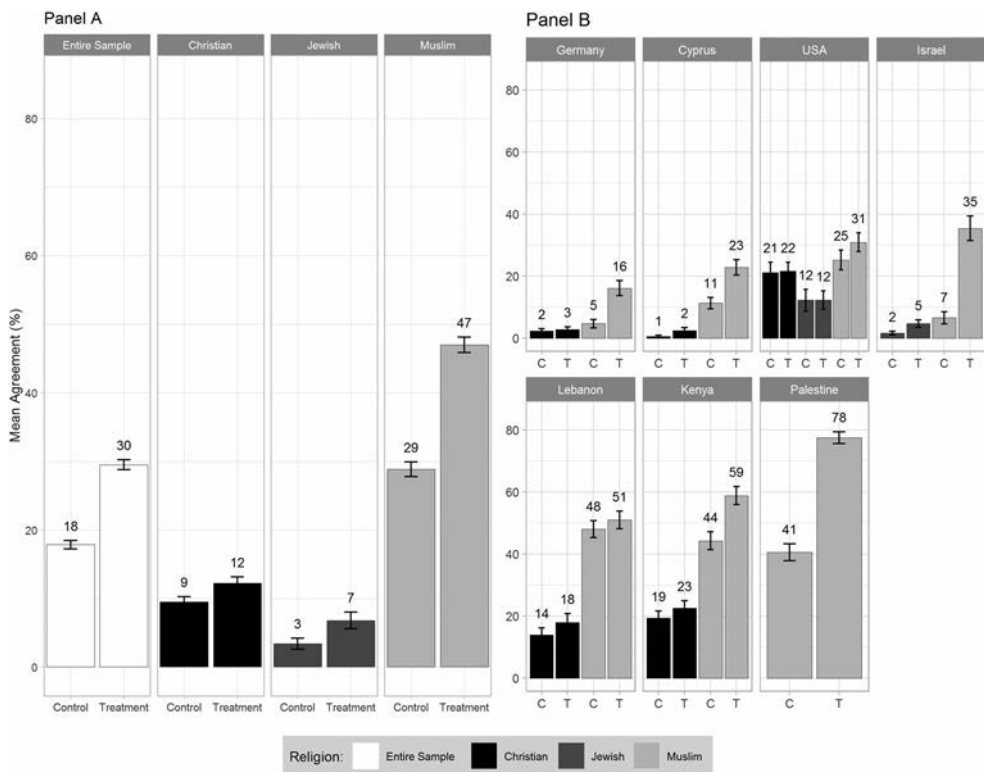

Figure 1. Support for religious violence (in % of respondents) in control and treatment groups by religious group (panel A) and by religious group and country (panel B) (Error bars represent the standard error and the numbers above the bars indicate the level of violence support).

Because religious groups are not distributed equally across the seven countries, we present in panel B of Figure 1 results for each country separately.[4] Although we find strong cross-country level differences, the basic pattern of panel A is replicated within countries. In every country where Muslims and Christians can be compared – Germany, Cyprus, the USA, Lebanon, and Kenya – baseline levels of support for violence are higher among Muslims and in all but one case – Lebanon – they also increase more strongly in the treatment condition. In the two countries where Jews and Muslims can be compared – Israel and the United States – baseline support as well as the treatment effect are stronger among Muslims. We thus establish that priming respondents with a scriptural legitimation for violence is an effective strategy to mobilise support for violence for all three religions, but most strongly so for Muslims.

Religious observance, knowledge, and fundamentalism as moderators

To what extent is the treatment effect homogenous across different degrees and types of religiosity? Panel A of Figure 2 shows levels of support for violence in the control and treatment conditions by religious group and levels of observance. High observance is defined as both praying daily and worshipping weekly (praying daily and worshipping
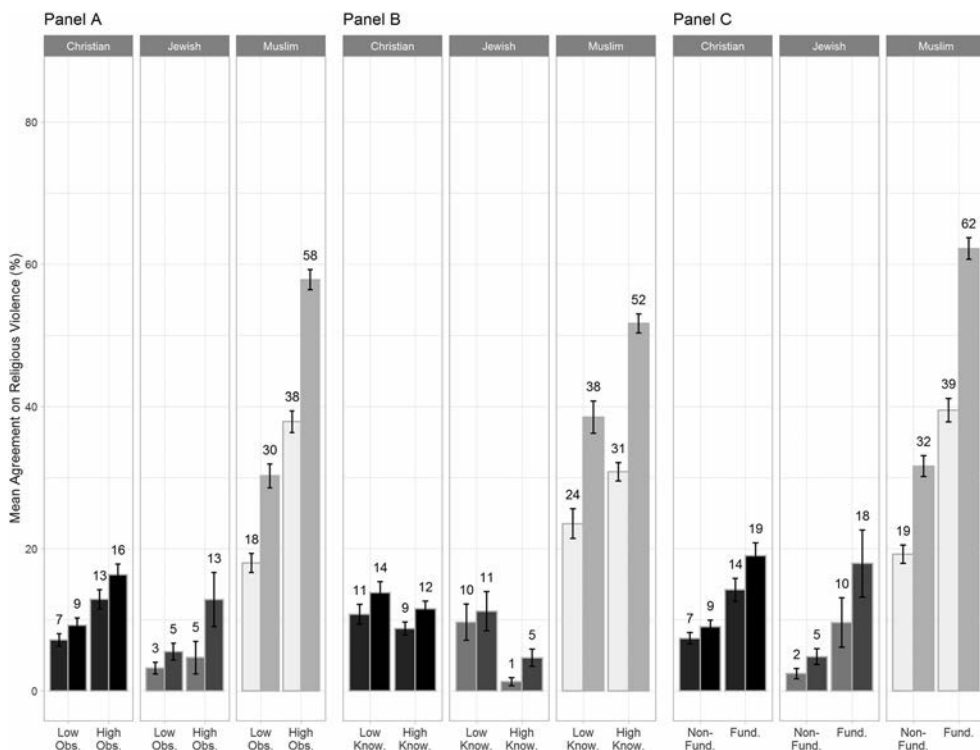

Figure 2. Support for religious violence (in % of respondents) in control and treatment groups by religious group for different levels of religious observance (panel A), religious knowledge (panel B), and religious fundamentalism (panel C) (Error bars represent the standard error and the numbers above the bars indicate the level of violence support).

weekly *or* covering the hair for women). This applies to 42% of Christians, 58% of Muslims and 19% of Jews in our sample. Across both the control and treatment conditions, observant believers in all three religions exhibit higher support for violence ($p < .001$ for Christians and Muslims; $p < .05$ for Jews; see Online Appendix 1 Table S3). Among Muslims there is, moreover, a significant interaction effect: Highly observant Muslims react more strongly to the treatment ($p < .05$). As a result, the highest levels of support for violence (58%) are found among highly observant Muslims in the treatment condition, while the lowest support levels occur among Jews with low observance levels in the control condition (3%). We therefore conclude that religious observance does not inhibit support for religious violence. Among Muslims, it is even associated with greater susceptibility to persuasion by scriptural legitimations of violence.

We next examine religious knowledge, which does not necessarily coincide with observance. While the two are positively correlated, the correlation is weak ($r = .19$; $p < .001$) and of a similar magnitude within the three religions. Panel B of Figure 2 shows levels of support for violence in the control and treatment conditions across religious groups, contrasting those with high and low religious knowledge. Because the number of correct answers to the three quiz questions was higher among the Jewish group, we adjust for potential differences in item difficulty across religions by putting the threshold for high knowledge at three correct answers for Jews and at two correct answers for Christians and Muslims. Thus defined, 62% of Christians, 71% of Muslims, and 72% of Jews were classified as having high religious knowledge. As the results in Figure 2 show there are different patterns for the three religious groups. Among Jews, high religious knowledge is associated with lower support for violence ($p < .001$, see Online Appendix 1 Table S4) and among Christians there is no significant difference between those with low and high knowledge levels. Highly knowledgeable Muslims are, however, significantly more supportive of the use of violence ($p < .001$). As a result, the highest level of violence support occurs among Muslims with high scriptural knowledge in the treatment condition (52%), the lowest support is found among Jews with high scriptural knowledge in the control condition (1%). From the results of religious observance and knowledge combined, we can conclude that support for violence is only weakly and ambiguously related to religiosity among Christians and Jews. Christian and Jewish observance somewhat raises support for violence, but religious knowledge is unrelated to support for violence for Christians, and among Jews it even acts as an antidote. Among Muslims, however, both indicators of religiosity point in the same direction: observant and knowledgeable Muslims are more likely to endorse violence, and, as indicated by the significant interaction effect with the experimental treatment, observant Muslims are more receptive to the mobilisation of support for violence by way of scriptural references than less observant Muslims.

Panel C of Figure 2 shows support for violence across control and treatment conditions by religious group, contrasting fundamentalist and non-fundamentalist believers. We define fundamentalists as those believers who agree with the majority of the fundamentalism items (i.e. five or more of the eight items). By this operationalisation, 32 percent of Christians, 49 percent of Muslims, and 16 percent of Jews in our sample qualify as fundamentalists. Kenyan Muslims have the highest share of fundamentalists (80%), German Christians (9%) the lowest. Within every country, Muslims display higher levels of fundamentalism than Christians and/or Jews, with the exception of Lebanon, where the share of fundamentalists is higher among Christians (53% compared to 43% among Muslims).

Religious fundamentalism is only weakly related to religious knowledge ($r = .06$ overall; $p < .001$) with little variation across the three religious groups. Fundamentalists do however tend to be strongly observant ($r = .52$ overall; $p < .001$; ranging from .39 among Muslims to .67 among Jews).

The bivariate relationship between fundamentalism and support for violence depicted in Panel C of Figure 2 is strong and clear-cut. In all three religious groups, support for violence in the control condition is at least twice as high among fundamentalist believers ($p < .01$ for Christians; $p < .001$ for Jews and Muslims, see Online Appendix Table 1 S5). The treatment effect is also stronger among fundamentalists of all three persuasions, but the interaction is not significant for Jews. For Muslims ($p < .01$) and Christians ($p < .05$), however, there is a strong interaction effect. Fundamentalism is thus clearly related to support for violence and the relationship is most pronounced among Muslims. Fundamentalists are also, as we expected, more easily swayed by references to violence-legitimising quotes from scriptural sources.

The results for religious observance and fundamentalism (panels A and C of Figure 2) are quite similar, and, given that the two are also strongly correlated, this raises the question which of the two is the decisive aspect of religiosity that drives support for violence. Religious knowledge is also moderately correlated with observance and fundamentalism, so here too the question is whether the results persist if we control for the other two aspects of religiosity.

Table 1 shows the result of multivariate analyses including not only the three aspects of religiosity, i.e. religious observance, religious knowledge, and religious fundamentalism (using the original scale of response options rather than the dichotomised scores we used for the Figures 1 and 2 above), but also a range of covariates (age, gender, education, income).[5] To allow a comparison of the size of the coefficients the three religiosity variables as well as education and income were standardised. As indicated above, we additionally include a variable for missing income information. Because we include in the multivariate model interactions of the treatment with the three standardised religiosity variables, the treatment coefficient in the regression represents the effect of the treatment at mean values of observance, knowledge, and fundamentalism. Bearing this in mind, we observe a positive treatment effect on violence support among all three religious groups, which among Christians and Muslims is highly significant ($p < .001$) and particularly large in size among Muslims (0.42 points on the 5-point scale of the dependent variable, which amounts to one third of a standard deviation for the Muslim subsample). Among Jews, the treatment effect is not significant. However, – as shown in Figure 1 above –when we measure the treatment effect across the whole range of observations – and not just as here at mean values of the religiosity variables – it is also significant among Jews.

The results for the religious group variables (with Christians as the reference category) indicate that once we control for the three aspects of religiosity and background variables there is no difference between levels of support for violence between Jews and Christians. Violence support among Muslims is however considerably higher ($p < .001$) even at similar levels and types of religiosity and among respondents with similar demographic and socio-economic characteristics. Substantively, the Muslim coefficient of 0.62 amounts to half a standard deviation of violence support. We discuss possible reasons for this difference between Muslims on the one hand, and Jews and Christians on the other, in the conclusion.

Turning now to the religiosity variables, the results show that only for Muslims a significant ($B = .08$; $p < .05$) but much reduced positive main effect of religious observance remains, whereas for Jews observance even becomes, contrary to the bivariate results, negatively associated with support for violence ($B = -.13$; $p < .05$). The interaction terms show that the treatment effect is unaffected by levels of religious observance across all three religious groups. Unlike the bivariate results, where religious knowledge was not significantly associated with violence in the experimental control group among Christians and positively associated among Muslims, the multivariate results show religious knowledge to be negatively related to support for violence across all three religious groups, and significantly so for Christians ($B = -.06$; $p < .05$) and Jews ($B = -.23$; $p < .001$). We find, however, that religiously knowledgeable Muslims react more strongly to the scriptural treatment by raising their violence support, although substantively this effect is not very large ($B = .10$; $p < .05$). Religious fundamentalism, finally, clearly appears as the type of religiosity most consistently and strongly related to violence support. Fundamentalism is highly positively related to violence support ($p < .001$ for all three religious groups), and most strongly so among Jews ($B = .41$) and Muslims ($B = .30$). As the interaction terms show, fundamentalists also consistently react more strongly to the treatment, and significantly so among Christians ($B = .09$; $p < .05$) and Muslims ($B = .26$; $p < .001$). Fundamentalist ideology, and not religious observance or knowledge, is the main driving force behind support for religious violence.

Another way of looking at the importance of variables tapping religion and religiosity in explaining violence support is comparing their effect sizes to those of demographic and socio-economic background variables. We find that older people tend to be less supportive of violence, although the coefficient is only significant among Christians. We do not find a consistent relationship with gender. Education is negatively related to violence support among Christians and Muslims, but not among Jews. Income effects also point in a negative direction but are comparatively weak. Comparing the coefficients of the control and religiosity variables shows that the impact of fundamentalism on violence support is several times stronger. For instance, among Muslims the effect size of a one standard deviation increase in fundamentalism is almost four times that of a standard deviation increase in education and ten times that of a one standard deviation increase in income.

Conclusions

Using an experimental design, we have shown that referring to scriptural passages that legitimize and prescribe violence against enemies of the faith increases support for religious violence in a sample of seven countries and across three religions. Scholarship to date has sought to understand the success of religious extremist movements. Our results underline why these groups so frequently draw on scriptural sources in their mobilisation and legitimation attempts. The reference to scripture has a particularly potent effect on Muslims. The question is why this is the case. An important part of the answer is that there is a strong connection between religious fundamentalism and support for violence. As our results demonstrate, fundamentalist ideology is more widespread among Muslims in our countries of study and this is an important part of the explanation for the higher average levels of support for religious violence among Muslims and their greater susceptibility to persuasion by scriptural references. Compared to

fundamentalism, the role of religious observance and knowledge in understanding violence support is relatively minor. Interestingly, however, scriptural knowledge makes Muslim believers somewhat more likely to respond to the scriptural treatment with increased levels of violence support.

One could argue that enhanced agreement to violence after being exposed to the scriptural quote is driven not so much by true support for the use of violence but by a desire to appear as a good Muslim, Christian or Jew. This would however not explain the differences we find across the religions, because we may assume that all believers want to appear as good Christians, Muslims or Jews. It also does not explain the strong relationship to fundamentalism. We find that it is primarily fundamentalists who are strongly swayed by attempts to legitimize violence by way of scriptural references. Again, it does not seem plausible to assume that non-fundamentalists would not want to appear as good believers, especially since we control for other aspects of religiosity. In the end, what our experimental treatment does is to highlight violence-endorsing parts of scripture and we show that only certain types of believers are swayed by such references to express stronger support for violence, whereas other types of believers do not alter their attitudes compared to the control condition, or do so much less strongly. Even if a desire to appear as a 'good' believer might play a role, believers apparently differ quite strongly on the question which position a good believer should take and whether or not that position can deviate from literal scripture.

While we do not believe that the fact that our results are most pronounced for Muslims is related to intrinsic features of Islam or of its scriptural sources, our experiment does not allow us to reject this possibility. However, we consider this reading less plausible as violent passages are also plentiful in the Bible and Torah, and conversely there are many passages in the Quran that contain calls for peace and tolerance. A key difference between the believers of the three religions, however, is their degree of recent exposure to fundamentalist and extremist cognitive mobilisation that has propagated the idea of literalist interpretation and has selectively raised the salience of those parts of Islamic scripture that legitimate violence. Since the late 1970s Islamic fundamentalist movements and regimes have been on the rise across the Islamic world, and Saudi Arabia, Iran and the Persian Gulf states have spent billions of dollars of their oil revenues to diffuse their respective versions of Islamic fundamentalism across the world (e.g. Shane 2016; Wilson 2017). This provides a plausible reason why in the current situation Muslims are more inclined to support violence in the control condition (which reflects the cumulative effect of past mobilisation by religious extremists) and are also more easily persuaded by references to violence-legitimising scriptural content.

The evidence we have put forward has important consequences for policy. It follows that extremist religious movements and regimes cannot be effectively combated if their religious roots and the motivational power of scriptural justifications for violence are not taken seriously. Shying away from confronting what is religious about religious extremism deflects attention from the need to also find religious answers to the phenomenon. Our research suggests that a pro-active, publicly mobilised counter-discourse against fundamentalist belief systems and against literalist interpretations of scripture might be necessary to effectively break the mobilising power of religious extremists. Our results regarding religious knowledge indicate that raising factual knowledge about scriptural content is not likely to be an effective strategy against religiously motivated violence if

it is not accompanied by measures to counteract the fundamentalist interpretation of that content. In view of the key importance of fundamentalist literalism as a moderator variable, follow-up research could investigate the efficacy of different strategies aimed at altering the way in which believers perceive and interpret scriptural texts.

Notes

1. See the Global Terrorism Database of the University of Maryland; available at: https://www.start.umd.edu/data-tools/global-terrorism-database-gtd.
2. Osama Bin Laden. Declaration of Jihad against the Americans Occupying the Land of the Two Holiest Sites. Available at: https://ctc.usma.edu/harmony-program/declaration-of-jihad-against-the-americans-occupying-the-land-of-the-two-holiest-sites-original-language-2/.
3. This paper also reports on a small supplementary study among Jews that experimentally shows that priming respondents with a question about their synagogue attendance raises support for religious violence, whereas priming with a question about prayer frequency does not.
4. Christians in the Israeli and Palestinian samples are not shown in the figure because their numbers are too low for statistically meaningful conclusions. They are however included in the multivariate regressions in Table 1 below.
5. Results including the country fixed effects coefficients can be found in Online Appendix 1, Table S1.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Additional information

For replication data please see Kanol, Koopmans, and Stolle (2020).

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Appendix A

Sample and key questionnaire items

Table A1. Sample distribution across countries and religious groups.

	Cyprus	Germany	Israel	Kenya	Lebanon	Palestine	USA	Total
Christian	684	765	64	600	491	32	371	3007
	(8.5%)	(9.5%)	(0.8%)	(7.4%)	(6.1%)	(0.4%)	(4.6%)	(37.2%)
Jewish	0	0	805	0	0	0	213	1018
	(0%)	(0%)	(10.0%)	(0%)	(0%)	(0%)	(2.6%)	(12.6%)
Muslim	673	516	343	597	699	811	425	4064
	(8.3%)	(6.4%)	(4.2%)	(7.4%)	(8.6%)	(10.0%)	(5.3%)	(50.2%)
Total	1357	1281	1212	1197	1190	843	1009	8089
	(16.8%)	(15.8%)	(15.0%)	(14.8%)	(14.7%)	(10.4%)	(12.5%)	(100%)

Table A2. Descriptive statistics.

	N	Min	Max	Missing	Sample Mean	Sample SD	Christian Mean	Christian SD	Jewish Mean	Jewish SD	Muslim Mean	Muslim SD
Support for religious violence (1 = strongly disagree, 5 = strongly agree)	7703	1.0	5.0	386	2.3	1.4	1.8	1.1	1.6	0.9	2.8	1.5
Treatment: scriptural prime (0 = control groups, 1 = treatment group)	8089	0.0	1.0	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Religious fundamentalism (mean agreement across 8 items on a 5-point Likert scale)	8078	1.0	5.0	11	3.1	0.9	2.9	0.9	2.4	1.0	3.4	0.7
Religious knowledge (number of correct answers)	7665	0.0	3.0	424	2.1	1.0	1.8	1.0	2.6	0.7	2.1	0.9
Religious observance (0 = no observance; 2 = both forms of observance)	8055	0.0	2.0	34	1.2	0.9	1.1	0.8	0.5	0.8	1.4	0.8
Age (in years)	8089	18.0	95.0	0	39.3	16.4	42.6	18.1	40.4	15.1	36.5	14.8
Male	8089	0.0	1.0	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Education (0 = no education; 7 = Master degree)	8048	0.0	7.0	41	3.8	2.0	3.8	1.8	5.1	1.5	3.4	2.0
Income (across seven income categories; standardised by country)	8089	−2.1	5.2	0	−0.0	0.9	0.0	0.9	0.1	0.9	−0.0	0.9
Income missing	8089	0.0	1.0	1508	0.2	0.4	0.2	0.4	0.2	0.4	0.2	0.4

Question wordings and answer options for dependent and moderator variables

Dependent variables:

Support for religious violence. *Control condition:*

What do you personally think? Should people who cause mischief and do evil in the eyes of God be killed?

(1) Completely agree
(2) Agree
(3) Neither agree nor disagree
(4) Disagree
(5) Completely disagree

Treatment condition:

[for Christians and Jews:] According to the [Bible/Torah] Book Deuteronomy, those who cause mischief and do evil in the eyes of God, should be killed

[for Muslims:] According to the Quran, Surah 5, Al Ma'idah, those who cause mischief and do evil in the eyes of Allah, should be killed

What do you personally think? Should people who cause mischief and do evil in the eyes of God be killed?

(1) Completely agree
(2) Agree
(3) Neither agree nor disagree
(4) Disagree
(5) Completely disagree

Moderator variables

Religious observance. How often do you pray?

(1) Several times a day
(2) Daily
(3) Weekly
(4) Rarely
(5) Never

How often do you visit a religious service in a [Mosque / Church / Synagogue]?

(1) Several times a day
(2) Daily
(3) Weekly
(4) Rarely / on special occasions
(5) Never

[for Jewish and Muslim women who indicate they rarely or never visit a synagogue or mosque] Do you express your faith in your daily life in any of the following ways?
  – Covering your hair

(1) Yes
(2) No

Religious knowledge. *All respondents*
    What was the name of the son that [Abraham / Ibrahim] offered as a sacrifice to God?

(1) **Isaac / Ismail / Ismāʿīl**
(2) Jacob / Yakub / Yaʿqūb
(3) Jonas / Yunus / Yunus
(4) Josef / Yusuf / Yousef

    Muslims
    What was the name of the uncle who raised Mohammed?

(1) **Abu Talib**
(2) Ali
(3) Hussein
(4) Abd Allāh

    Muslims
    Where did the Mi'raj take place?

(1) Mecca
(2) Medina
(3) **Al Quds** (Jerusalem)
(4) Damascus

    Christians
    What happened on Pentecost?

(1) Jesus stood up from the grave
(2) **The disciples received the Holy Spirit**
(3) Jesus walked on water
(4) The last supper

    Christians
    Who of the following was NOT one of the twelve Apostles?

(1) Peter
(2) Judas
(3) **Lukas**
(4) Simon

    Jews
    What was the name of Esther's uncle from the Purim story?

(1) Josef
(2) **Mordechai**
(3) Schlomo
(4) Yacob

    Jews
    What was the name of Moses' brother, who was with him when he led the Jews out of Egypt?

(1) Shimon
(2) Yochanan
(3) **Aharon**
(4) Benyamin

Religious fundamentalism. All items were measured using a five point Likert scale

(1) Completely agree
(2) Agree
(3) Neither agree nor disagree
(4) Disagree
(5) Completely disagree

The rules of the [Quran / Bible / Torah] are more important to me than the current laws of [survey country]

[Islam / Christianity / Judaism] is superior to other religions

What we are seeing in the world today is the final battle between [Islam / Christianity / Judaism] and the forces of evil

There is only one correct interpretation of the [Quran / Bible / Torah] to which every [Muslim/ Christian/Jew] should stick

Whenever science and the [Quran / Bible / Torah] conflict, science is probably right

Those who do not strictly follow the rules prescribed in the [Quran / Bible / Torah] can no longer be called [Muslims / Christians / Jews]

There is only one perfectly true religion

It is more important to be a good person than to have the right religion