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Quantitative Social Science

Working Paper No. 21-11

April 2021

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The impact of religious attendance on trust, volunteering, and cooperation: A cross-lagged panel analysis with individual fixed-effects[1]

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Abstract

Does religious involvement make people more trusting, prosocial, and cooperative? In view of conflicting theories and mixed prior evidence, we subject this question to a stringent test using large-scale, representative panel data from the British Household Panel Survey (1991-2009, N ≈ 26,000) and the UK Household Longitudinal Study (2009-2019, N ≈ 77,000). We employ cross-lagged panel models with individual fixed effects to account for time-invariant confounders and reverse causality as two issues that have haunted earlier research. We find that religious involvement, measured by frequency of religious service attendance, on average has a positive impact on generalized trust, volunteering, and cooperation. Compared with religious attendance, other indicators of religious involvement, such as subjective importance of religion or whether one is religiously affiliated, have weaker effects on trust, volunteering, and cooperation. We also document substantial variation across religious traditions: the effects of religious attendance are strongest for Anglicans and other Protestants, but weaker and mostly statistically insignificant for Catholics, Hindus, and the nonreligious, while for Muslims we observe a negative effect of religious attendance on cooperation. Our findings are robust to the inclusion of potential confounders and a range of alternative model set-ups. Our study thus shows that religious involvement can indeed foster prosocial behaviours and attitudes, although this effect is in the current study context mostly restricted to religious service attendance and majority religions.

Keywords: quantitative methods, religion, trust, prosocial behaviour, volunteering, cooperation

JEL Codes: : C23, Z12, N30, D64

[1] The authors contributed equally to the manuscript and thank David Voas and Hans-Peter Qvist for valuable feedback on an earlier version of this article. DW acknowledges support from the British Academy through a Postdoctoral Fellowship (grant PF2\180064).
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Introduction

The question of how religious involvement affects social cooperation and cohesion has a long history, going back to De Tocqueville ([1835] 2003) and Durkheim ([1912] 1995). Writing about *Democracy in America*, De Tocqueville argues that religion is a vital source of social trust and civic engagement. In *The Elementary Forms of Religious Life*, Durkheim portrays religion as an institution that unites modern societies by nurturing solidarity through shared rituals and beliefs, by enforcing collective norms, and by offering believers a sense of meaning and purpose. The prediction emerging from this work is that societies with higher levels of religious involvement will also score higher in terms of social cohesion and cooperation, with religious individuals being more likely to hold cooperative attitudes and engage in cooperative behaviours.

However, the empirical evidence on this topic remains remarkably mixed. There is an abundance of studies concluding that religious involvement *fosters* cooperative attitudes and behaviours. Stavrova and Siegers (2014), for example, use data from more than 70 countries to show that individual religiosity is positively associated with charity work and negatively with fraud. Similarly, Bennett and Einolf (2017) demonstrate across a sample of 129 countries that people who attend religious services more often are more likely to help strangers. Furthermore, many studies document a positive association between religiosity and civic participation (e.g. Putnam and Campbell 2010, Ruiter and De Graaf 2006, Storm 2015).

Further surveys show that religious believers are often perceived to be more trustworthy and cooperative than non-believers (Edgell, Gerteis, and Hartmann 2006), and that frequent religious attendance is associated with a more inclusive view of society (McAndrew 2020). Laboratory experiments, in turn, indicate that religious participants are more likely to reciprocate trust bestowed upon them than nonreligious participants, while they are also more likely to be trusted, including by people from different religions and the nonreligious (Hall et al. 2015, Tan and Vogel 2008). Other experimental work finds that priming participants by reminding them of God increases altruism towards strangers (Shariff and Norenzayan 2007).

Nevertheless, numerous scholars argue that religious involvement *reduces* trust and prosocial behaviours. Berggren and Bjørnskov (2011), for example, conclude after analysing data from 105 countries that people who attach more value to religion in their daily lives have lower levels of social trust. Likewise, focusing on the United States, Hempel, Matthews, and Bartkowski (2012) show that beliefs about the authoritativeness of the Bible, the existence of hell, and the need for a born-again experience undermine trust towards strangers. This finding resonates with the portrayal of religious associations as a form of bonding social capital (Putnam 2000), bolstering social ties between fellow believers, yet impeding wider social cohesion and solidarity with outgroup members.

Indeed, multiple experiments suggest that believers display ingroup favouritism by being only more helpful and trusting towards co-religionists (Chuah et al. 2016, Preston and Ritter 2013). Similarly, in a group-lending microfinance study in rural Peru, religious attendance is found to have no general effect on trust, whereas people do display more trust to others who attend the same church (Karlan 2005). Moreover, Jackson and Gray (2019) find that people who believe in God's intervention in daily events are more likely to commit passively immoral behaviours, such parking one's car across multiple spaces or keeping library books overdue.

Aside from variation in the outcome of interest, the measure of religious involvement, and the study context, these conflicting findings may reflect that most studies rely on either cross-sectional surveys or small-scale experiments. Each of these research designs suffer from serious shortcomings. With cross-sectional survey data it is usually impossible to control for all relevant confounding factors or to rule out reverse causality. Both issues are relevant here: there are many factors that may drive religious involvement as well as cooperation (e.g. personality, values, social background) and causality may well run in both directions (e.g. cooperative people may be more likely to get involved

in religious communities). Experimental studies, on the other hand, usually offer high internal validity, yet it is notoriously difficult to determine whether experimental results generalise to other settings. Moreover, it is well-nigh impossible and ethically contentious to randomly manipulate key dimensions of religious involvement (cf. Bryan, Choi, and Karlan 2021).

Our study offers new evidence on the impact of religious involvement on cooperative behaviours and social trust, making three contributions. First, given the methodological weaknesses of prior research, we draw on high-quality, nationally representative panel data from the British Household Panel Survey (BHPS) and the UK Household Longitudinal Study (UKHLS) to investigate the links between religious involvement and cooperative attitudes and behaviours in a longitudinal setting. We analyse these data using a novel method developed by Allison, Williams, and Moral-Benito (2017), fitting cross-lagged panel data models with individual fixed effects. Compared to traditional models, the key advantage of these models is that they enable simultaneously addressing time-invariant confounding and reverse causality. They thus circumvent the unpalatable choice as to which of these issues is most important to account for; see also Imai and Kim (2019) and Leszczensky and Wolbring (2019).

Our other contributions are more substantive. Firstly, we probe how religious involvement affects three distinct but related outcomes: generalised trust (a self-reported belief-based measure), volunteering (a behavioural measure, self-reported by the respondent), and cooperation (measured by the interviewer, based on their interactions with the respondent during the interview). While previous studies usually consider one indicator of cooperation or prosociality in isolation, our focus on these three rather different but complementary measures – within one and the same analysis – helps to establish more directly the breadth of the possible effects of religious involvement.

Additionally, we investigate how religious involvement is linked to the outcomes of interest for the religiously unaffiliated, adherents of the Church of England, other Protestants, and Catholics, as the largest religious groups in the United Kingdom, with further analyses focusing on Hindus and Muslims, as the largest non-Christian groups. This allows us to examine whether the effects of religious involvement are the same across religious traditions. Notwithstanding several notable exceptions (e.g. Beyerlein and Hipp 2006, Traunmüller 2011, Welch, Sikkink, and Loveland 2007), most prior research implicitly makes this assumption, yet it cannot be taken for granted, given substantial variation across religious traditions in their theological doctrines and in how they are embedded into society.

Theory and predictions

There are conflicting theories about how religious involvement affects prosocial behaviours and trust. In line with the seminal works by De Tocqueville ([1835] 2003) and Durkheim ([1912] 1995), a first set of theories predict that religious involvement has a *positive* effect. Proponents of these theories stress that almost all religions have moral teachings promoting cooperation, solidarity, and altruism (Batson, Schoenrade, and Ventis 1993), with most religions having some version of the "golden rule", commonly phrased as "love your neighbour as yourself" or "do unto others as you would have them do unto you". More generally, many faith communities encourage selflessness, sympathy for the needs of others, and connections to one's wider community (Lewis, MacGregor, and Putnam 2013).

Such values are solidified through believers' participation in shared rituals and worship activities. These practices make religious involvement a fundamentally social phenomenon, and the networks developed through these means are believed to be crucial in enforcing religiously inspired norms. In addition, faith-based networks provide social incentives and opportunities for prosocial behaviour, with many religious adherents being actively involved in various volunteer programmes and civic initiatives. Lewis et al. (2013) show in this context that people are more likely to take up volunteering after being asked to do so by a friend from church vis-à-vis any other type of friend. Furthermore, active involvement in religious communities may help develop civic skills that can subsequently be applied in the wider community (Djupe and Gilbert 2006). Some theories even propose that the

positive effects of religious involvement may spill over to non-believers, as widespread religious involvement creates an environment where religious influences, through social networks, may reach many segments of society (Ruiter and De Graaf 2006; Lim and MacGregor 2012).

In contrast, a second set of theories predict that religious involvement will have a *negative* effect on prosocial behaviours and trust. One such theory revolves around moral self-licensing. This involves the notion that actions which improve someone's self-image make them feel less concerned about the consequences of any immoral behaviours (Merritt, Effron, and Monin 2010). Therefore, if one feels obedient to a divine authority, for example by attending religious services regularly, one may feel less constrained by norms of the mundane (Jackson and Gray 2019). Others argue that people who are drawn to anti-social behaviours may turn to religion to resist these urges or to clear their conscience, while privately indulging their desires (MacInnis and Hodson 2015). In this scenario, however, causality runs from anti-social behaviours to religious involvement, rather than vice versa.

Another theory posits that certain religious doctrines may undermine social trust and people's commitment to the wider community. This especially applies to conservative groups who interpret religious scriptures more strictly. Conservative Christians in the United States, for example, tend to believe that people have an inherent disposition to choose evil over good (Hempel et al. 2012). This doctrine implies that "trust is something rightfully reserved for God and, in some measure, one's born-again co-religionists" (Hempel et al. 2012: 526). More generally, even if religious involvement increases prosociality and trust *within* one's religious community, it may still reduce prosociality and trust towards outsiders. The outcome may be a social landscape with many islands characterized by internal cooperation and trust, which crowd out more generalized forms of cooperation and trust (Ermisch and Gambetta 2010), even though it is precisely these generalized forms of trust and cooperation that are believed to promote social cohesion in society at large (Putnam 2000).

Altogether, the coexistence of these theories – some predicting positive effects, others negative effects – calls for a rigorous empirical test. In this study, we provide such a test, which is rigorous along three dimensions: it is longitudinal, it considers multiple outcomes, and it differentiates between religious traditions. While the next section addresses the longitudinal set-up of our analysis, the reason for looking at multiple outcomes is that religious involvement may affect different indicators of prosociality and cooperation differently. For example, while reverence for the golden rule may induce religious people to report high levels of social trust, this does not need to filter through into their behaviour. Similarly, although many believers may get involved in volunteering activities within their faith community, this does not guarantee that they will also be more cooperative towards strangers.

We additionally hypothesize that the impact of religious involvement on prosociality and cooperation may vary across religious traditions, reflecting variation in religious teachings, worldviews, and the position that religions occupy within society. We build in this respect on a growing body of mostly American research, which shows that Evangelical Protestants are more inward-looking and less inclined to trust strangers or to join secular volunteering activities than Mainline Protestants, with Catholics sitting somewhere in the middle (e.g. Beyerlein and Hipp 2006, Welch et al 2007). For Germany, Traunmüller (2011) finds that Protestants are generally more trusting than Catholics, although the latter are still more trusting than the nonreligious.

We thus expect that any positive effects of religious involvement on prosociality and cooperation in the United Kingdom will be most noticeable for Protestants, including affiliates of the Church of England, and possibly less so for Catholics and other religious groups. In doing so, we recognize that most Protestant groups in the United Kingdom are more similar to Protestant groups on the European continent and Mainline Protestants than to Evangelical Protestants. Among other things, British Protestants have a reputation for taking an active role in wider community life, possibly partly reflecting their majority status in the British religious landscape. The Church of England, for example, is traditionally involved in many civic projects that cross religious boundaries, such as food banks and

community cafés (Church of England 2018), and engages with politics through the publication of pamphlets around key events (e.g. Church of England 2015).

Conversely, British Catholics tend to be more inwardly focused. For example, according to Pew data (2017), 58 percent of British Protestants think that Catholics and Protestants are religiously more similar than they are different, compared to 41 percent of British Catholics. The same data also show that Catholics are less willing to accept Protestants as family members or neighbours than vice versa. Moreover, whereas Catholics are slightly more likely than Protestants to participate in religious groups, they are less likely to participate in other civic groups such as neighbourhood associations, leisure clubs, or political parties.

Adherents of non-Christian minority religions, in turn, generally attach a greater importance to their religion than most Christians do. For example, an Ipsos MORI review (2018) finds that 74 percent of British Muslims consider their religion very important to who they are, compared to 48 percent of Hindus and 23 percent of Christians. These higher levels of religious identification may bring about a stronger ingroup orientation, possibly reinforced by experiences of discrimination or acculturation stress (Aidenberger and Doehne, 2021; Aksoy et al. 2020). Storm, Sobolewska, and Ford (2017) show in this context that especially British Muslims face intense hostility, although they find no evidence that Muslims react to this by also becoming more hostile to other groups themselves.

Data and methods

Data source

We first analyse data from the British Household Panel Survey (BHPS). The BHPS is an annual household panel study, which started in 1991 with about 5,000 households and which, after the addition of another 5,000 households from Scotland, Wales, and Northern Ireland, ended in 2009, when it was succeeded by the UK Household Longitudinal Study (UKHLS, also known as Understanding Society). The initial sampling was done using a two-stage stratified probabilistic method, resulting in samples that are broadly representative of each country. In each wave, all household members aged 16 or over were subjected to a face-to-face interview and a self-completion questionnaire. The same individuals were re-interviewed in successive waves, whereby individuals who split off from their original household continued to be interviewed, alongside all adult members of their new households.

The initial household-level response rate in wave 1 of the BHPS was 74 percent, with a within-household individual-level response rate of 92 percent. For the added samples for Scotland, Wales, and Northern Ireland the initial household-level response rates were, respectively, 61, 65, and 69 percent. The average individual-level re-interview rate over the BHPS window is 93 percent. These rates are all reasonably high, which is useful, as our key variables (i.e. religiosity, trust, volunteering, cooperation) may well be linked to survey response and attrition (Sherkat 2007; Abraham, Helms, and Presser 2009). For further details on the BHPS, see University of Essex (2020).

We then analyse the successor of the BHPS, the UKHLS, which also is a nationally representative annual panel survey. The main difference between the two panels is that the UKHLS has a substantially larger sample size, starting off from about 40,000 households in 2009, and includes an ethnic minority boost sample, to ensure that the study has at least 1,000 respondents from Indian, Pakistani, Bangladeshi, Caribbean, and African origin. This enables us to separately analyse non-Christian groups. However, the UKHLS measures religious attendance only three times and generalised trust only in its first wave, providing a more limited panel structure than the BHPS.

Key variables

Our independent variable concerns religious involvement, which comprises multiple dimensions, including beliefs, affiliations, and behaviours. While these dimensions are not perfectly correlated (Chaves 2010), we focus on *frequency of religious service attendance*. This is partially a practical

choice – service attendance is the most often measured indicator in the BHPS – but also a substantive one: service attendance is widely regarded as the most important religious determinant of prosocial behaviours and trust (Putnam and Campbell 2010). This is because worship activities are critical for cementing religious norms and values, with religious beliefs and affiliations only having a limited impact if they are not accompanied by regular service attendance. Moreover, religious service attendance should serve as key trigger of various of the mechanisms behind the influence of religious involvement discussed in the previous section, such as social network formation, skills development, and moral licensing. Finally, service attendance allows us to straightforwardly distinguish people by the intensity of their involvement. Nevertheless, we will also discuss results for two alternative indicators of religious involvement: *subjective importance of religion* ("how much difference would you say religious beliefs make to your life?") and *religious affiliation* ("do you regard yourself as belonging to any particular religion?").

Frequency of religious service attendance is measured using a four-category variable, which we normalize to the 0-1 range and treat as interval variable: at least once a week = 1, at least once a month = 0.67, at least once a year = 0.33, practically never or only at special events = 0.[4] Religious attendance is measured in waves 1, 3, 4, 5, 7, 9, 11, 14, 16, and 18 of the BHPS and in waves 1, 4, and 8 of the UKHLS. See Table 1 for a summary of this variable and other key variables.

<Table-1-about-here>

We look at three outcome variables. The first is *generalised trust*, a binary variable derived from the question "Generally speaking, would you say that most people can be trusted, or that you can't you be too careful in dealing with people?", with "most people can be trusted" coded as 1 and all other responses as 0.[5] Trust is measured in waves 8, 10, 13, 15, 17, and 18 of the BHPS and only in wave 1 of the UKHLS. The second outcome is *volunteering*, based on a question that asks respondents how frequently they do unpaid voluntary work. This question has five response categories, which we treat as interval and normalize to the 0-1 range: (almost) never = 0, once a year or less = 0.25, several times a year = 0.5, at least once a month = 0.75, at least once a week = 1. Volunteering is measured in waves 6, 8, 10, 12, 14, 16, and 18 of the BHPS and in waves 2, 4, 6, 8, and 10 of the UKHLS. The last outcome is *cooperation*, which we measure based on the interviewer's impression of how cooperative the respondent was during the interview. Once again, we treat this outcome as an interval variable and normalize its response categories to the 0-1 range: (very) poor = 0, fair = 0.33, good = 0.66, very good = 1. Interviewee cooperation is measured in all waves of the BHPS and UKHLS. To facilitate comparisons across the outcome variables, we restrict our BHPS analyses to outcomes measured from wave 8 onwards, as trust is not measured prior to this wave. Nevertheless, our results for volunteering and cooperation remain virtually the same if we also include information from earlier waves (see section B of the supplement to this paper).

Each of these outcome variables has its drawbacks. The generalised trust measure is rather generic and attitudinal. It may therefore be subject to social desirability bias and have limited predictive power for how trusting people are in real life (Ermisch et al. 2009). Volunteering, on the other hand, is behavioural, but it is still self-reported and thus potentially prone to errors due to memory and again social desirability (Tabassum, Mohan, and Smith 2016). Moreover, we cannot distinguish between "inwardly oriented" volunteering (i.e. believers doing volunteer work within their church) and other types of volunteering. Our indicator of cooperation, in turn, is behavioural and measured by an external observer (i.e. the interviewer) but might be affected by the subjective judgement of this

[4] We normalise all variables to the 0-1 range to facilitate comparison across models and coefficients.
[5] The BHPS also allows for "it depends" responses. However, this category is generally only used to record spontaneous "it depends" responses. Only in wave 18 are respondents offered this answer as an option, resulting in many more "it depends" responses. Our results are robust to excluding wave 18 from our analyses. "Don't know" responses, accounting for less than one percent of all responses in all waves, are treated as missing.

observer. Still, taken together, these three outcome variables provide valuable insights for our research purposes, complementing each other by addressing each other's weaknesses, and tapping into distinct dimensions of prosociality and cooperation.

Since the influence of religious involvement on the outcomes may vary across religious traditions, we not only conduct pooled analyses, but also separate analyses for people of different religions. More specifically, we consider the *never religious* (who do not belong to a religion in any of the survey waves), *Anglicans* (who report to be affiliated with the Church of England at least once), *Protestants* (who report belonging to any other Protestant denomination at least once), and *Catholics* (who report to be Catholic at least once). Whereas the BHPS sample is too small to run separate analyses for minority religions, the UKHLS also enables us to separately analyse *Muslims* and *Hindus*.[6]

Analytical strategy

We fit cross-lagged panel models with individual fixed effects, as proposed by Allison et al. (2017). Unlike conventional panel models, which force the researcher to choose whether to control for time-invariant confounders (as is done by traditional fixed effects models) or to correct for potential reverse causality (as is done by lagged dependent variable models), cross-lagged panel models with fixed effects have the potential to address both of these issues simultaneously. First, by including individual fixed effects that freely correlate with all time-varying independent variables, these models control for all observed and unobserved time-invariant confounders (e.g. personality, sex, family background, ethnicity). Second, by allowing for correlations between time-varying independent variables and past error terms associated with the dependent variable, these models also address potential reverse causality between the dependent and independent variables.

Cross-lagged panel models with fixed effects are thus well-suited for making causal inferences. Indeed, comparing a range of panel models, Leszczensky and Wolbring (2019) recommend the use of these models when one anticipates both time-invariant confounding and reverse causality. Our case clearly fits this scenario, as there are various unobserved factors that may drive religious involvement and our outcomes of interest (e.g. personality, social origins), while it is also conceivable that trust, volunteering, and cooperation have some influence on religious involvement (e.g. more trusting people sorting into religious communities).

Another strength of cross-lagged panel models with fixed effects is that they can be fitted within the Structural Equation Modelling (SEM) framework. SEM offers flexibility for model specification and estimation. It is, for example, relatively straightforward to address missing data and panel attrition, as SEM supports Full Information Maximum Likelihood (FIML) estimation. FIML produces unbiased estimates under the assumptions of data being missing at random (i.e. the likelihood of missingness only depends on observed data) and multivariate normality (i.e. variables are multivariately normally distributed). Although these are demanding assumptions, FIML is robust to violations of the latter assumption (Enders and Bandalos 2001), while the use of individual fixed effects and earlier measures of the dependent variable in the model should absorb many causes of panel attrition and item nonresponse, making the assumption of data being missing at random more plausible.

Figures 1 and 2 display path diagrams that illustrate the set-up of our models for, respectively, the BHPS and UKHLS. In the upper panel of Figure 1, the dependent variable, trust (*tr*), is measured in six waves, with the wave indicated by the subscript. Trust is regressed on the most recent measure of

[6] Religious affiliations are not constant within individuals: e.g. some people initially belong to a religion but later become "religious nones". Less often, people also move between religions. Consequently, some people may appear in, say, both our Anglican and Catholic subsamples (e.g. 2 percent of everyone who identifies as Anglican at least once identifies as Catholic in another wave). We keep these people in our analyses, treating them as having multiple religious leanings. Our pooled analyses comprise people from *all* traditions, including smaller ones that we do not single out.

religious attendance (*at*), which is in most cases measured one wave earlier and on its own previous measure, which is generally measured before religious attendance. This auto-regression addresses possible state dependence, whereby past trust affects current trust. Crucially, religious attendance freely correlates with past values of (the residual error of) trust, reflecting that past trust may influence current religious attendance. Individual fixed effects (*FE*) appear as a latent variable that has a unit effect on all measurements of trust, thus capturing the influence of any time-invariant determinants of trust. The fixed effects also freely correlate with the independent variables, as in a conventional fixed effects model. Finally, all measurements of religious attendance freely correlate with one another, capturing any state dependence in religious involvement. The other panels in Figure 1 summarize the BHPS models for volunteering and cooperation, which are set up similarly to the model for trust, and the diagrams in Figure 2 illustrate the set-up of the UKHLS models, which are built according to the same principles (recall that we cannot fit panel models for trust based on the UKHLS, since trust was only measured in the first wave of the UKHLS).

<Figure-1-about-here>

<Figure-2-about-here>

Note that the measurement lags in Figures 1 and 2 are not always the same. For example, in Figure 1, tr_{10} is regressed on at_9 (one-wave gap), while tr_{13} is regressed on at_{11} (two-wave gap), because religious attendance was not measured in wave 12. Similarly, at_{16} is used as a predictor for both tr_{17} and tr_{18}. Such irregularities in principle pose no problem in SEM, as coefficients can be allowed to differ by the measurement gap: for example, the estimated coefficient for at_9 -> tr_{10} may differ from the estimated coefficient for at_{11} -> tr_{13}. We have tried such alternative specifications, yet they did not make any noticeable difference for the results. Hence, for simplicity, we present the results of models where the coefficients are constrained to be invariant to the measurement lag. One exception concerns the regression of volunteering in wave 14 of the BHPS, for which we lack an earlier measurement of religious attendance that is reasonably close in time. Therefore, we regress vo_{14} on at_{14}. Because this represents a contemporaneous rather than a lagged effect, we allow its coefficient to be different from the coefficients for the lagged effects, even though both coefficient estimates turn out to be barely distinguishable. Likewise, we estimate two coefficients for the effect of religious attendance on volunteering in the UKHLS, distinguishing contemporaneous (at_8 -> vo_8 and at_4 -> vo_4) and lagged effects (all other paths).

We also stress that we regress cooperation in each wave on religious attendance in the same wave. This is because cooperation is measured by the interviewer *after* the interview has been completed, while our variable for religious attendance refers to behaviour that happened before the interview. As such, there is already a time gap between religious attendance and cooperation, despite both variables being measured in the same wave.

Finally, we fit our core models without any control variables. It is, after all, not that straightforward to come up with time-varying predictors that could affect both religious attendance as well as trust, volunteering, or cooperation, recognizing that any time-invariant confounders have already been controlled for through the individual fixed effects. Nevertheless, we have explored the influence of a variety of controls – i.e., contact with neighbours and friends, health status, home ownership, and having school-age children – finding that our core results are unaffected. Next section presents further details.

Results

BHPS

Table 2 presents results from pooled and tradition-specific analyses based on the BHPS. The full set of estimates for each model can be found in the supplement to this paper (section A). While χ^2 is statistically significant for all models, as expected given the large samples, the other fit measures in

Table 2 indicate a reasonable fit for all models, with root mean square errors of approximation (RMSEA) safely below the common cut-off of 0.08. Comparative fit indices (CFI) and Tucker Lewis indices (TLI) are generally above the 0.90 threshold. To aid interpretation, Figure 3 visually displays the estimated coefficients for lagged religious attendance for the three outcome variables.

<Table-2-about-here>

<Figure-3-about-here>

Considering first the pooled analyses, our results are highly consistent, with religious attendance having a significantly positive effect on trust, volunteering, and cooperation. Moving from never attending religious services to attending every week is associated with: (i) a 0.08 increase in the probability of reporting that most people can be trusted, (ii) a 0.05 increase in our volunteering index, and (iii) a 0.02 increase in our cooperation index. For reference, the within-individual standard deviations of the outcome variables (all measured on a 0-1 scale) are, respectively, 0.24, 0.18, and 0.12. While the estimated effects of religious attendance are thus modest in magnitude, they are certainly not negligible. This holds only more so, given the stringent design of our analyses, with our models controlling for any time-invariant unobservables and potential reverse causality.

Our analyses by religious tradition show that the positive effects of religious attendance observed in the pooled sample are primarily driven by Protestants and Anglicans. For both groups, increases in religious attendance are associated with significant increases in trust, volunteering, and cooperation. For trust and cooperation, the effect among Protestants is somewhat larger, while for volunteering we observe the strongest effect among Anglicans. By contrast, most of the effects of religious attendance among the never religious and Catholics are closer to zero and statistically insignificant. For example, compared to the estimated coefficients for Protestants, those for Catholics are 42 percent smaller for trust (0.069 versus 0.118), 70 percent smaller for volunteering (0.017 versus 0.056), and 61 percent smaller for cooperation (0.015 versus 0.038). Nevertheless, the only difference that is statistically significant is between Catholics and Anglicans for volunteering. For trust the estimated effect of religious attendance is similar in magnitude across all subgroups.

UKHLS

Table 3 and Figure 4 summarize the results of our analyses based on the UKHLS, which allows us to also investigate the effects of religious attendance among Muslims and Hindus, although it measures religious attendance less frequently than the BHPS. The full set of estimates can again be found in the supplement (section A). Most fit statistics in Table 3, particularly the RMSEA values, indicate a reasonable fit for all models. The TLI values in the models predicting cooperation suggest possible room for improvements in model fit (plausibly because of the large sample size relative to the degrees of freedom of the model). We nonetheless retain these models due to their generally favourable RMSEA and CFI values and to facilitate comparisons with the BHPS results, which rely on similar structural models.

<Table-3-about-here>

<Figure-4-about-here>

Results based on the UKHLS are broadly similar to those based on the BHPS: religious attendance has generally a positive effect on volunteering and cooperation among the Christian denominations and the never religious, but the strength of this effect varies by religious tradition. One key difference vis-à-vis the BHPS analyses is that the estimated effects of attendance on volunteering among the never religious and Catholics are now also significantly positive, although the magnitudes of these effects are still smaller than for Anglicans and Protestants. In addition, the effect of religious attendance on cooperation in the pooled UKHLS sample is close to zero and not significant. This plausibly reflects, at least in part, the different composition of the UKHLS and BHPS samples, with

the UKHLS including more religious nones (43.5 versus 39.4 percent) and non-Christian minorities (13.9 versus 2.4 percent).[7]

Turning our attention to Muslims and Hindus as the largest non-Christian groups in the United Kingdom, we observe striking results, particularly for Muslims. As Figure 4 demonstrates, the estimated effect of religious attendance on volunteering is close to zero and statistically insignificant for Muslims but significantly positive for Hindus, with an effect size similar as for Catholics. For cooperation, both groups have a *negative* coefficient for religious attendance, which is statistically significant for Muslims, with an effect size that is in absolute value about as large as the positive effect of attendance among Anglicans and Protestants.

Overall, most of our results suggest a positive impact of religious attendance on trust, volunteering, and cooperation. They also underscore the importance of religious traditions: while increases in religious attendance are clearly associated with more prosociality and cooperation for some religious groups, the association is much weaker, non-existent, or even negative for other religious groups.

Robustness checks

Here we discuss additional analyses that assess the robustness of our results. These analyses are mostly based on the BHPS, which allows for more complex analyses, due to its more frequent measures of religious attendance and the outcome variables. Detailed results of the robustness checks can be found in the supplement to this paper.

Binary versions of dependent and independent variables

We have fitted models with religious attendance as a binary variable instead of interval, using attending services at least once a month or at least once a week as cut-offs. Similarly, we have also experimented with binary measures of volunteering and cooperation. In both sets of analyses, we have found very similar results as reported in the previous section (supplement section C).

Potential time-variant confounders

While the individual fixed effects in our models control for any time-invariant variables (e.g. sex, ethnicity, family background, personality), our results might still be confounded by variables that do vary within individuals. Suppose, for example, that people go through cycles of sociability, and that when they are in a social phase, they become more trustful and start attending religious services more frequently. This would make the associations between religious attendance and trust that we reported in the previous section (at least partly) spurious. Likewise, when someone's health deteriorates, this cannot only make it harder to attend religious services, but one might also become more distrustful and "hunker down" in terms of volunteering and other cooperative behaviours. To control for such potential confounders, we have conducted analyses in which we add potential confounders, measured in the same waves as religious attendance. More precisely, we have controlled for: (i) the frequency of contact with friends and neighbours, (ii) subjective health status, (iii) home ownership, and (iv) whether one has any children in the ages 3-15. While these variables have shown up as significant predictors in many of our models, their inclusion has not affected the estimated effects of religious attendance (supplement section D).

Northern Ireland sample

Religion is more salient in Northern Ireland than in the rest of the United Kingdom. The percentage of religious nones across waves 9-18 of the BHPS is close to 50 percent in England, Wales, and

[7] The effect sizes differ somewhat between the BHPS and UKHLS, especially for volunteering, with larger effects in the UKHLS. This might reflect variation between the BHPS and UKHLS in the wording of the volunteering question, its positioning within the interview, and its response options. Another difference is that there are fewer repeated measures of the dependent and independent variables in the UHKLS, with non-constant time gaps between these measures (see Figures 1 and 2).

Scotland, compared to merely 3 percent in Northern Ireland. Similarly, whereas about 10 percent of the English, Welsh, and Scottish weekly attend church, nearly 40 percent of the Northern Irish do so. We have, therefore, investigated whether our results hold up when we exclude Northern Irish respondents from our analyses. This has turned out to be the case (supplement section E).

Contemporaneous effects of religious attendance

Largely driven by data availability, our analyses mainly allow for lagged effects of religious attendance on trust and volunteering (e.g. in Figure 1, tr_{10} is affected by at_9 but not by at_{10}). If there are also contemporaneous effects of religious attendance, this singular focus on lagged effects might possibly bias our results (Leszczensky and Wolbring 2019). While data constraints prevent us from systematically including both contemporaneous and lagged effects of religious attendance, there are a couple of exceptions. For example, when regressing tr_{18} and vo_{18} on at_{16}, we can also include at_{18} as predictor. As it turns out, allowing for such contemporaneous effects does not alter our estimates of the lagged effects of religious attendance (supplement section F).

Importance of religion and religious affiliations

Frequency of religious service attendance is our preferred measure of religious involvement. We have, however, also estimated the effects of two other indicators of religious involvement: *subjective importance of religion*, measured with "how much difference would you say religious beliefs make to your life?" (no = 0, little = 0.33, some = 0.66, great =1), and *religious affiliation*, measured with "do you regard yourself as belonging to any particular religion?" (no = 0, yes = 1). Applying similar models as before, we have found that both indicators generally have a positive effect on trust, volunteering, and cooperation. However, the estimated effects are rather small and mostly statistically insignificant (supplement section G).

Discussion and conclusions

This study advances our understanding of how religious involvement affects social capital and social cohesion. With the existing literature on this topic being characterized by conflicting predictions and mixed findings, our contribution is threefold. First, while many earlier studies rely on cross-sectional surveys or small-scale experiments, our analysis is based on large-scale, representative panel data, which we analyse using a novel method that simultaneously addresses time-invariant confounders and reverse causality – two issues that have haunted earlier research. Second, instead of just one outcome, we examine three complementary outcomes, namely trust, volunteering, and cooperation. This comprehensive perspective helps us to assess the scope of any effects of religious involvement on prosociality and cooperation. Third, we investigate the extent to which the effects of religious involvement vary across religious groups, recognizing that religious involvement may have an uneven impact across religious traditions.

We find that, on average, frequent religious service attendance increases trust, volunteering, and cooperation. The impact of religious service attendance thus seems reasonably consistent across different outcomes. That this finding is based on a stringent panel design and holds up in a range of robustness checks suggests that it can cautiously be regarded as causal. Hence, any positive effects of religious involvement – through the norms that are fostered within religious communities and the social networks that are built through joint worship – seem to outweigh any negative effects that might arise from moral licensing, from religious believers being focused on God at the expense of worldly matters, or from religious adherents reserving their kindness and compassion exclusively for co-religionists. Moreover, that we do not find as strong effects of subjective importance of religion or being religiously affiliated suggests that the effects of religious attendance on prosociality mainly operate through social channels, and that religious beliefs and belonging *per se* may not be as consequential.

Importantly, however, the positive effects of religious attendance do not apply equally strongly across all religious traditions. While we find strong evidence that religious attendance promotes prosociality and cooperation among Anglicans and other Protestants, it seems to have weaker effects among Catholics, affiliates of non-Christian religions, and religious nones. This demonstrates that it is not just a matter of "any involvement goes": clearly, the community one is involved in matters, too.

The variation in the effects of religious attendance between Anglicans / Protestants and Catholics is intriguing. These patterns mirror gaps in trust and prosocial behaviour between these two groups that have been observed elsewhere (Beyerlein and Hipp 2006, Traunmüller 2011). Furthermore, they fit with our expectation that Catholics tend to be more inwardly oriented than their Protestant counterparts. That said, the majority status of Anglicans / Protestants in the British religious landscape and the societal embeddedness this brings may also play a role. Whether the weaker effects of religious attendance among Catholics can be attributed to a stronger ingroup focus thus remains to be tested. Future research could shed further light on this by, for example, distinguishing between generalized versus particularized trust and between volunteering for religious versus non-religious causes.

Our findings for non-Christian faiths are also worth highlighting. Especially the findings for Muslims stand out, with no effect of religious attendance on volunteering and a significantly negative effect of religious attendance on cooperation. The latter effect might be interpreted as evidence in support of moral licensing theory or the notion that religious attendance increases particularised cooperation at the expense of generalised cooperation. Alternatively, this negative effect could reflect mechanisms linked to Muslims' minority status. It might, for example, result from exposure to discrimination or acculturation stress – which may both be exacerbated by more frequent religious attendance.

Another explanation is that our cooperation measure, based on interviewers' assessments of respondents' level of cooperation, captures more than just how cooperative a respondent was. Prejudice of the interviewer, language problems of the respondent, or disruptive behaviour of other household members might all influence these assessments. Nevertheless, when we repeat our analyses while controlling for interviewers' perceptions of respondents' understanding of the survey questions or whether there were any other people present who (negatively) influenced the interview, there remains a significantly negative effect of religious attendance for Muslims. By contrast, when we fit conventional panel models including both respondent and interviewer fixed effects, which should account for interviewer-specific biases, the negative effect of religious attendance among Muslims diminishes in size and is no longer statistically significant (see section H of the supplement for these results).

We leave it to future research to study the reasons behind the different effects for the non-Christian religions more systematically. Aside from distinguishing between particularized versus generalized outcomes, one promising avenue is to explore whether the effects of religious attendance among members of minority religions vary by exposure to or anticipation of discrimination or acculturation stress. A related strategy would be to investigate whether similar effects of religious attendance are observed in Muslim or Hindu majority countries, where discrimination for these religious groups would be weaker or absent. Other methods of inquiry, such as field experiments or in-depth interviews, will also be valuable for illuminating these findings.

It remains an open question whether our findings for the United Kingdom generalize to other settings. Some scholars, for example, argue that the links between religious involvement and prosocial outcomes depend on national religious contexts (Stavrova and Siegers 2013, Bennett and Einolf 2017). An influential theory in this literature posits that individual religiosity will matter less in more devout contexts (Ruiter and De Graaf 2006). Accordingly, and recognizing that the United Kingdom is nowadays a relatively secular country, one might find weaker effects of religious involvement on trust, volunteering, and cooperation in a more religious country.

It is finally useful to place our findings in the context of religious trends that have taken place in many Western societies including the United Kingdom. Most notably, the religiously unaffiliated population has grown substantially, alongside a drop in attendance and other religious practices, and a weakening of religious beliefs (e.g. Bruce 2011). From this angle, our findings on the effects of religious attendance on trust, volunteering, and cooperation provide insights on the potential wider societal consequences of this secularization trend. For example, given the strong links between religious attendance and volunteering, declining religiosity might threaten the voluntary sector.

At the same time, the links between religious attendance and prosocial outcomes may evolve as religious changes unfold. One possibility is that these links become stronger, as only the most committed believers stay religiously involved. There is indeed evidence that, while overall religiosity has declined, there is a stable core of highly committed believers (Wilkins-Laflamme 2016). The resulting polarization between the unaffiliated and the religiously committed may, however, also imply that religiosity becomes increasingly associated with particularized rather than generalized forms of trust, prosociality, and cooperation. Additionally, secular alternatives to religious attendance (e.g. the Sunday Assembly) may develop that compensate for the trend of declining religiosity, thereby weakening the links between religious attendance and prosocial outcomes.

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Tables and Figures

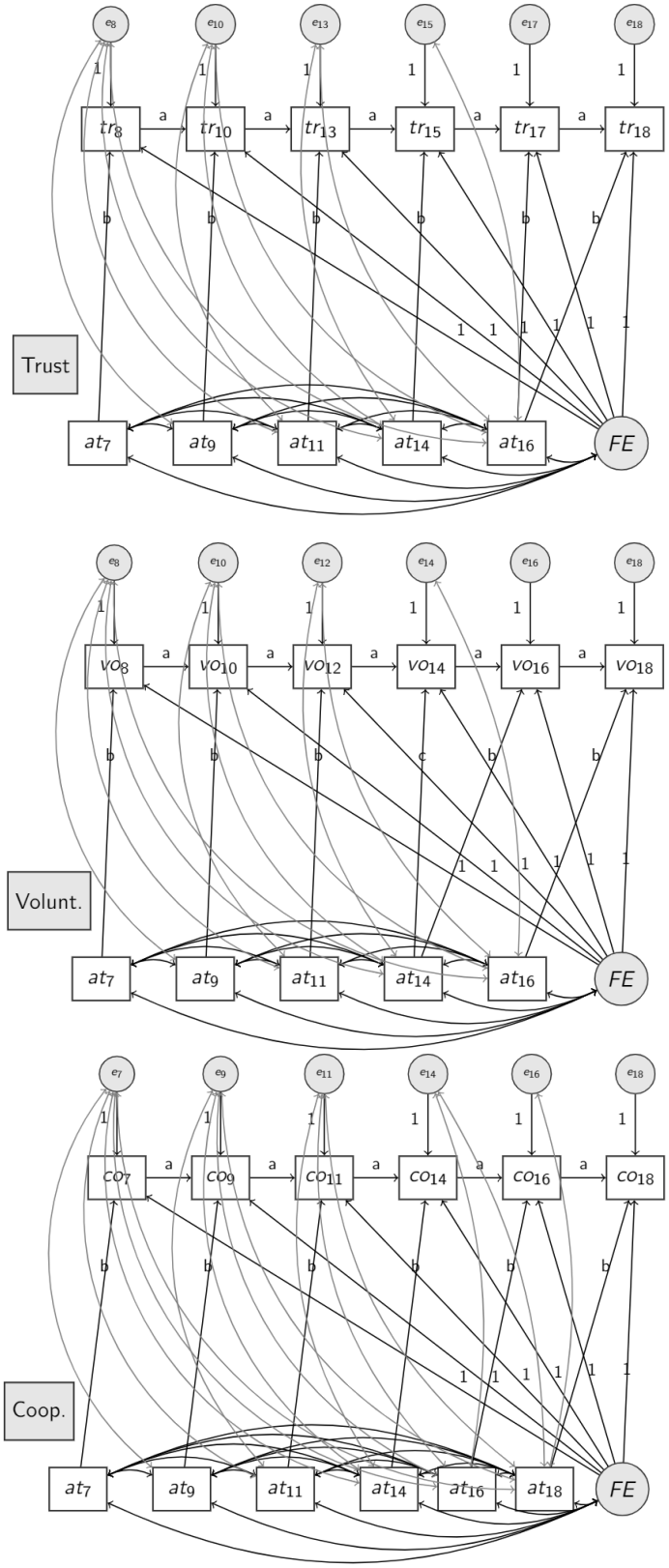

Figure 1: *Path diagrams of our cross-lagged panel models with individual fixed effects (BHPS).*

Notes: Models are based on the BHPS data. Dependent variables: trust (upper panel), volunteering (middle panel), and cooperation (lower panel). Independent variable: religious attendance. Subscripts denote survey waves. FE stands for fixed effects.

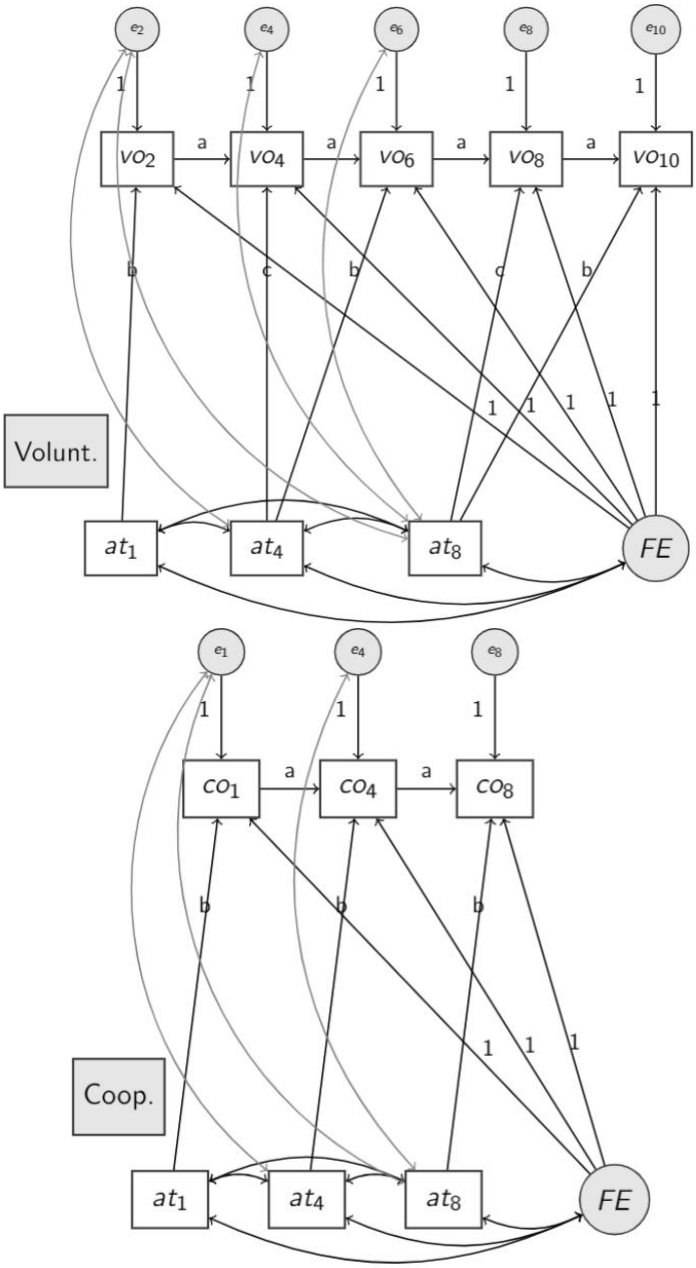

Figure 2: *Path diagrams of our cross-lagged panel models with individual fixed effects (UKHLS).*

Notes: Models are based on the UKLHS data. Dependent variables: volunteering (upper panel) and cooperation (lower panel). Independent variable: religious attendance. Subscripts denote survey waves. FE stands for fixed effects.

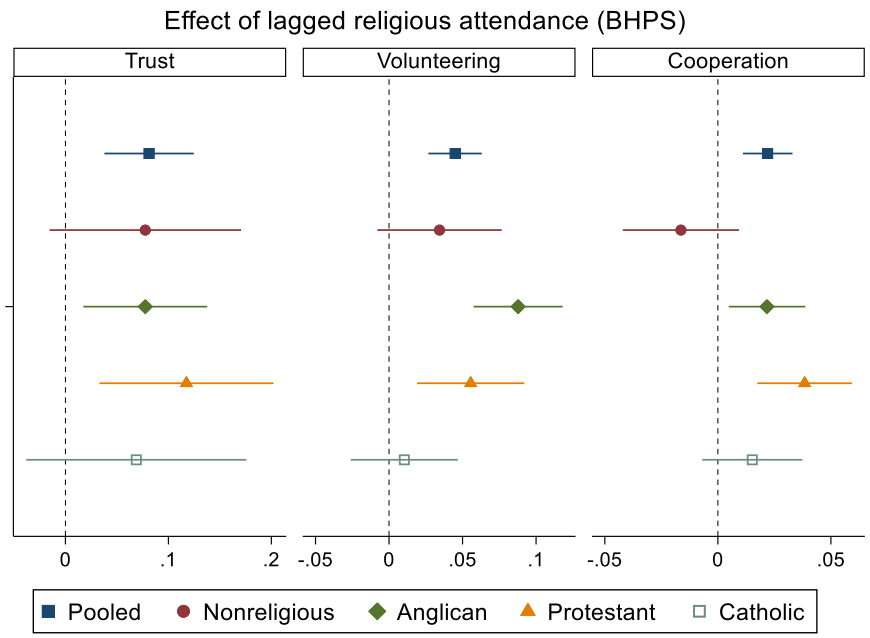

Figure 3: *Estimated effects of religious attendance on trust, volunteering, and cooperation (BHPS).*

Notes: Estimates are based on cross-lagged panel models with individual fixed effects applied to the BHPS data (see Figure 1 and Table 2). Error bars represent 95 percent confidence intervals. All variables have been normalised to the [0,1] range.

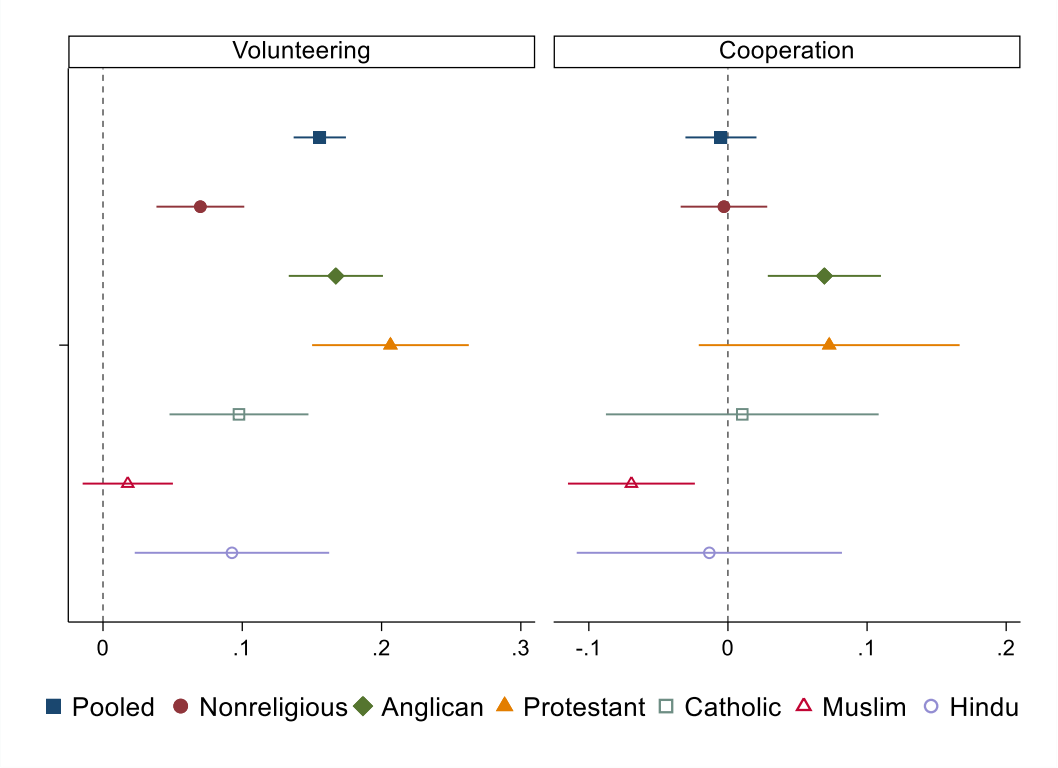

Figure 4: *Estimated effects of religious attendance on volunteering and cooperation (UKHLS).*

Notes: Estimates are based on cross-lagged panel models with individual -fixed effects applied to the UKHLS data (see Figure 2 and Table 3). Error bars represent 95 percent confidence intervals. All variables have been normalised to the [0,1] range.

Table 1: *Summary of our key variables.*

Notes: Statistics are based on the BHPS and UKHLS waves that are included in our main analyses (see Figure 1). We decompose the standard deviation of each variable into its between- and within-respondent component.

BHPS

Variable	**Scale**	**Mean**	**Standard deviation**	
			Between	Within
Religious attendance	0 = practically never, …, 1 = at least once a week	0.24	0.34	0.13
Generalized trust	0 = you can't be too careful / it depends, 1 = most people can be trusted	0.37	0.40	0.30
Volunteering	0 = (almost) never, …, 1 = at least once a week	0.13	0.23	0.18
Cooperation	0 = (very) poor, 0.33 = fair, 0.67 = good, 1 = very good	0.94	0.13	0.10

UKHLS

Variable	**Scale**	**Mean**	**Standard deviation**	
			Between	Within
Religious attendance	0 = practically never, …, 1 = at least once a week	0.25	0.36	0.11
Volunteering	0 = (almost) never, …, 1 = 3 or more days a week	0.11	0.21	0.16
Cooperation	0 = (very) poor, 0.33 = fair, 0.67 = good, 1 = very good	0.91	0.17	0.10

Table 2: *Regression results for our cross-lagged panel models with individual fixed effects (BHPS).*

*Notes: See Figure 1 for the set-up of the models. Data source: BHPS. Non-structural parameters (e.g. correlations between exogenous variables and variances of error terms) are suppressed for brevity. See supplement section A for the full set of parameters. ** p < 0.01, * p < 0.05.*

Outcome: Trust	Pooled	Never religious	Anglican	Protestant	Catholic
Trust on					
Trust (lagged)	0.079**	0.085**	0.079**	0.088**	0.045**
	(0.006)	(0.012)	(0.009)	(0.013)	(0.017)
Religious attendance (lagged)	0.081**	0.078	0.078*	0.118**	0.069
	(0.022)	(0.047)	(0.031)	(0.043)	(0.055)
Variance (fixed effects)	0.085**	0.081**	0.087**	0.083**	0.090**
	(0.002)	(0.003)	(0.003)	(0.004)	(0.006)
Fit measures					
Chi-sq (df)	211.8 (27)	87.6 (27)	109.7 (27)	68.3 (27)	46.0 (27)
RMSEA (90% CI)	.014-.018	.013-.021	.017-.025	.012-.021	.006-.020
CFI	0.991	0.989	0.990	0.990	0.992
TLI	0.985	0.981	0.984	0.984	0.987
Number of respondents	26674	7519	6953	5790	3802

Outcome: Volunteering	Pooled	Never religious	Anglican	Protestant	Catholic
Volunteering on					
Volunteering (lagged)	0.240**	0.216**	0.259**	0.225**	0.246**
	(0.006)	(0.012)	(0.009)	(0.012)	(0.017)
Religious attendance (lagged)	0.045**	0.034	0.088**	0.056**	0.010
	(0.009)	(0.022)	(0.015)	(0.019)	(0.019)
Variance (fixed effects)	0.019**	0.011**	0.020**	0.029**	0.017**
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Fit measures					
Chi-sq (df)	477.6 (26)	72.7 (26)	262.0 (26)	157.6 (26)	103.4 (26)
RMSEA (90% CI)	.024-.028	.011-.020	.032-.040	.025-.034	.022-.034
CFI	0.984	0.989	0.979	0.984	0.979
TLI	0.972	0.980	0.964	0.972	0.963
Number of respondents	26480	7541	6955	5778	3795

Outcome: Cooperation	Pooled	Never religious	Anglican	Protestant	Catholic
Cooperation on					
Cooperation (lagged)	0.267**	0.273**	0.279**	0.275**	0.277**
	(0.007)	(0.013)	(0.010)	(0.015)	(0.019)
Religious attendance (lagged)	0.022**	-0.016	0.022*	0.038**	0.015
	(0.006)	(0.013)	(0.009)	(0.011)	(0.011)
Variance (fixed effects)	0.004**	0.003**	0.004**	0.003**	0.003**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Fit measures					
Chi-sq (df)	746.5 (27)	256.0 (27)	267.2 (27)	215.9 (27)	151.0 (27)
RMSEA (90% CI)	.030-.034	.030-.037	.032-.040	.031-.039	.029-.040
CFI	0.950	0.927	0.959	0.943	0.937
TLI	0.905	0.863	0.923	0.892	0.881
Number of respondents	26346	7623	6988	3736	3808

Table 3: *Regression results for our cross-lagged panel models with individual fixed effects (UKHLS).*

*Notes: See Figure 2 for the set-up of the models. Data source: UKHLS. Non-structural parameters (e.g. correlations between exogenous variables and variances of error terms) are suppressed for brevity. See supplement section A for the full set of parameters. ** p < 0.01, * p < 0.05.*

Outcome: Volunteering	Pooled	Never religious	Anglican	Protestant	Catholic	Muslim	Hindu
Volunteering on							
Volunteering (lagged)	0.235**	0.231**	0.274**	0.239**	0.220**	0.179**	0.184**
	(0.005)	(0.007)	(0.008)	(0.014)	(0.013)	(0.018)	(0.034)
Religious attendance (lagged)	0.156**	0.070**	0.167**	0.206**	0.098**	0.018	0.093**
	(0.010)	(0.016)	(0.017)	(0.029)	(0.025)	(0.017)	(0.036)
Variance (fixed effects)	0.015**	0.011**	0.016**	0.020**	0.013**	0.008**	0.008**
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Fit measures							
Chi-sq (df)	777.6 (14)	162.1 (14)	356.6 (14)	231.7 (14)	67.9 (14)	28.0 (14)	55.2 (14)
RMSEA (90% CI)	0.025-0.028	0.017-0.022	0.037-0.041	0.040-0.040	0.016-0.026	0.005-0.018	0.025-0.044
CFI	0.986	0.989	0.985	0.977	0.990	0.989	0.993
TLI	0.976	0.981	0.974	0.958	0.983	0.981	0.880
Number of respondents	77686	27411	17615	7742	8618	6937	2516

Outcome: Cooperation	Pooled	Never religious	Anglican	Protestant	Catholic	Muslim	Hindu
Cooperation on							
Cooperation (lagged)	0.216**	0.133**	0.192**	0.267**	0.123**	0.185**	0.040
	(0.018)	(0.018)	(0.029)	(0.074)	(0.021)	(0.069)	(0.087)
Religious attendance (lagged)	-0.005	-0.003	0.069**	0.073	0.010	-0.069**	-0.013
	(0.013)	(0.016)	(0.021)	(0.048)	(0.050)	(0.023)	(0.049)
Variance (fixed effects)	0.001	0.002**	0.001	0.000	0.003**	0.004	0.006
	(0.001)	(0.000)	(0.001)	(0.002)	(0.001)	(0.003)	(0.004)
Fit measures							
Chi-sq (df)	204.3 (3)	96.2 (4)	60.6 (3)	36.9 (3)	48.1 (5)	22.1 (3)	5.507 (3)
RMSEA (90% CI)	0.027-0.035	0.025-0.035	0.027-0.041	0.029-0.052	0.025-0.041	0.020-0.045	0.000-0.045
CFI	0.935	0.865	0.912	0.890	0.858	0.912	0.956
TLI	0.738	0.596	0.647	0.560	0.660	0.650	0.826
Number of respondents	70542	26287	17004	7154	8117	6375	2336

Online Supplement to "The impact of religious attendance on trust, volunteering, and cooperation: A cross-lagged panel analysis with individual fixed effects"

Contents

A. Full sets of estimates from our regression models

Tables A1-A5 display the full sets of estimates obtained in the cross-lagged panel models with respondent fixed effects. The tables are long, as many parameters (regression coefficients, variances, covariances) are estimated in the models with Full Information Maximum Likelihood. In the tables, the stubs tr*, vol*, coo*, rat* denote, respectively, the variables trust, volunteering, cooperation, and religious attendance, and the numbers attached to the stub indicate the survey wave (e.g. tr11 refers to trust measured in wave 11). Alpha refers to the latent respondent fixed effects; variables starting with "e" or "E" indicate residual errors; _cons is the intercept. Some parameters are constrained structurally (e.g. the coefficients of Alpha—the respondent fixed effects—are fixed at 1), hence no standard error is estimated for them.

Due to convergence issues, two models based on the UKHLS (marked with a † symbol; see Table A5) apply additional restrictions. More specifically, these models fix the variance of the residual error term of one or two dependent variables in the Full Information Maximum Likelihood estimation to the value obtained with a Listwise Deletion Maximum Likelihood estimation. As a result, these models have different degrees of freedom compared to the other models.

Table A1. Outcome: trust, full set of estimates (BHPS)

	(1) All b/se	(2) Never relig b/se	(3) Anglican b/se	(4) Protestant b/se	(5) Catholic b/se
tr12					
tr11	0.079**	0.085**	0.079**	0.088**	0.045**
	(0.006)	(0.012)	(0.009)	(0.013)	(0.017)
rat10	0.081**	0.078	0.078*	0.118**	0.069
	(0.022)	(0.047)	(0.031)	(0.043)	(0.055)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.257**	0.241**	0.277**	0.263**	0.264**
	(0.007)	(0.008)	(0.010)	(0.019)	(0.028)
tr11					
tr9	0.079**	0.085**	0.079**	0.088**	0.045**
	(0.006)	(0.012)	(0.009)	(0.013)	(0.017)
rat10	0.081**	0.078	0.078*	0.118**	0.069
	(0.022)	(0.047)	(0.031)	(0.043)	(0.055)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E11	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.341**	0.334**	0.344**	0.362**	0.345**
	(0.007)	(0.008)	(0.009)	(0.019)	(0.028)
tr9					
tr7	0.079**	0.085**	0.079**	0.088**	0.045**
	(0.006)	(0.012)	(0.009)	(0.013)	(0.017)
rat8	0.081**	0.078	0.078*	0.118**	0.069
	(0.022)	(0.047)	(0.031)	(0.043)	(0.055)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E9	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.290**	0.288**	0.294**	0.301**	0.289**
	(0.007)	(0.009)	(0.010)	(0.020)	(0.030)
tr7					
tr4	0.079**	0.085**	0.079**	0.088**	0.045**
	(0.006)	(0.012)	(0.009)	(0.013)	(0.017)
rat5	0.081**	0.078	0.078*	0.118**	0.069
	(0.022)	(0.047)	(0.031)	(0.043)	(0.055)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E7	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.386**	0.368**	0.389**	0.402**	0.409**
	(0.007)	(0.009)	(0.010)	(0.020)	(0.030)
tr4					
tr2	0.079**	0.085**	0.079**	0.088**	0.045**
	(0.006)	(0.012)	(0.009)	(0.013)	(0.017)
rat3	0.081**	0.078	0.078*	0.118**	0.069
	(0.022)	(0.047)	(0.031)	(0.043)	(0.055)
Alpha	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)
E4	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)
_cons	0.303**	0.288**	0.315**	0.305**	0.332**
	(0.007)	(0.008)	(0.010)	(0.020)	(0.030)
tr2					
rat1	0.081**	0.078	0.078*	0.118**	0.069
	(0.022)	(0.047)	(0.031)	(0.043)	(0.055)
Alpha	1.000	1.000	1.000	1.000	1.000

	(.)	(.)	(.)	(.)	(.)
E2	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)
_cons	0.353**	0.336**	0.368**	0.379**	0.349**
	(0.007)	(0.008)	(0.009)	(0.021)	(0.028)
/					
mean(rat10)	0.221**	0.033**	0.177**	0.366**	0.447**
	(0.003)	(0.002)	(0.004)	(0.006)	(0.008)
mean(rat8)	0.237**	0.028**	0.195**	0.382**	0.488**
	(0.003)	(0.002)	(0.004)	(0.006)	(0.008)
mean(rat5)	0.248**	0.040**	0.200**	0.395**	0.507**
	(0.003)	(0.002)	(0.004)	(0.006)	(0.008)
mean(rat3)	0.243**	0.026**	0.205**	0.402**	0.498**
	(0.002)	(0.002)	(0.004)	(0.006)	(0.009)
mean(rat1)	0.249**	0.030**	0.213**	0.423**	0.495**
	(0.003)	(0.002)	(0.004)	(0.007)	(0.010)
var(e.tr12)	0.126**	0.118**	0.128**	0.133**	0.131**
	(0.002)	(0.003)	(0.003)	(0.004)	(0.005)
var(e.tr11)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.tr9)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.tr7)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.tr4)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.tr2)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(rat10)	0.130**	0.015**	0.095**	0.175**	0.190**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
var(rat8)	0.134**	0.011**	0.099**	0.170**	0.187**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
var(rat5)	0.140**	0.019**	0.103**	0.170**	0.193**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
var(rat3)	0.129**	0.011**	0.101**	0.169**	0.178**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
var(rat1)	0.131**	0.013**	0.105**	0.172**	0.176**
	(0.002)	(0.000)	(0.002)	(0.005)	(0.006)
var(Alpha)	0.085**	0.081**	0.087**	0.083**	0.090**
	(0.002)	(0.003)	(0.003)	(0.004)	(0.006)
var(E11)	0.127**	0.126**	0.120**	0.136**	0.130**
	(0.002)	(0.004)	(0.003)	(0.004)	(0.005)
var(E9)	0.122**	0.119**	0.118**	0.131**	0.122**
	(0.002)	(0.004)	(0.003)	(0.004)	(0.005)
var(E7)	0.142**	0.140**	0.141**	0.144**	0.134**
	(0.002)	(0.004)	(0.003)	(0.005)	(0.007)
var(E4)	0.126**	0.121**	0.126**	0.137**	0.128**
	(0.002)	(0.003)	(0.003)	(0.005)	(0.006)
var(E2)	0.140**	0.136**	0.140**	0.161**	0.129**
	(0.003)	(0.005)	(0.004)	(0.007)	(0.007)
cov(rat10,rat8)	0.110**	0.004**	0.078**	0.144**	0.153**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat10,rat5)	0.104**	0.004**	0.073**	0.133**	0.142**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.004)
cov(rat10,rat3)	0.098**	0.002**	0.069**	0.127**	0.132**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat10,rat1)	0.095**	0.002**	0.066**	0.124**	0.124**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat10,Alpha)	0.004	-0.001	0.012**	-0.006	0.011
	(0.003)	(0.001)	(0.004)	(0.009)	(0.012)
cov(rat10,E9)	0.003*	0.001	0.002	0.007*	0.002

	(0.001)	(0.001)	(0.001)	(0.003)	(0.004)
cov(rat10,E7)	0.003+	0.002	0.002	0.006	0.003
	(0.002)	(0.001)	(0.002)	(0.004)	(0.006)
cov(rat10,E4)	0.004**	0.003*	0.002	0.008+	0.008
	(0.002)	(0.001)	(0.002)	(0.005)	(0.007)
cov(rat10,E2)	0.004+	0.001	0.003	0.007	-0.000
	(0.002)	(0.002)	(0.002)	(0.006)	(0.008)
cov(rat8,rat5)	0.110**	0.004**	0.078**	0.139**	0.147**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.004)
cov(rat8,rat3)	0.104**	0.003**	0.074**	0.131**	0.136**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat8,rat1)	0.101**	0.003**	0.073**	0.127**	0.126**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat8,Alpha)	0.005+	0.001	0.013**	-0.003	0.011
	(0.003)	(0.001)	(0.003)	(0.008)	(0.011)
cov(rat8,E7)	0.002*	0.001	0.002	0.004	0.002
	(0.001)	(0.001)	(0.001)	(0.003)	(0.004)
cov(rat8,E4)	0.003**	0.001	0.002	0.007*	0.006
	(0.001)	(0.001)	(0.002)	(0.003)	(0.005)
cov(rat8,E2)	0.003	-0.000	0.003	0.006	0.002
	(0.002)	(0.001)	(0.002)	(0.005)	(0.007)
cov(rat5,rat3)	0.112**	0.004**	0.081**	0.142**	0.146**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat5,rat1)	0.107**	0.005**	0.079**	0.132**	0.134**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat5,Alpha)	0.006*	0.001	0.014**	-0.000	0.012
	(0.003)	(0.001)	(0.003)	(0.007)	(0.009)
cov(rat5,E4)	0.003**	0.001	0.002+	0.004+	0.009*
	(0.001)	(0.001)	(0.001)	(0.002)	(0.004)
cov(rat5,E2)	0.002	-0.001	0.001	0.008*	0.001
	(0.001)	(0.001)	(0.002)	(0.004)	(0.006)
cov(rat3,rat1)	0.111**	0.004**	0.084**	0.142**	0.145**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat3,Alpha)	0.007*	0.002*	0.013**	-0.003	0.017+
	(0.003)	(0.001)	(0.003)	(0.007)	(0.009)
cov(rat3,E2)	0.001	-0.001	0.000	0.004	-0.001
	(0.001)	(0.001)	(0.001)	(0.003)	(0.004)
cov(rat1,Alpha)	0.007*	-0.000	0.014**	-0.001	0.017*
	(0.003)	(0.001)	(0.003)	(0.006)	(0.008)
N	26674	7519	6953	5790	3802

+ p<0.10, * p<0.05, ** p<0.01

Table A2. Outcome: volunteering, full set of estimates (BHPS)

	(1) All b/se	(2) Never relig b/se	(3) Anglican b/se	(4) Protestant b/se	(5) Catholic b/se
vol12					
vol10	0.240**	0.218**	0.259**	0.225**	0.246**
	(0.006)	(0.012)	(0.009)	(0.012)	(0.017)
rat10	0.045**	0.034	0.088**	0.056**	0.010
	(0.009)	(0.022)	(0.015)	(0.019)	(0.019)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.076**	0.061**	0.081**	0.093**	0.081**
	(0.003)	(0.004)	(0.005)	(0.009)	(0.010)
vol10					
vol8	0.240**	0.218**	0.259**	0.225**	0.246**
	(0.006)	(0.012)	(0.009)	(0.012)	(0.017)
rat8	0.045**	0.034	0.088**	0.056**	0.010
	(0.009)	(0.022)	(0.015)	(0.019)	(0.019)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E10	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.078**	0.066**	0.078**	0.103**	0.075**
	(0.003)	(0.004)	(0.005)	(0.009)	(0.010)
vol8					
vol6	0.240**	0.218**	0.259**	0.225**	0.246**
	(0.006)	(0.012)	(0.009)	(0.012)	(0.017)
rat8	0.046**	-0.030	0.087**	0.057**	0.017
	(0.011)	(0.041)	(0.020)	(0.022)	(0.022)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E8	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.075**	0.058**	0.082**	0.098**	0.066**
	(0.003)	(0.004)	(0.006)	(0.010)	(0.012)
vol6					
vol4	0.240**	0.218**	0.259**	0.225**	0.246**
	(0.006)	(0.012)	(0.009)	(0.012)	(0.017)
rat5	0.045**	0.034	0.088**	0.056**	0.010
	(0.009)	(0.022)	(0.015)	(0.019)	(0.019)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E6	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.102**	0.096**	0.104**	0.125**	0.088**
	(0.003)	(0.004)	(0.005)	(0.009)	(0.011)
vol4					
vol2	0.240**	0.218**	0.259**	0.225**	0.246**
	(0.006)	(0.012)	(0.009)	(0.012)	(0.017)
rat3	0.045**	0.034	0.088**	0.056**	0.010
	(0.009)	(0.022)	(0.015)	(0.019)	(0.019)
Alpha	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)
E4	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)
_cons	0.083**	0.066**	0.085**	0.107**	0.080**
	(0.003)	(0.004)	(0.005)	(0.009)	(0.011)
vol2					
rat1	0.045**	0.034	0.088**	0.056**	0.010
	(0.009)	(0.022)	(0.015)	(0.019)	(0.019)
Alpha	1.000	1.000	1.000	1.000	1.000

	(.)	(.)	(.)	(.)	(.)
E2	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)
_cons	0.112**	0.083**	0.114**	0.149**	0.116**
	(0.003)	(0.004)	(0.005)	(0.011)	(0.012)
/					
mean(rat10)	0.221**	0.033**	0.177**	0.365**	0.446**
	(0.003)	(0.002)	(0.004)	(0.006)	(0.008)
mean(rat8)	0.237**	0.028**	0.196**	0.381**	0.488**
	(0.003)	(0.002)	(0.004)	(0.006)	(0.008)
mean(rat5)	0.249**	0.040**	0.200**	0.395**	0.507**
	(0.003)	(0.002)	(0.004)	(0.006)	(0.008)
mean(rat3)	0.243**	0.027**	0.205**	0.402**	0.499**
	(0.002)	(0.002)	(0.004)	(0.006)	(0.009)
mean(rat1)	0.248**	0.030**	0.213**	0.421**	0.494**
	(0.003)	(0.002)	(0.004)	(0.007)	(0.010)
var(e.vol12)	0.046**	0.037**	0.049**	0.055**	0.044**
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
var(e.vol10)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.vol8)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.vol6)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.vol4)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.vol2)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(rat10)	0.131**	0.015**	0.096**	0.175**	0.190**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
var(rat8)	0.134**	0.011**	0.099**	0.170**	0.187**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
var(rat5)	0.139**	0.019**	0.103**	0.170**	0.193**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
var(rat3)	0.129**	0.011**	0.100**	0.168**	0.178**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
var(rat1)	0.130**	0.013**	0.105**	0.171**	0.176**
	(0.002)	(0.000)	(0.002)	(0.005)	(0.006)
var(Alpha)	0.019**	0.011**	0.020**	0.029**	0.017**
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
var(E10)	0.045**	0.037**	0.049**	0.053**	0.040**
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
var(E8)	0.045**	0.037**	0.048**	0.053**	0.041**
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
var(E6)	0.048**	0.040**	0.049**	0.057**	0.042**
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
var(E4)	0.045**	0.039**	0.047**	0.058**	0.041**
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
var(E2)	0.057**	0.044**	0.059**	0.078**	0.059**
	(0.001)	(0.001)	(0.001)	(0.003)	(0.003)
cov(rat10,rat8)	0.110**	0.004**	0.079**	0.144**	0.153**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat10,rat5)	0.104**	0.004**	0.073**	0.133**	0.142**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.004)
cov(rat10,rat3)	0.098**	0.002**	0.069**	0.127**	0.132**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat10,rat1)	0.095**	0.002**	0.067**	0.124**	0.124**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat10,Alpha)	0.015**	0.003**	0.016**	0.024**	0.015**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.004)
cov(rat10,E8)	-0.001*	-0.001*	-0.002*	-0.001	-0.000

	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
cov(rat10,E6)	-0.002**	-0.001*	-0.001	-0.001	-0.004*
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
cov(rat10,E4)	-0.002**	-0.002**	-0.001	-0.002	-0.000
	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)
cov(rat10,E2)	-0.001	-0.001	0.001	-0.004	-0.002
	(0.001)	(0.001)	(0.001)	(0.003)	(0.004)
cov(rat8,rat5)	0.110**	0.004**	0.078**	0.139**	0.147**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.004)
cov(rat8,rat3)	0.104**	0.003**	0.074**	0.130**	0.136**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat8,rat1)	0.101**	0.003**	0.072**	0.127**	0.127**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat8,Alpha)	0.014**	0.001**	0.014**	0.022**	0.013**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.004)
cov(rat8,E6)	0.000	-0.000	0.001	0.002	-0.001
	(0.001)	(0.000)	(0.001)	(0.001)	(0.002)
cov(rat8,E4)	0.000	-0.001	0.001	0.002	-0.001
	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)
cov(rat8,E2)	0.000	0.000	0.002	0.002	0.001
	(0.001)	(0.001)	(0.001)	(0.003)	(0.003)
cov(rat5,rat3)	0.112**	0.004**	0.081**	0.142**	0.146**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat5,rat1)	0.107**	0.005**	0.078**	0.131**	0.133**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat5,Alpha)	0.014**	0.002**	0.015**	0.021**	0.012**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.004)
cov(rat5,E4)	0.000	-0.000	0.000	0.002	-0.000
	(0.000)	(0.001)	(0.001)	(0.001)	(0.002)
cov(rat5,E2)	0.002**	-0.000	0.004**	0.004+	0.001
	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)
cov(rat3,rat1)	0.110**	0.004**	0.083**	0.141**	0.145**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat3,Alpha)	0.013**	0.001**	0.014**	0.020**	0.010**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.003)
cov(rat3,E2)	0.002**	0.001	0.004**	0.003	0.004*
	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)
cov(rat1,Alpha)	0.014**	0.002**	0.015**	0.022**	0.012**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.003)
N	26480	7541	6955	5778	3795

+ p<0.10, * p<0.05, ** p<0.01

Table A3. Outcome: cooperation, full set of estimates (BHPS)

	(1) All b/se	(2) Never relig b/se	(3) Anglican b/se	(4) Protestant b/se	(5) Catholic b/se
coo12					
coo10	0.267**	0.273**	0.279**	0.275**	0.277**
	(0.007)	(0.013)	(0.010)	(0.015)	(0.019)
rat12	0.022**	-0.016	0.022*	0.038**	0.015
	(0.006)	(0.013)	(0.009)	(0.011)	(0.011)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.674**	0.681**	0.667**	0.657**	0.657**
	(0.007)	(0.013)	(0.010)	(0.014)	(0.019)
coo10					
coo8	0.267**	0.273**	0.279**	0.275**	0.277**
	(0.007)	(0.013)	(0.010)	(0.015)	(0.019)
rat10	0.022**	-0.016	0.022*	0.038**	0.015
	(0.006)	(0.013)	(0.009)	(0.011)	(0.011)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E10	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.673**	0.676**	0.665**	0.656**	0.663**
	(0.007)	(0.013)	(0.010)	(0.015)	(0.019)
coo8					
coo5	0.267**	0.273**	0.279**	0.275**	0.277**
	(0.007)	(0.013)	(0.010)	(0.015)	(0.019)
rat8	0.022**	-0.016	0.022*	0.038**	0.015
	(0.006)	(0.013)	(0.009)	(0.011)	(0.011)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E8	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.685**	0.686**	0.679**	0.669**	0.671**
	(0.007)	(0.013)	(0.010)	(0.015)	(0.019)
coo5					
coo3	0.267**	0.273**	0.279**	0.275**	0.277**
	(0.007)	(0.013)	(0.010)	(0.015)	(0.019)
rat5	0.022**	-0.016	0.022*	0.038**	0.015
	(0.006)	(0.013)	(0.009)	(0.011)	(0.011)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E5	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.685**	0.690**	0.677**	0.666**	0.672**
	(0.007)	(0.013)	(0.010)	(0.015)	(0.019)
coo3					
coo1	0.267**	0.273**	0.279**	0.275**	0.277**
	(0.007)	(0.013)	(0.010)	(0.015)	(0.019)
rat3	0.022**	-0.016	0.022*	0.038**	0.015
	(0.006)	(0.013)	(0.009)	(0.011)	(0.011)
Alpha	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)
E3	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)
_cons	0.691**	0.694**	0.681**	0.674**	0.686**
	(0.007)	(0.013)	(0.010)	(0.015)	(0.019)
coo1					
rat1	0.022**	-0.016	0.022*	0.038**	0.015
	(0.006)	(0.013)	(0.009)	(0.011)	(0.011)
Alpha	1.000	1.000	1.000	1.000	1.000

	(.)	(.)	(.)	(.)	(.)
E1	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)
_cons	0.940**	0.942**	0.948**	0.930**	0.931**
	(0.002)	(0.003)	(0.003)	(0.005)	(0.007)
/					
mean(rat12)	0.221**	0.022**	0.189**	0.370**	0.454**
	(0.003)	(0.002)	(0.004)	(0.006)	(0.008)
mean(rat10)	0.218**	0.033**	0.178**	0.366**	0.443**
	(0.003)	(0.002)	(0.004)	(0.006)	(0.008)
mean(rat8)	0.233**	0.028**	0.196**	0.381**	0.484**
	(0.003)	(0.002)	(0.004)	(0.006)	(0.008)
mean(rat5)	0.246**	0.039**	0.200**	0.395**	0.504**
	(0.002)	(0.002)	(0.004)	(0.006)	(0.008)
mean(rat3)	0.241**	0.027**	0.205**	0.403**	0.497**
	(0.002)	(0.002)	(0.004)	(0.006)	(0.009)
mean(rat1)	0.247**	0.030**	0.213**	0.424**	0.495**
	(0.003)	(0.002)	(0.004)	(0.007)	(0.010)
var(e.coo12)	0.017**	0.017**	0.015**	0.017**	0.018**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
var(e.coo10)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.coo8)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.coo5)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.coo3)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(e.coo1)	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
var(rat12)	0.128**	0.009**	0.097**	0.169**	0.183**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
var(rat10)	0.129**	0.015**	0.096**	0.175**	0.189**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
var(rat8)	0.132**	0.011**	0.100**	0.170**	0.186**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
var(rat5)	0.138**	0.019**	0.104**	0.170**	0.192**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
var(rat3)	0.129**	0.011**	0.101**	0.169**	0.178**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
var(rat1)	0.130**	0.013**	0.105**	0.172**	0.176**
	(0.002)	(0.000)	(0.002)	(0.005)	(0.006)
var(Alpha)	0.004**	0.003**	0.004**	0.003**	0.003**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
var(E10)	0.019**	0.019**	0.018**	0.019**	0.018**
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
var(E8)	0.015**	0.016**	0.013**	0.016**	0.016**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
var(E5)	0.015**	0.014**	0.014**	0.017**	0.015**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
var(E3)	0.014**	0.014**	0.013**	0.013**	0.012**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
var(E1)	0.017**	0.019**	0.015**	0.018**	0.020**
	(0.000)	(0.001)	(0.000)	(0.001)	(0.001)
cov(rat12,rat10)	0.107**	0.003**	0.079**	0.144**	0.150**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat12,rat8)	0.104**	0.003**	0.076**	0.137**	0.136**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.004)
cov(rat12,rat5)	0.099**	0.003**	0.071**	0.127**	0.129**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.004)
cov(rat12,rat3)	0.095**	0.002**	0.069**	0.122**	0.120**

	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat12,rat1)	0.093**	0.002**	0.067**	0.119**	0.113**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat12,Alpha)	-0.004**	0.000	-0.001	-0.007**	-0.005+
	(0.001)	(0.000)	(0.001)	(0.002)	(0.003)
cov(rat12,E10)	0.001*	-0.000	-0.000	0.002+	0.002
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
cov(rat12,E8)	0.001*	-0.000	0.001	0.003*	0.002
	(0.000)	(0.000)	(0.001)	(0.001)	(0.002)
cov(rat12,E5)	0.002**	-0.000	0.001	0.003**	0.003
	(0.001)	(0.000)	(0.001)	(0.001)	(0.002)
cov(rat12,E3)	0.001	-0.000	0.000	-0.000	0.006**
	(0.001)	(0.000)	(0.001)	(0.001)	(0.002)
cov(rat12,E1)	0.001	-0.000	0.000	0.004*	0.002
	(0.001)	(0.000)	(0.001)	(0.002)	(0.003)
cov(rat10,rat8)	0.109**	0.003**	0.079**	0.144**	0.152**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat10,rat5)	0.103**	0.004**	0.073**	0.133**	0.141**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.004)
cov(rat10,rat3)	0.097**	0.002**	0.069**	0.126**	0.131**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat10,rat1)	0.094**	0.002**	0.067**	0.124**	0.123**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat10,Alpha)	-0.003**	0.000	-0.002	-0.006**	-0.003
	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)
cov(rat10,E8)	0.001*	-0.000	0.001	0.001+	0.001
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
cov(rat10,E5)	0.001*	-0.000	0.001	0.002*	0.001
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
cov(rat10,E3)	0.001+	0.000	0.001	0.001	0.004*
	(0.000)	(0.000)	(0.001)	(0.001)	(0.002)
cov(rat10,E1)	0.001	0.001	0.000	0.002	-0.001
	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)
cov(rat8,rat5)	0.109**	0.004**	0.079**	0.139**	0.145**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.004)
cov(rat8,rat3)	0.103**	0.003**	0.075**	0.131**	0.135**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat8,rat1)	0.100**	0.003**	0.073**	0.127**	0.126**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat8,Alpha)	-0.003**	0.000	-0.001	-0.004*	-0.003
	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)
cov(rat8,E5)	0.001*	0.000	0.001*	0.000	0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
cov(rat8,E3)	0.000	-0.000	0.001	-0.001	0.002
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
cov(rat8,E1)	0.001	-0.000	0.001	0.003*	0.000
	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)
cov(rat5,rat3)	0.111**	0.004**	0.081**	0.142**	0.145**
	(0.001)	(0.000)	(0.002)	(0.003)	(0.005)
cov(rat5,rat1)	0.106**	0.005**	0.079**	0.132**	0.134**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat5,Alpha)	-0.003**	0.000	-0.001	-0.005**	-0.005*
	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)
cov(rat5,E3)	0.000	-0.000	0.000	0.000	0.002*
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
cov(rat5,E1)	0.001	0.000	0.000	0.003*	0.001
	(0.000)	(0.001)	(0.001)	(0.001)	(0.002)
cov(rat3,rat1)	0.110**	0.004**	0.084**	0.142**	0.145**
	(0.001)	(0.000)	(0.002)	(0.004)	(0.005)
cov(rat3,Alpha)	-0.003**	0.000	-0.001+	-0.006**	-0.002
	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)

cov(rat3,E1)	-0.000	0.000	-0.000	0.001	-0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
cov(rat1,Alpha)	-0.003**	0.000	-0.002*	-0.005**	-0.003+
	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)
N	26346	7623	6988	5797	3808

+ p<0.10, * p<0.05, ** p<0.01

Table A4. Outcome: volunteering, full set of coefficients (UKHLS)

	(1) All b/se	(2) Never rel b/se	(3) Anglican b/se	(4) Protestant b/se	(5) Catholic b/se	(6) Muslim b/se	(7) Hindu b/se
volu22							
volu20	0.235**	0.231**	0.274**	0.239**	0.220**	0.179**	0.184**
	(0.005)	(0.007)	(0.008)	(0.014)	(0.013)	(0.018)	(0.034)
rat20	0.156**	0.070**	0.167**	0.206**	0.098**	0.018	0.093**
	(0.010)	(0.016)	(0.017)	(0.029)	(0.025)	(0.017)	(0.036)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.034**	0.061**	0.045**	0.018	0.027*	0.038**	-0.015
	(0.003)	(0.002)	(0.005)	(0.013)	(0.011)	(0.010)	(0.021)
volu20							
volu18	0.235**	0.231**	0.274**	0.239**	0.220**	0.179**	0.184**
	(0.005)	(0.007)	(0.008)	(0.014)	(0.013)	(0.018)	(0.034)
rat20	0.159**	0.107**	0.154**	0.209**	0.103**	0.031+	0.110**
	(0.010)	(0.020)	(0.018)	(0.030)	(0.028)	(0.018)	(0.038)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E20	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.034**	0.060**	0.050**	0.011	0.024*	0.039**	-0.016
	(0.003)	(0.002)	(0.005)	(0.013)	(0.012)	(0.011)	(0.023)
volu18							
volu16	0.235**	0.231**	0.274**	0.239**	0.220**	0.179**	0.184**
	(0.005)	(0.007)	(0.008)	(0.014)	(0.013)	(0.018)	(0.034)
rat16	0.156**	0.070**	0.167**	0.206**	0.098**	0.018	0.093**
	(0.010)	(0.016)	(0.017)	(0.029)	(0.025)	(0.017)	(0.036)
Alpha	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
E18	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
_cons	0.050**	0.073**	0.056**	0.030*	0.038**	0.064**	0.031
	(0.003)	(0.002)	(0.005)	(0.014)	(0.012)	(0.011)	(0.022)
volu16							
volu14	0.235**	0.231**	0.274**	0.239**	0.220**	0.179**	0.184**
	(0.005)	(0.007)	(0.008)	(0.014)	(0.013)	(0.018)	(0.034)
rat16	0.159**	0.107**	0.154**	0.209**	0.103**	0.031+	0.110**
	(0.010)	(0.020)	(0.018)	(0.030)	(0.028)	(0.018)	(0.038)
Alpha	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
E16	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
_cons	0.047**	0.066**	0.059**	0.034*	0.034**	0.050**	0.022
	(0.003)	(0.002)	(0.005)	(0.014)	(0.013)	(0.012)	(0.023)
volu14							
rat13	0.156**	0.070**	0.167**	0.206**	0.098**	0.018	0.093**
	(0.010)	(0.016)	(0.017)	(0.029)	(0.025)	(0.017)	(0.036)
Alpha	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
E14	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
_cons	0.067**	0.081**	0.088**	0.061**	0.052**	0.065**	0.028
	(0.003)	(0.002)	(0.005)	(0.013)	(0.012)	(0.010)	(0.021)
/							
mean(rat20)	0.243**	0.031**	0.215**	0.384**	0.407**	0.580**	0.551**
	(0.002)	(0.001)	(0.003)	(0.005)	(0.005)	(0.007)	(0.009)
mean(rat16)	0.252**	0.032**	0.228**	0.405**	0.441**	0.584**	0.521**
	(0.002)	(0.001)	(0.003)	(0.005)	(0.005)	(0.008)	(0.012)
mean(rat13)	0.265**	0.041**	0.243**	0.426**	0.468**	0.577**	0.549**

	(0.002)	(0.001)	(0.003)	(0.006)	(0.005)	(0.007)	(0.010)
var(e.volu22)	0.035**	0.032**	0.036**	0.041**	0.035**	0.028**	0.021**
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
var(e.volu20)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
var(e.volu18)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
var(e.volu16)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
var(e.volu14)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
var(rat20)	0.137**	0.014**	0.111**	0.173**	0.170**	0.178**	0.151**
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.004)	(0.005)
var(rat16)	0.139**	0.013**	0.113**	0.176**	0.174**	0.184**	0.133**
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.005)	(0.007)
var(rat13)	0.143**	0.020**	0.114**	0.175**	0.174**	0.188**	0.126**
	(0.001)	(0.000)	(0.001)	(0.004)	(0.003)	(0.004)	(0.005)
var(Alpha)	0.015**	0.011**	0.016**	0.020**	0.013**	0.008**	0.008**
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
var(E20)	0.038**	0.034**	0.039**	0.044**	0.035**	0.034**	0.030**
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
var(E18)	0.042**	0.038**	0.042**	0.049**	0.037**	0.042**	0.046**
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)
var(E16)	0.040**	0.036**	0.041**	0.046**	0.038**	0.041**	0.039**
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
var(E14)	0.048**	0.039**	0.054**	0.058**	0.043**	0.042**	0.040**
	(0.000)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.003)
cov(rat20,rat16)	0.112**	0.005**	0.086**	0.143**	0.133**	0.106**	0.085**
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.004)	(0.006)
cov(rat20,rat13)	0.106**	0.005**	0.079**	0.130**	0.123**	0.103**	0.071**
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.004)	(0.006)
cov(rat20,Alpha)	-0.010**	0.000	0.002	-0.012+	-0.007	-0.002	-0.012*
	(0.002)	(0.000)	(0.002)	(0.006)	(0.005)	(0.003)	(0.006)
cov(rat20,E18)	0.006**	0.001	0.007**	0.010**	0.006**	0.001	0.004
	(0.000)	(0.000)	(0.001)	(0.002)	(0.002)	(0.003)	(0.004)
cov(rat20,E16)	0.005**	0.000	0.004**	0.008**	0.004*	0.005+	0.009*
	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)	(0.003)	(0.004)
cov(rat20,E14)	0.008**	0.000	0.008**	0.017**	0.005+	-0.000	0.016**
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.003)	(0.005)
cov(rat16,rat13)	0.113**	0.005**	0.086**	0.144**	0.132**	0.106**	0.072**
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.004)	(0.005)
cov(rat16,Alpha)	-0.007**	0.001**	0.004+	-0.008	-0.004	-0.001	-0.004
	(0.001)	(0.000)	(0.002)	(0.005)	(0.005)	(0.003)	(0.005)
cov(rat16,E14)	0.007**	0.001*	0.008**	0.013**	0.005*	0.001	0.009*
	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)	(0.002)	(0.004)
cov(rat13,Alpha)	-0.005**	0.001**	0.006**	-0.004	-0.004	0.001	-0.003
	(0.001)	(0.000)	(0.002)	(0.005)	(0.004)	(0.002)	(0.004)
N	77686	27411	17615	7742	8618	6937	2516

+ p<0.10, * p<0.05, ** p<0.01

A5. Outcome: Cooperation - full set of estimates (UKHLS)

	(1) All b/se	(2) † Never rel. b/se	(3) Anglican b/se	(4) Protestant b/se	(5) † Catholic b/se	(6) Muslim b/se	(7) Hindu b/se
coo20							
coo16	0.216**	0.133**	0.192**	0.267**	0.123**	0.185**	0.040
	(0.018)	(0.018)	(0.029)	(0.074)	(0.021)	(0.069)	(0.087)
rat20	-0.005	-0.003	0.069**	0.073	0.010	-0.069**	-0.013
	(0.013)	(0.016)	(0.021)	(0.048)	(0.050)	(0.023)	(0.049)
Alpha	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
_cons	0.679**	0.774**	0.700**	0.607**	0.739**	0.707**	0.776**
	(0.016)	(0.017)	(0.028)	(0.067)	(0.028)	(0.058)	(0.077)
coo16							
coo13	0.216**	0.133**	0.192**	0.267**	0.123**	0.185**	0.040
	(0.018)	(0.018)	(0.029)	(0.074)	(0.021)	(0.069)	(0.087)
rat16	-0.005	-0.003	0.069**	0.073	0.010	-0.069**	-0.013
	(0.013)	(0.016)	(0.021)	(0.048)	(0.050)	(0.023)	(0.049)
Alpha	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
E16	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
_cons	0.734**	0.819**	0.748**	0.651**	0.809**	0.735**	0.872**
	(0.016)	(0.016)	(0.027)	(0.066)	(0.029)	(0.057)	(0.073)
coo13							
rat13	-0.005	-0.003	0.069**	0.073	0.010	-0.069**	-0.013
	(0.013)	(0.016)	(0.021)	(0.048)	(0.050)	(0.023)	(0.049)
Alpha	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
E13	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
_cons	0.900**	0.912**	0.898**	0.874**	0.890**	0.860**	0.855**
	(0.004)	(0.001)	(0.005)	(0.021)	(0.024)	(0.014)	(0.027)
/							
mean(rat20)	0.244**	0.031**	0.218**	0.387**	0.407**	0.579**	0.551**
	(0.002)	(0.001)	(0.003)	(0.005)	(0.005)	(0.007)	(0.009)
mean(rat16)	0.253**	0.032**	0.229**	0.408**	0.442**	0.585**	0.521**
	(0.002)	(0.001)	(0.003)	(0.005)	(0.005)	(0.008)	(0.012)
mean(rat13)	0.266**	0.041**	0.243**	0.428**	0.468**	0.576**	0.548**
	(0.002)	(0.001)	(0.003)	(0.006)	(0.005)	(0.007)	(0.010)
var(e.coo20)	0.034**	0.026	0.031**	0.034**	0.038	0.043**	0.040**
	(0.001)	(.)	(0.001)	(0.002)	(.)	(0.003)	(0.003)
var(e.coo16)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
var(e.coo13)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
var(rat20)	0.138**	0.014**	0.112**	0.175**	0.170**	0.178**	0.150**
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.004)	(0.005)
var(rat16)	0.140**	0.013**	0.114**	0.177**	0.174**	0.184**	0.134**
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.005)	(0.007)
var(rat13)	0.143**	0.020**	0.114**	0.175**	0.174**	0.188**	0.126**
	(0.001)	(0.000)	(0.001)	(0.004)	(0.003)	(0.004)	(0.005)
var(Alpha)	0.001	0.002**	0.001	0.000	0.003**	0.004	0.006
	(0.001)	(0.000)	(0.001)	(0.002)	(0.001)	(0.003)	(0.004)
var(E16)	0.022**	0.018**	0.020**	0.024**	0.020**	0.042**	0.027**
	(0.000)	(0.000)	(0.001)	(0.002)	(0.001)	(0.003)	(0.003)
var(E13)	0.036**	0.030**	0.030**	0.035**	0.033	0.056**	0.044**
	(0.001)	(0.001)	(0.001)	(0.002)	(.)	(0.004)	(0.004)
cov(rat20,rat16)	0.112**	0.005**	0.087**	0.144**	0.133**	0.106**	0.085**
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.004)	(0.006)
cov(rat20,rat13)	0.107**	0.004**	0.080**	0.131**	0.124**	0.104**	0.070**

	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.004)	(0.006)
cov(rat20,Alpha)	-0.003	0.000	-0.009**	-0.012	-0.001	0.011*	-0.006
	(0.002)	(0.000)	(0.003)	(0.010)	(0.010)	(0.005)	(0.008)
cov(rat20,E16)	-0.000	-0.000	0.003*	0.002	-0.002	-0.000	-0.003
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.003)	(0.005)
cov(rat20,E13)	-0.001	-0.000	0.004*	0.003	0.000	-0.004	0.004
	(0.001)	(0.000)	(0.002)	(0.005)	(0.005)	(0.004)	(0.008)
cov(rat16,rat13)	0.113**	0.005**	0.087**	0.145**	0.132**	0.106**	0.073**
	(0.001)	(0.000)	(0.001)	(0.003)	(0.003)	(0.004)	(0.005)
cov(rat16,Alpha)	-0.003	0.000+	-0.008**	-0.013	-0.003	0.010*	-0.007
	(0.002)	(0.000)	(0.002)	(0.009)	(0.009)	(0.004)	(0.007)
cov(rat16,E13)	-0.000	-0.000	0.004**	0.004	0.002	-0.008*	0.002
	(0.001)	(0.000)	(0.001)	(0.003)	(0.004)	(0.004)	(0.005)
cov(rat13,Alpha)	-0.003+	0.000	-0.006**	-0.012	-0.003	0.010**	-0.006
	(0.002)	(0.000)	(0.002)	(0.007)	(0.007)	(0.004)	(0.005)
N	70542	26287	17004	7154	8117	6375	2336

+ p<0.10, * p<0.05, ** p<0.01

B. Including volunteering and cooperation information from earlier BHPS waves

Figure B1 shows the estimated effects of religious attendance on volunteering and cooperation based on analyses that also consider the first six waves of the BHPS. In comparison to the models discussed in the main text (see Figure 1), we now also consider volunteering in wave 6, which is regressed on religious attendance in wave 5, as well as cooperation in waves 1, 3, 4, and 5, which is for each of these waves regressed on religious attendance measured in the same wave. The results in Figure B1 are nearly identical to the results reported in Figure 3 in the main text, where we only take into account information from the seventh BHPS wave onwards.

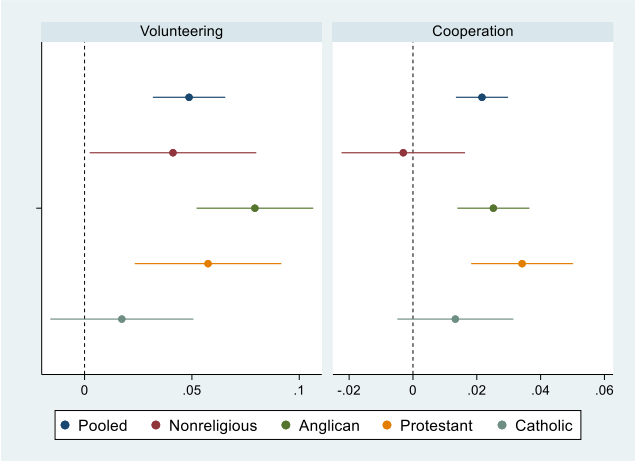

Figure B1: Effects of religious attendance on volunteering and cooperation estimated in cross-lagged panel models with respondent fixed effects; data: BHPS (including information from waves 1-6).

C. Binary versions of dependent and independent variables

Figure C1 shows the estimated effects of religious attendance on trust, volunteering, and cooperation for two operationalizations of religious attendance: (i) dichotomised as monthly or more frequent attendance versus less frequent attendance, and (ii) dichotomised as weekly attendance versus less frequent attendance. In the latter case (weekly versus less frequent attendance), the models for the nonreligious did not converge, possibly because very few nonreligious individuals attend religious services weekly. Hence no coefficients are reported for that group in the right panel of Figure C1. Overall, the results in Figure C1 are very similar to the results reported in the main manuscript (see Figure 3). Figure C2 shows the estimated effects of religious attendance on binary indicators of volunteering (monthly or more frequent = 1 versus less frequent = 0) and cooperation (very good cooperation = 1 versus worse cooperation = 0). Again, the estimated coefficients are virtually identical to those reported in the main manuscript (Figure 3).

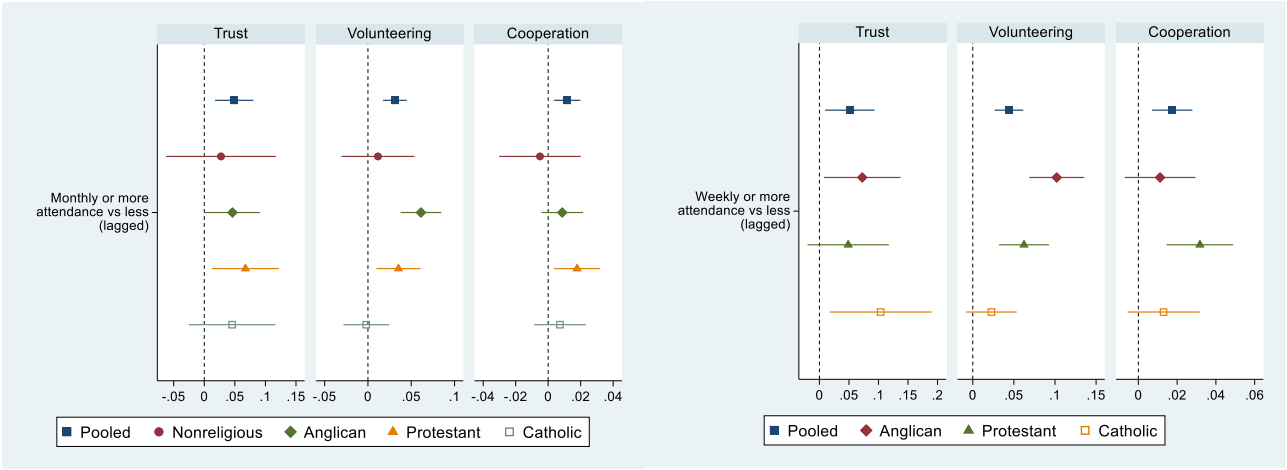

Figure C1: Effects of the binary version of religious attendance (left: monthly or more versus less frequent; right: weekly versus less frequent) on trust, volunteering, and cooperation estimated in cross-lagged panel models with respondent fixed effects; data: BHPS.

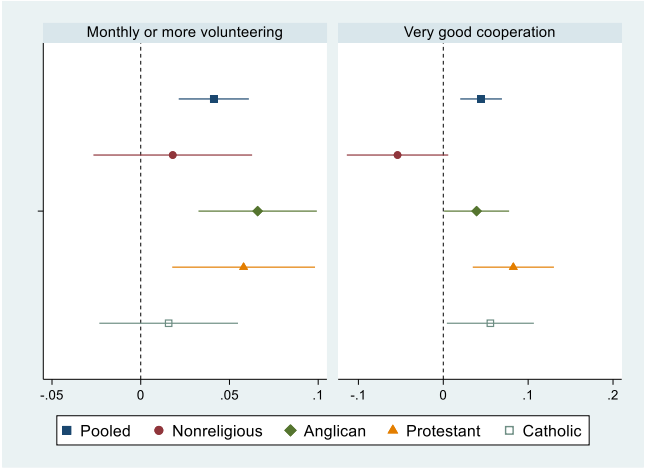

Figure C2: Effects of religious attendance on binary versions of volunteering (monthly or more versus less frequent) and cooperation (very good cooperation versus worse cooperation) estimated in cross-lagged panel models with respondent fixed effects; data: BHPS.

D. Controlling for potential time-variant confounders

Figure D1 shows the estimated effects of (i) religious attendance (four-point scale: 0 = practically never, …, 1 = at least once a week), (ii) the frequency of meeting with friends (five-point scale: 0 = never, …, 1 = most days), (iii) the frequency of talking to neighbours (five-point scale: 0 = never, …, 1 = most days), (iv) subjective health status (five-point scale: 0 = very poor, …, 1 = excellent), (v) home ownership (dummy variable: 1 = owning vs. 0 = renting), and (vi) whether one has any children in the ages 3-15 (dummy variable: 1 = yes vs. 0 = no). These estimates are based on similar cross-lagged panel models with respondent fixed effects as reported in the main manuscript, with the latter five variables added simultaneously. As a comparison between Figure D1 and Figure 3 shows, controlling for these potential confounders has virtually no effect on the estimated effect of religious attendance, even though some of the potential confounders show up as significant predictors.

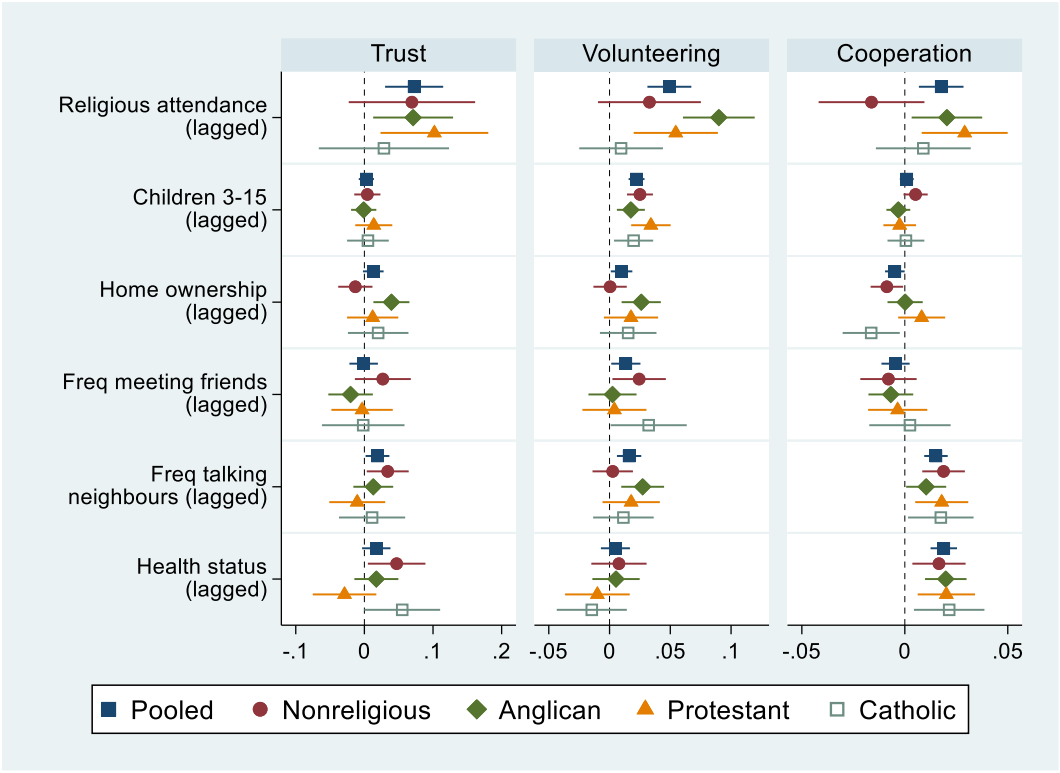

Figure D1: Effects of religious attendance and potential confounders on trust, volunteering, and cooperation estimated in cross-lagged panel models with respondent fixed effects; data: BHPS.

E. Excluding Northern Irish respondents

Figure E1 shows the coefficients estimated after excluding respondents who at some point during the observation window live in Northern Ireland. As the figure shows, these coefficients are virtually identical to those reported in the main manuscript (see Figure 3).

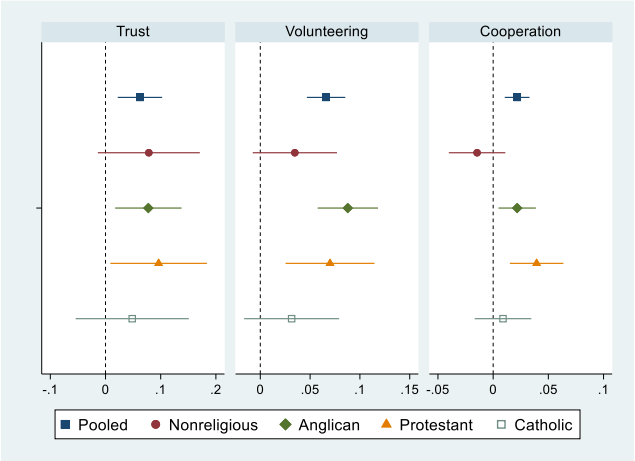

Figure E1: Effects of religious attendance on trust, volunteering, and cooperation estimated in cross-lagged panel models with respondent fixed effects after excluding respondents from Northern Ireland; data: BHPS.

F. Allowing for contemporaneous effects of religious attendance

Figure F1 shows the contemporaneous and lagged effects of religious attendance on trust and volunteering estimated with cross-lagged panel models with respondent fixed effects. The contemporaneous and lagged effects are estimated simultaneously in the same model on the pooled sample. The lagged effects are very similar to those reported in the main manuscript (see Figure 3, pooled sample). While the contemporaneous effects, somewhat surprisingly, are estimated as effectively zero, this plausibly reflects that these estimates are based on very few waves: only in, respectively, one and two waves for trust and volunteering were both the dependent and independent variables measured in the same wave.

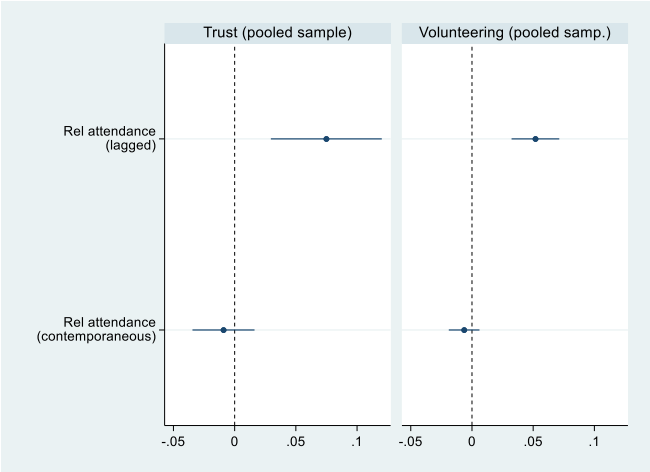

Figure F1: Effects of contemporaneous and lagged religious attendance on trust, volunteering, and cooperation estimated in cross-lagged panel models with respondent fixed effects; data: BHPS.

G. Effects of importance of religion and being religiously affiliated

Figure G1 shows the effects of the importance of religion (left, on a four-point scale from 0 = no to 1 = great) and of being religiously affiliated (right, dummy variable) on trust, volunteering, and cooperation in the BHPS. These effects are estimated in cross-lagged panel models with respondent fixed effects, similar to those reported in the main manuscript, although importance of religion and religious affiliations are measured in fewer survey waves. Figure G1 shows that subjective importance of religion and being affiliated to a religion (as opposed to none) generally have small and insignificant effects on prosocial behaviours and attitudes.

One exception concerns the effect of religious importance on volunteering, which seems small, but is statistically significant. We should note, however, that in these analyses we do not control for other religion variables, such as religious attendance. One may expect that religious attendance acts as a confounder of the link between the importance of religion and prosocial behaviours and attitudes. Indeed, once we control for religious attendance, the estimated effects of importance of religion on volunteering shown in Figure G1 attenuate to zero (e.g. in the pooled sample, the effect decreases from .030 to .017 once religious attendance is controlled for—the effect of religious attendance in the same model is .043, which is statistically highly significant).

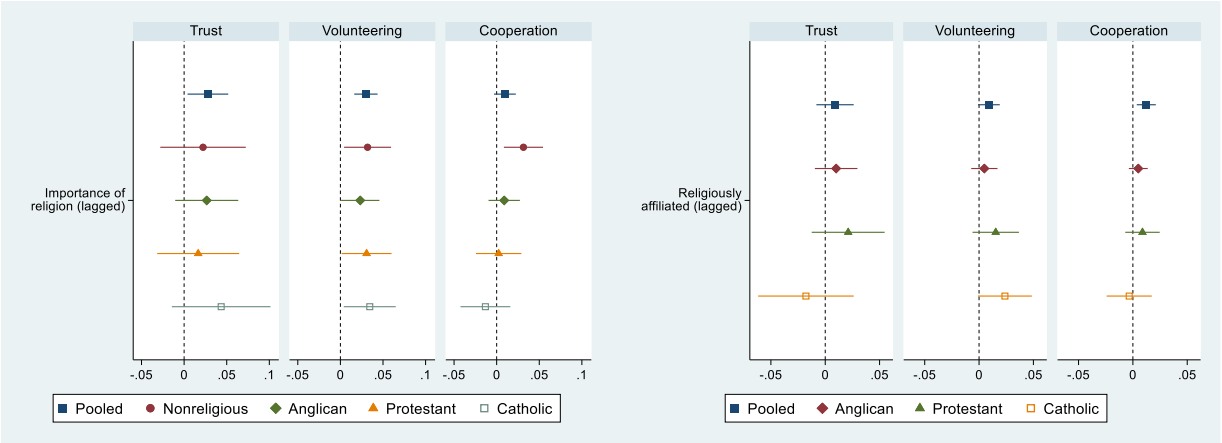

Figure G1: Effects of the importance of religion (left) and being religiously affiliated (right) on trust, volunteering, and cooperation estimated in cross-lagged panel models with respondent fixed effects; data: BHPS.

H. Controlling for the influence of interviewer- and interview-related factors

Figure H1 summarizes the results of analyses based on the UKHLS that replicate the cooperation analyses summarized in Figure 4 in the main text while adding controls for: (i) Respondents' understanding of the survey questions (five-point scale: 0 = very poor, …, 1 = excellent); (ii) The degree to which respondents' answers were in any way influenced by other people present during the interview (four-point scale: 0 = not at all, …, 1 = a great deal); (iii) The degree to which respondents' answers were *negatively* influenced by other people present during the interview (e.g. by others directly answering for the respondent, by others stopping respondents from answering, or by overtly disapproving of their answers). The latter variable is constructed by multiplying the "any interference" variable with a dummy variable that equals 1 if the influence on the interview was negative and 0 otherwise. All of these variables are based on observations made by the interviewer.

Comparing Figure H1 to Figure 4 in the main text, we see that our findings remain largely the same when including these additional controls. There are some minor differences, such as the estimates for Anglicans and Protestants moving towards 0 when controlling for respondents' understanding and the estimate for Catholics becoming more positive when controlling for negative interference, but the similarities between Figure H1 and Figure 4 stand out. Among other things, we continue to observe a negative effect of religious attendance on cooperation among Muslims.

Figure H2 summarizes the results of conventional panel models with respondent fixed effects, with cooperation as outcome variable, based on the UKHLS. In addition to respondent fixed effects, the analyses summarized in the panel on the right-hand side also include interviewer fixed effects. As Figure H2 shows, most estimates for the effects of religious attendance move towards 0 when we include interviewer fixed effects. Among other things, the estimated effect of religious attendance among Muslims remains negative, but it halves in size and is no longer statistically significant once we include interviewer fixed effects.

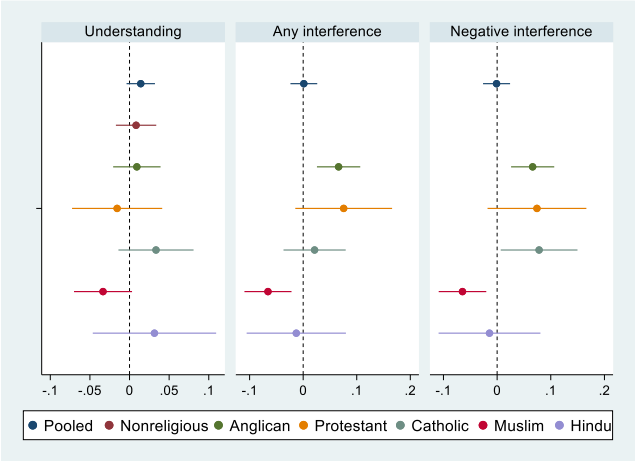

Figure H1: Effects of religious attendance on cooperation estimated in cross-lagged panel models with respondent fixed effects; data: UKHLS. The analyses include controls for: respondents' understanding of the survey questions, the degree to which respondents' answers were influenced by other people present during interview, and – more specifically – the degree to which respondents' answers were negatively influenced by other people present during the interview. The estimates for the nonreligious have been omitted from the right two panels, as the underlying models did not converge.

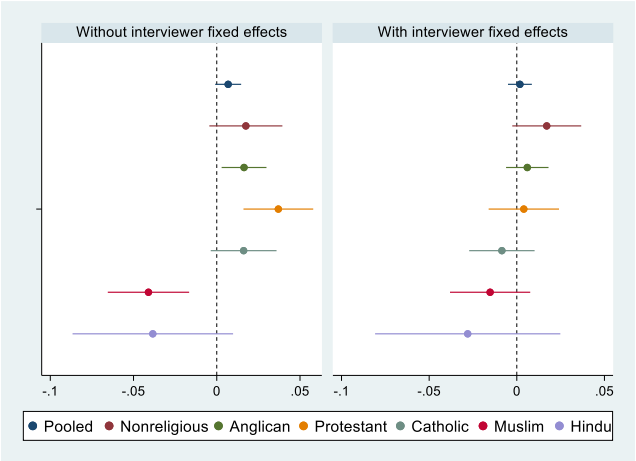

Figure H2: Effects of religious attendance on cooperation estimated in conventional panel models with respondent fixed effects; data: UKHLS. In addition to respondent fixed effects, the panel on the right also includes interviewer fixed effects.