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ABSTRACT

The Role of Faith and Faith Schooling in Educational, Economic, and Faith Outcomes*

We examine the roles played by intrinsic religiosity and faith-based education in both short and long-term outcomes among young people in England. England is a good laboratory for this work as it has a substantial share of publicly funded faith schools. This is in contrast to the US, where much of the literature of faith (mostly Catholic) schools is rooted, and other developed countries who tend to have faith schools that are fee-paying. We use a cohort study from England that contains a detailed and extensive range of individual, parental, household, and secondary school level controls. In the absence of any convincing quasi-experimental method to identify the effects of interest, the research relies on the very detailed nature of the data to support a methodology based on Ordinary Least Squares (OLS), augmented by the Oster (2017) test, to provide plausible and robust estimates of the impacts of both religious belief and faith schooling. We show that an individual's intrinsic religiosity is an important driver of short-term educational outcomes (such as age 16 test scores) and some longer-term outcomes (Christian belief at age 25), while faith-based schooling plays a lesser role. Faith schools perform well in terms of their ethos and environment, with lower incidences of bullying within them and greater parental satisfaction with how they operate.

JEL Classification: I21, Z12
Keywords: religiosity, faith schools, belief

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1 Introduction

There is a widely held view among policy makers and parents alike that faith-based schooling generates superior academic outcomes, relative to the alternatives. In many countries faith schools are part the private sector and charge fees; in England, faith schools are almost completely in the state-maintained sector and cannot charge fees. Faith schools must follow non-faith state schools in delivering the National Curriculum; their funding arrangements are closely comparable, with money following pupils; the requirements for teachers are the same (though faith schools are allowed to use faith as a criterion in hiring decisions); and both are OfSTED regulated. There is much greater comparability between faith and non-faith schools in England than there is elsewhere.

Of state secondary schools in the England, 18.7% are faith schools, who teach 18.5% of all pupils, representing a substantial portion of the education system for students aged 11 to 16. Faith schools are popular, generally oversubscribed, and not just for those with religious belief (Andrews and Johnes, 2016), though faith schools can discriminate by faith in admissions to some extent. Around 20% of those pupils who attend faith schools have no religion or say their religion is of no importance to them. In contrast, approximately 60% of pupils in secular state schools say the same.

A simple comparison of the academic attainment of those in faith schools compared to their secular equivalents generally provides support for the view that they secure better outcomes for pupils. Progression to an academic track post-age 16 in England is driven by performance in national exit examinations known as General Certificate of Secondary Education (GCSE) examinations. The usual benchmark by which both schools and students are judged is in the attainment of at least five "good" grades at GCSE; with "good" being defined as achieving a grade between A* and C. In England, recent evidence (Andrews and Johnes, 2016) has shown faith schools average over 60 percent of pupils meeting that benchmark, compared to 57.4 percent in other state-run schools.

The question of the impact of faith schools has been addressed extensively in the economics of education literature. What has not been examined (to the best of our knowledge) is the extent to which an individual's intrinsic religiosity could account for the impact that faith schools have, if indeed they have one. The contribution of this paper is to explore the extent to which pupil outcomes are driven by the type of school they attend or by their own religiosity, defined

as the intensity of their belief instead of their affiliation or participation. We also examine longer-term outcomes including university attendance and religious belief at age 25.

This paper uses a uniquely powerful English dataset to attempt to answer these questions. The data combines administrative data from the National Pupil Database (NPD) with detailed survey data from Next Steps – a cohort study that began in 2004 comprising 15,770 individuals in its first wave. The survey drew individuals age 13 or 14 from around 650 English secondary schools and interviewed them each year, over seven waves, until they were age 20. A further, eighth, wave was conducted in 2015 when the respondents were age 25. Next Steps is very similar in character to the well-known US National Longitudinal Survey of Youth (NSLY).

Bias resulting from selection on unobserved characteristics is easy to imagine in the context of both religious belief and faith school attendance. In the English case no quasi-experimental method suggests itself, which is not uncommon in the literature. Altonji et al (2005b) argue that no satisfactory instrument exists for estimating the impact of faith schools and instead they develop a method to establish the sensitivity of estimates to selection on unobservables. This method was later expanded upon and formalised by Oster (2017) and it is this version of the test that we apply here. The approach is well-suited to the particularly rich dataset that we have. Alongside this we use Inverse Probability Weighting Regression Adjustment (IPWRA), which models treatment and outcome separately (see Imbens and Wooldridge (2009)), and we attempt to identify the pathway by which faithfulness and faith schooling are impacting outcomes using non-cognitive skills as mediators along the lines of Acharya, Blackwell, and Sen (2016).

The findings are clear. Being faithful (having higher intrinsic religiosity) at age 14, compared to being unfaithful at the same age, is associated with higher attainment at GCSE and greater likelihood of having religious belief at age 25 – results that we show to be robust to unobserved confounders. A level attainment and university attendance also display significant results, though these are less robust. Other outcomes such as: attending one of the more prestigious, so-called, Russell Group universities; university degree classification; and the wage rate at age 25 do not appear to be significantly affected by faith. In contrast, the impact of faith schools seems to be much more equivocal. Some results suggest that faith schools are effective at helping their pupils attain the five GCSE benchmark, but no other outcomes appear to be significantly impacted - except later religious belief. This begs the question of whether parents are mistaken in their reasons for wanting their child to attend a faith school, as a large share (over half) of parents cite examination results of that school as a key reason for sending their child there. This is outlined in detail in section 5.6.

The paper proceeds as follows. The relevant literature is outlined in section 2; the institutional setting and data description in section 3; the empirical strategy in section 4; and the results in section 5. Section 6 concludes.

2 Literature

This paper contributes to two distinct areas of literature – the faith schooling literature in educational outcomes, and the smaller literature on the impacts of religious belief. The faith school literature is extensive but is focussed on Catholic schools in the United States. Much less is known beyond this. When it comes to the identification of causal effects it is obvious that issues will arise because pupils do not randomly select into the type of school they attend.

A number of papers have brought a range of (arguable) instruments to bear on the question. Hoxby (1994) uses an area's Catholic population as an instrument for the presence of a Catholic school finding a positive impact on area wide achievement from the presence of a Catholic school. Neal (1997) instruments Catholic school attendance with Catholic population density and the density of Catholic schools in a particular area to find a positive impact on wages of attendance at a Catholic school for urban minorities, a small effect for urban whites and no discernible effect for suburban whites. Kim (2011) conducts very similar work and finds similar effects. The interesting element of the latter paper is that the data contains measures of school quality and that these explain large parts of the Catholic school effects (teacher quality being particularly important).

More convincingly, West and Woessmann (2010) and Allen and Vignoles (2016) each employ the historical religious population of an area as an instrument for the presence of a faith school in that area. The former finds a positive effect and the latter finds little evidence of an impact. However, if culture and values are persistent then the historical population in an area may still affect outcomes through wider cultural mechanisms rather than through religiosity. This would make the instrument invalid. Controversially, Carattini et al. (2012) use Catholic sex abuse scandals in the US as an instrument for the likelihood than an individual is enrolled in a Catholic school. The effect of Catholic school enrolment on public school test scores is then examined to judge if competition from Catholic schools means better test scores; it does, implying that those schools themselves are better performing.

These approaches have been criticised for their potential lack of validity. Neal's paper specifically is critiqued by Cohen-Zada and Sander (2008) who find associations between

Neal's instruments and religiosity (church attendance) for whites but not for minorities. This would bias those results upwards and explain why results are found for certain subgroups.

More broadly, Altonji, Elder, and Taber (2005a) argue, with particular focus on proximity as an instrument for Catholic school attendance, that there is no convincing exogenous variation that would facilitate analysis of the impacts of faith schools. Though validity of instruments cannot be tested per se, the authors explore a number of routes to cast doubt on the instrumental variable strategies used in the literature. Instead they use data on public school eighth graders, few of whom attend Catholic school, to find a strong link between Catholic religion and educational attainment. They infer, from the innovative method used in their earlier work, ultimately published as Altonji, Elder, and Taber (2005b), that there is potential for bias in IV results. The method uses the degree of selection on observables to infer the potential impact of unobserved selection and this was later formalised by Oster (2017). Through it they find a positive impact of Catholic schools on the likelihood of attending university.

Other papers have examined the impacts on individuals attending faith schools without the use of quasi-experimental techniques. Cardak and Vecci (2013) use the Altonji et al method and find smaller benefits of Catholic schools in terms of the likelihood of attending university than in previous Australian studies. A strength of their work is the availability of educational aspiration variables that pick up some of the effect that had hitherto been attributed to Catholic schools.

Importantly for the English context, Gibbons and Silva (2011) argue that no credible instrument exists for attendance at a particular type of school. Given this, they use a number of techniques to analyse the impacts of faith schools. They combine their detailed dataset with prior subject-by-achievement-level fixed effects and home-postcode fixed effects; they then exploit the fact that selection occurs twice in choosing faith schools – at both primary and secondary level – to use secondary-type-by-postcode fixed effects to account for family and individual characteristics assuming selection at both secondary and primary level are comparable. If selection into secondary school type is driven by performance in primary this method will be flawed – so the authors compare those who stay in a faith school between primary and secondary to those who stay in a non-faith school (the stayers), and compare those who switch between the two types (the switchers). Assuming positive selection into faith schools the stayers will provide an upper bound of the faith school effect and the switchers a lower bound. Switchers are found to have virtually no effect and stayers a small positive effect. Finally, the

authors implement the Altonji et al method to find that for stayers the moderate effect vanishes with only modest degrees of unobserved selection assumed.

Non-cognitive outcomes have also been examined. In the US, Elder and Jepsen (2014) find, using OLS, propensity score matching, and the Altonji et al method, little evidence of an impact on non-cognitive skills (along with a negative effect of Catholic schools on achievement in mathematics tests). Following the same approach Nghiem et al. (2015) find no effect of faith schooling on cognitive or non-cognitive skills in Australia. Their range of non-cognitive skills and controls is extensive which adds weight to their research even in the absence of a more heavyweight identification strategy. A number of papers also observe a positive relationship between Catholic school attendance in the US and subsequent religiosity (e.g. Sander (2001), Wadsworth and Walker (2017)). This provides a justification for the inclusion of Christian religion at age 25 as an outcome in the analysis below.

A recent report by Andrews and Johnes (2016) makes clear that the backgrounds of those attending faith schools are very different to those of students attending non-faith schools. Faith schools take fewer students from disadvantaged backgrounds (as measured by the proportion of pupils in receipt of free school meals), fewer students who have Special Educational Needs (SEN), and students who are already academically more able. Besides this, other unobserved characteristics exist that make those pupils at faith schools different from those at non-faith schools.

Turning to religiosity, Hungerman (2014a) discusses religion in the context of club goods. Individuals can have the option of religious consumption and secular consumption. The presence of potential free-riders who want salvation without necessarily conforming to certain practises and rules leads religious groups to emphasise certain behaviours to screen out the unfaithful. These behaviours may include hard work which has implications for educational attainment and labour outcomes. McCullough and Willoughby (2009) similarly suggest that religion modifies an individual's priorities so that they want to accord with the prescribed practices. The promotion of honest toil and good behaviours would fit the educational context.

Endogeneity pervades the empirical analysis of the economic impacts of religion. Self-selection means that a particular kind of person could choose to be religious but would, in the absence of their belief, still perform better in the education system. Reverse causality too has been evidenced in compulsory schooling research in Canada and Turkey (Hungerman (2014b) and Cesur and Mocan (2018) respectively). Finally, the effect of education on religion may not

be present for all faiths equally (McFarland, Wright, and Weakliem, 2011) – hence why we decompose results between Protestants and Catholics below.

Some work claims to identify exogenous variation. Gruber (2005) innovated the religious market density instrument that employs the share of people of the same religious background in a particular area as an instrument for an individual's religiosity. It is not difficult to imagine spillovers that would make this instrument invalid.

Along more historical lines, Becker and Woessmann (2009) investigate whether a Protestant work ethic resulted in greater levels of economic prosperity in the 1500s. Using distance to Wittenberg (the epicentre of Lutheran Protestantism) as an instrument for Protestant belief there is found to be a positive and significant impact on literacy. In order to read the Bible, one has to be able to read which leads to other economic developments. Similarly, Spenkuch (2017) uses a 1555 treaty to engineer a fuzzy regression discontinuity design (RDD). Serfs followed the faith of their territorial lord (either Catholicism or Protestantism) creating a patchwork of religious populations that correlates strongly with the situation today. Protestants are found to be more likely to work longer hours, and though they do not earn higher wages, earn more as a result of being paid for more hours of work. Evidently these instruments, though convincing, are not available for use in the setting of English schools from 2004 onwards.

Evidence is not limited to the Protestant case. Oosterbeek and van der Klaauw (2013) and Campante and Yanagizawa-Drott (2015) each use the timing of Ramadan to find a negative impact of religious practise on individuals' test scores in the case of the former and a nation's economic growth in the case of the latter. However, happiness is found to improve in the latter in accordance with the Hungerman (2014a) club good definition. The implications of this are unclear. The Becker and Woessman result does not have its origin in belief, but in an almost incidental need for literacy. The Spenkuch result points more clearly towards religion, whilst the Ramadan-based work ultimately suggests an effect resulting from (a temporary decline in) nutrition, albeit among those with strong enough religiosity to adhere to the practice.

Other work, though lacking exogenous variation, also suggests a role for belief. Focusing on work ethic in an ordered probit analysis, Schaltegger and Torgler (2010) find Protestant faith is still statistically significant when interacted separately with both education and with intensity of religious belief within the same specification. Lehrer (2004), in the context of a model of supply and demand for funds for education, finds conservative Protestant women who attend

church regularly complete almost one additional year of schooling compared to those who were less observant.

A paper that is close to ours conceptually is Adamczyk (2009) who uses the same religiosity measure as we have (along with frequency of prayer and religious practise) and an indicator of Catholic school attendance in the United States to estimate the impact of religiosity on the likelihood that a woman has had a premarital abortion. Neither religiosity nor religious practise have a significant impact, although being a more conservative Protestant does. Having more conservative Protestant peers has an impact but attending a religious school does not. The paper uses a hierarchical logistic regression that will be vulnerable to omitted variables. The range of controls are not as rich as contained in our paper, and the methodology does not address the robustness of the estimates reported.

Besides the papers above, there is evidence of religiosity impacting health and risky behaviours (Mendolia, Paloyo, and Walker, 2019); voting behaviour (Spenkuch and Tillmann, 2018); and the likelihood an individual pays their taxes (Torgler, 2006). We have not found any previous papers in the area of religiosity and education that control for faith schooling, or any faith school papers that control for the intensity of belief. Neither do papers generally observe the broad set of outcomes in the context of such a rich range of controls that we do or examine young people in England.

3 Data

3.1 Institutional Background

3.1.1 Faith Schools

Religious institutions have been involved in English education for centuries - since the earliest schools were established. Historically, these schools were organised and run by religious institutions such as monasteries, and they were private in the sense that they were not maintained by the state even if they did not charge for the provision of their service. The 1902 Education Act brought free, compulsory, and Christian education for all to England, and most schools became part of the state-maintained system. This continued under the 1944 Education Act where faith and non-faith schools became distinct tracks of school (Department for Children, Schools and Famililies, 2007).

Faith schools at the time of the Next Steps cohort are generally voluntary controlled (VC) or voluntary aided (VA). In a VC school a religious body has influence in how the school is run but the school is mainly managed by the local authority. In the VA case a religious institution

may hold a stake in the buildings the school inhabits (or even own them completely) and have some small financial involvement in the school's operation. The religious body will also have a majority on the school's governing body (New Schools Network, 2015). More Church of England schools are VA than VC, and Catholic Schools are exclusively VC.[1]

A faith school in England is any that has an explicitly stated religious character. Whilst every local authority (LA) in England has at least one faith school, there is a high degree of heterogeneity between LAs with nine LA areas in England having around 40% of their pupils in faith schools (Andrews and Johnes, 2016). Faith schools are allowed to use religious belief as a determinant of which pupils they accept for up to half of their pupils if they are oversubscribed. The schools can be of a number of different denominations but the overwhelming majority of are Christian. Of these, the lions' share are Roman Catholic (9.4% of all schools), with a smaller number being Church of England (6.1%) or of other Christian affiliation (2.3%). Jewish schools have existed since 1732, Muslim schools since the 1950s, and Sikh and Hindu schools since 1999 and 2008 respectively.

Crucially, as regards the ethos of a particular institution or of the people who staff it, faith schools are allowed to apply religious criteria in their hiring processes. In practise, this means being able to choose one person over another if that person's beliefs align with that of the school. They are also allowed freedom over what they choose to teach in their Religious Studies classes, a GCSE level subject taught widely in schools but that is outside of the National Curriculum. It is clear that what is meant by a faith school in the context of England is distinct from what would be meant in the US context. In the US, Catholic schools are usually not public funded and operate very differently to an English faith school.

3.1.2 Key Stages

Children in the UK attend primary school from the ages of 4 or 5 up until age 11. Secondary schooling follows from ages 11 to 16. This applies to all students and stratification (i.e. vocational or further academic studies) only occurs post-16 with the option to go into apprenticeship schemes or further academic studies.[2] Within primary and secondary schools, students are organised into 'Key Stages' (KSs). These are referred to as: KS1, which covers

[1] After the growth of Academy Schools and the inception of Free Schools, which are both state funded but independent of local authorities, the picture has become more fragmented. At the time of the Next Steps cohort, though, there were relatively few secondary academies and there were no Free Schools.

[2] Since 2015 young people in England born after 1997 have had to stay in some form of education up until the age of 18. This does not apply to the Next Steps cohort, the overwhelming majority (99.8 percent among first wave participants) of whom were born in 1989 and 1990. As such, the Next Steps cohort face a leaving age of 16.

ages 5 to 7 (years 1, 2, and 3); KS2, which covers ages 8 to 11 (years 4, 5, and 6); upon moving to secondary school, ages 12 to 14 (years 7, 8, and 9) fall into KS3 with ages 15 to 16 (years 10 and 11) and 17 to 18 (years 12 and 13) belonging to KS4 and KS5 respectively. The Next Steps data covers KS3 onwards with some KS2 characteristics available.

At the end of each of these stages there are tests or national exams; GCSEs are completed at the end of KS4 and constitute the exit examinations from secondary schooling, whilst KS5 ends with the Advanced Level (or A Level) national examinations. KS5 is narrower than previous educational levels with the typical student taking three or four subjects. These subjects and grades determine access to university (or, college). In contrast, KS4 normally includes 7-10 subjects with limited electives; 5 passing grades, usually including maths and English, are required to pursue an academic track, post-age 16, at KS5.

3.2 Next Steps

This paper uses the Next Steps dataset (also known as the Longitudinal Study of Young People in England (LSYPE)).[3] The dataset is a cohort study beginning in 2004 with the sampling of approximately 21,000 Year 9 (KS3) pupils from 647 English State and Independent schools. Questions were then asked of both the cohort member and their parents. In the first wave 74 percent of those contacted responded, yielding a sample of 15,770. Waves two to seven have response rates in excess of 85 percent (with the exception of the ethnic boost sample in wave 4 that has a 59 percent response rate). This represents a low level of attrition.

The study followed the cohort member (aged 13 or 14 in wave one) through their remaining years of education and up until the age of 20. The study then stopped until it was resurrected by the Centre for Longitudinal Studies for an eighth wave in 2015. This enables the same individual to be observed from age 13 to 25 and allows analysis to cover the impact of religiosity at an early age on later life outcomes. Whilst waves two to seven only include people who responded to the previous wave, wave eight saw all initial members (i.e. those who responded to wave 1) contacted and an ultimate sample size of 7,707 individuals (51 percent response) was achieved. We dropped from the wave one sample only those who declared they were not Protestants, Catholics or of no religion. The numbers who declared themselves to be

[3] The data and documentation can be found at Centre for Longitudinal Studies (2018a). A full description of the dataset and its history can be found at Centre for Longitudinal Studies (2018b).

Muslims or to belong to other religions were too small to allow meaningful analysis, and only a small percentage of such people attended faith schools in our data.

This paper primarily makes use of Next Step's first wave (where respondents are 13 or 14 years old) with outcomes appearing from the eighth wave and some potential mediators coming from the second wave. Variables relating to religiosity, gender, ethnicity, and parental characteristics come exclusively from the first wave. Wave eight is used for information regarding university attendance, income, and other labour market outcomes. The sixth and seventh waves are used only to provide information on university attendance for those who were not present in wave eight. The outcome variables of interest are test scores at various different key stages, university attendance and performance, and the wage rate earned at age 25, eleven years after the faithfulness questions are asked. Christian affiliation at age 25 is also recorded.

In terms of test score outcomes: attaining the five A*-C grades benchmark is a binary outcome; number of GCSE passes is ordinal; and GCSE point score is more granular and is calculated by attaching a score to each grade attained.[4] A-level attainment is measured by the University and College Admissions Service (UCAS) equivalent point score for the top three grades attained (even if more than three subjects were taken).[5] The UCAS score is used by universities when they review applications; using the top three means that somebody who attained an A and four Bs does not appear to be performing better than somebody with three As. But the person with three As would likely be accepted by a "better" university than the mostly-B-grade achieving student. We standardise both the GCSE point score and UCAS A-level point score.

The later outcomes are defined as follows: university attendance is a binary variable taking value one if the individual attended university by the time they were aged 25; Russell Group university attendance is a binary outcome indicating whether an individual attended one of the more prestigious research-intensive universities in the UK; degree classification is a binary variable that takes value one if the individual got a first class or upper second class degree at university and 0 otherwise (around ⅔rd of this cohort will have attained such a "good" degree). The wage rate is the log of labour income (in the individual's main job) divided by the number of hours worked per week in that job. Christian belief at age 25 is a binary variable that takes value one if the individual identifies as Christian in wave eight.

[4] An A* is worth 58 points, an A 52 points, a B 46 points, a C 40 points and so on, decreasing by 6 points until a grade G which is worth 16 points.

[5] An A* is worth 140 points, an A 120 points, a B 100 points, a C 80 points, a D 60 points, and an E 40 points.

Next Steps is linked to the National Pupil Database (NPD), the government's administrative dataset for education in England. This gives access to the academic achievement of the individuals in the Next Steps cohort and allows the denomination of the school the individual attended to be identified (i.e. faith versus non-faith). Additionally, a broad collection of school level characteristics are available, such as the ethnic mix of the school and the percentage of children eligible for free school meals (FSM), a proxy for lower socio-economic status.

Also available is the index of multiple deprivation (IMD) which measures the socio-economic status of the neighbourhood in which the cohort member lives, down to the postcode level. The multiple deprivation measures cover income; employment; health and disability; education, skills and training; barriers to housing services; and living environment and crime levels. Altogether, the available set of controls is extensive and suggests that a higher proportion of selection might be observed and explained than would be the case for other datasets.

3.3 Measuring Religiosity

Religiosity is measured in Next Steps in accordance with recommendations made in McAndrew and Voas (2011). Three different facets of belief are covered: affiliation (or extrinsic religiosity); belief (or intrinsic religiosity, which we refer to as faithfulness in this paper) which we derive from the religion's importance in one's life question; and practise, which we derive from in the questions relating to participation in religious classes. The precise questions are given in Appendix Table A1.

The primary religiosity measure in this paper is 'Faithfulness' or 'intrinsic religiosity', as it is often referred to. We use faithfulness throughout to more concretely refer to the treatment of interest, since intrinsic religiosity could easily, and confusingly, refer to other measures of practise (e.g. religious class attendance) as well as belief. The faithfulness variable is the individual cohort member's response to the question 'How important would you say your religion is to the way you live your life?' with four potential answers: "Not at all", "Not very", "Fairly" and "Very" faithful. In the survey, those without a religion are not asked the faithfulness question, and so are coded here as not at all faithful. The variable is arguably superior to measures of religiosity that are often used – affiliation and practise. In a notionally Christian country, an individual may report being a Christian in survey data when they are not. Similarly, a young person may be taken to church by their parents but neither wish to be there or care about what they hear whilst there.

3.4 Descriptive Statistics

There are two treatments of interest – faithfulness and faith schooling. Additionally, interaction effects are examined later. If the faithfulness variable is kept as is, with four categories and with the separate faith school treatment then there will be four coefficients of interest (seven in the interaction case). This is arguably too many since cell-sizes begin to get too small to support precise estimates of the interaction treatments. Moreover, the Oster (2017) test, outlined below, is designed for binary treatments. We, therefore, collapse the three faithfulness treatment levels above the lowest into one, leaving a binary treatment that is 0 if the individual is unfaithful, and 1 if the individual is faithful. Pairwise Tests of coefficients each of the four faithfulness levels (not shown) suggest that this is reasonable, with few statistically significant differences.

Figure 1 shows the percentage of each faithfulness level in the data, before the it is collapsed to binary. Figure 2 shows the way that faithfulness is broken down by Christian denomination and by Faith and Non-Faith School attendance. Those of no religion are, by construction, not at all faithful. There are clearly more Protestants who are of lower faithfulness than there are Catholics of lower faithfulness. The same is true of non-faith schools relative to faith schools, as would be expected, with over half of non-faith attendees being not at all faithful.

Figure 1 - Distribution of Faithfulness

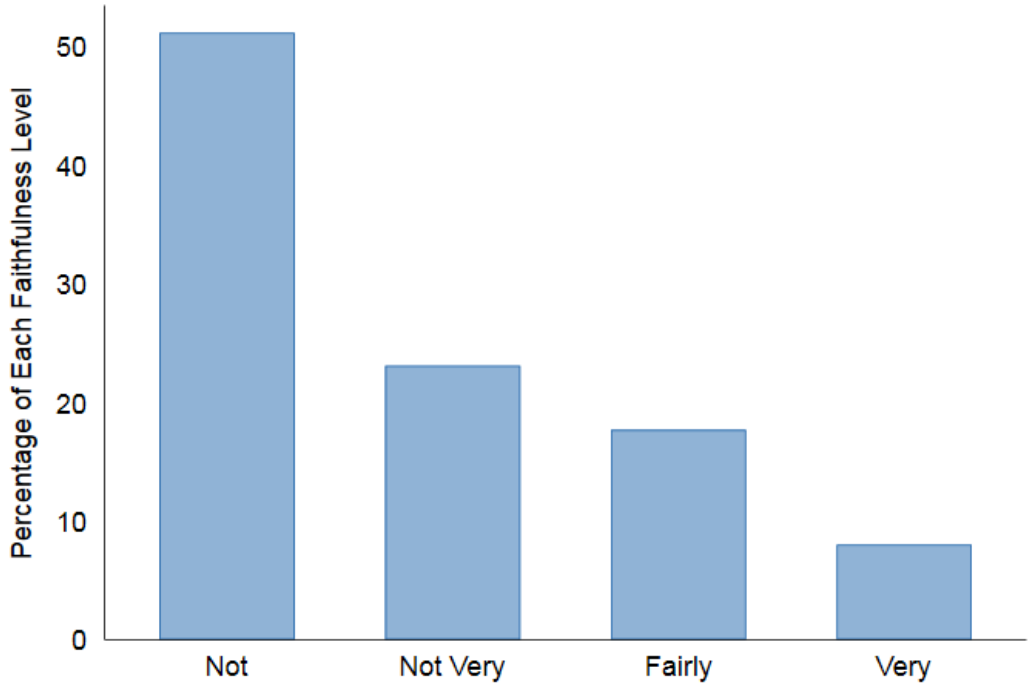


Figure 2 - Faithfulness by Religion and School Attendance

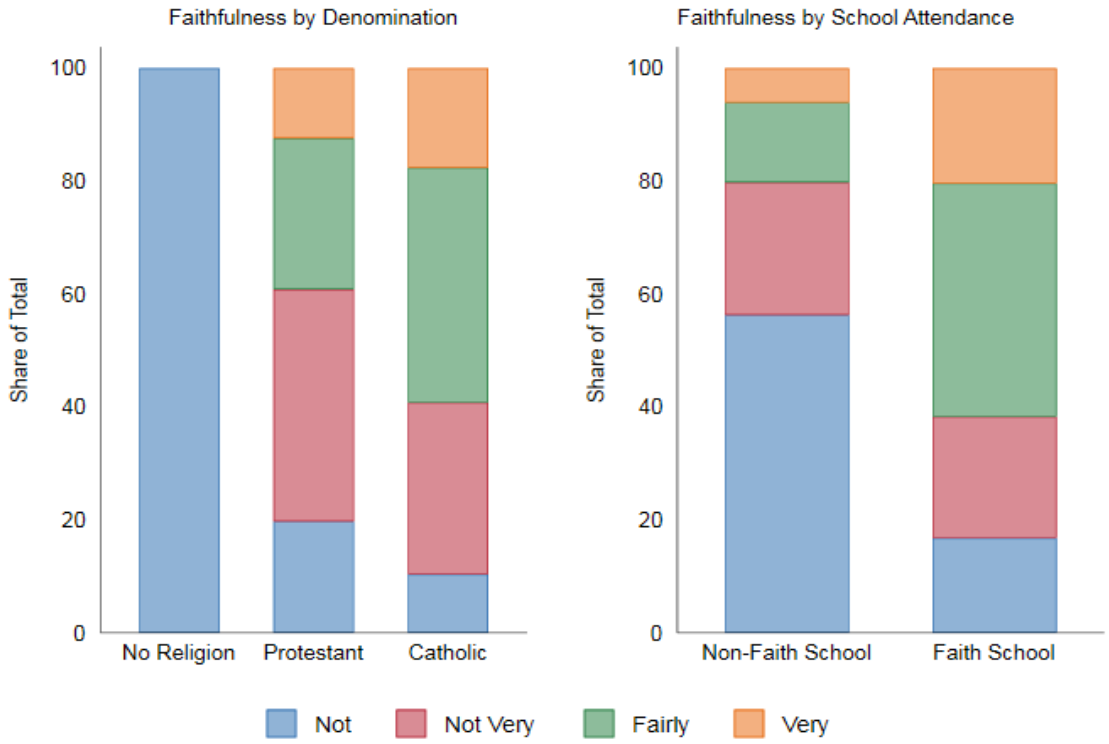


Table 1 shows summary statistics of cohort member's characteristics and Table 2 shows the outcome variables, broken down by faithfulness and school type.[6] The percentage on free school meals is very similar across all categories as are non-cognitive skills. Those attending faith secondary schools performed better at KS2 (i.e. at primary school) as did the faithful.

In Table 2 the faithful perform better in all of the schooling outcomes, but there are very small differences in the later outcomes, except for being a Christian at age 25 where there is a very large difference. There are also difference by school type in schooling outcomes and while there is a marked positive effect of faith schooling on attending university, there is no difference in university outcomes conditional on attending university. There appears to be a negative effect of faith schooling on income, but not of faithfulness. The faithful work longer hours per week suggesting a potential effect for the wage rate in analysis later in this paper.

Figures 3 and 4 show a selection of outcome variables broken down by school attendance and faithfulness respectively. These support the popular notion that faith schools have better educational outcomes appears to be well-founded. However, faithfulness shows very similar patterns of effects on outcomes.

[6] Tables A2 and A3 in the appendix give summary statistics for parental/household characteristics and school level characteristics respectively.

Table 1 - Summary Statistics - Individual Characteristics

	Faithfulness			School Type		
	Unfaithful	Faithful	Total	Non-Faith	Faith	Total
			Mean/SD/N			
Faithful	0.00	1.00	0.49	0.44	0.83	0.49
	(0.00)	(0.00)	(0.50)	(0.50)	(0.37)	(0.50)
	5837	5568	11405	9732	1517	11249
Faith School	0.04	0.23	0.13	0.00	1.00	0.14
	(0.21)	(0.42)	(0.34)	(0.00)	(0.00)	(0.34)
	5733	5516	11249	9792	1531	11323
Religion	0.23	1.23	0.72	0.61	1.45	0.72
	(0.48)	(0.42)	(0.67)	(0.59)	(0.68)	(0.67)
	5837	5568	11405	9792	1531	11323
Gender	0.48	0.52	0.49	0.48	0.52	0.49
	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)
	5837	5568	11405	9792	1531	11323
Ethnicity	0.09	0.25	0.17	0.14	0.30	0.17
	(0.29)	(0.43)	(0.37)	(0.35)	(0.46)	(0.37)
	5837	5568	11405	9792	1531	11323
KS2 Average Score	553.20	579.08	565.73	562.43	591.30	566.37
	(212.25)	(206.58)	(209.92)	(212.28)	(190.42)	(209.66)
	5555	5210	10765	9241	1457	10698
KS3 Average Score	911.64	965.71	938.29	932.90	985.02	940.03
	(380.85)	(368.90)	(375.96)	(381.17)	(336.94)	(375.84)
	5575	5418	10993	9426	1492	10918
FSM Eligible	0.12	0.10	0.11	0.11	0.11	0.11
	(0.33)	(0.31)	(0.32)	(0.32)	(0.31)	(0.32)
	4548	4451	8999	7745	1194	8939
Locus of Control	2.77	2.80	2.78	2.78	2.84	2.79
(Wave 2)	(0.76)	(0.78)	(0.77)	(0.77)	(0.76)	(0.77)
	4240	4126	8366	7176	1140	8316
Self-Esteem	6.77	6.81	6.79	6.79	6.79	6.79
(Wave 2)	(1.62)	(1.56)	(1.59)	(1.59)	(1.60)	(1.59)
	4481	4397	8878	7609	1209	8818
Sociability	6.37	6.23	6.30	6.33	6.07	6.29
(Wave 2)	(1.93)	(1.94)	(1.94)	(1.94)	(1.91)	(1.94)
	4216	4161	8377	7218	1118	8336
Max N	5837	5568	11405	9792	1531	11323

Note: Faithful is a binary indicator, 0 for unfaithful, 1 for faithful; faith school also takes the value 0 for a non-faith schools and 1 for a faith school. Religion is coded from 0 to 2, 0 is no religion, 1 is Protestant, and 2 is Catholic; Gender takes value 1 if the individual is female and 0 if male; Ethnicity is 1 for non-white individuals and 0 otherwise; KS2 and KS3 point scores are continuous; FSM eligible takes value 1 if the individual is on free school meals; internal Locus of control goes from 1 to 4 with 4 being the highest feeling of control over one's life and 1 the lowest; Self-Esteem goes from 1 to 8 and with 8 being the highest self-esteem and 1 the lowest; Sociability also goes from 1 to 8 with 8 being the highest and 1 the lowest.

Table 2 - Summary Statistics - Individual Outcomes

	Faithfulness			School Type		
	Unfaithful	Faithful	Total	Non-Faith	Faith	Total
			Mean/SD/N			
Achieved Five A*-C Grades	0.56	0.66	0.61	0.60	0.70	0.61
	(0.50)	(0.47)	(0.49)	(0.49)	(0.46)	(0.49)
	4587	4477	9064	7803	1202	9005
Achieved Five A*-C Grades (incl. English and Maths)	0.45	0.54	0.49	0.48	0.58	0.50
	(0.50)	(0.50)	(0.50)	(0.50)	(0.49)	(0.50)
	4587	4477	9064	7803	1202	9005
Number of Good Passes	5.53	6.57	6.04	5.97	6.74	6.07
	(4.28)	(4.13)	(4.24)	(4.26)	(3.98)	(4.23)
	4587	4477	9064	7803	1202	9005
GCSE Point Score	360.81	401.63	380.97	378.35	406.70	382.14
	(160.92)	(145.44)	(154.82)	(155.66)	(142.00)	(154.20)
	4587	4477	9064	7803	1202	9005
UCAS Point Score (Top 3 Grades)	167.98	176.87	172.99	171.56	181.83	173.20
	(122.85)	(120.77)	(121.75)	(122.06)	(119.73)	(121.73)
	2567	3310	5877	4926	939	5865
Attended University	0.38	0.53	0.46	0.44	0.56	0.46
	(0.49)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)
	4050	4082	8132	7006	1092	8098
Degree Class	0.73	0.70	0.71	0.71	0.70	0.71
	(0.44)	(0.46)	(0.45)	(0.45)	(0.46)	(0.45)
	504	700	1204	1012	190	1202
Attended Russell Group University	0.23	0.21	0.22	0.22	0.22	0.22
	(0.42)	(0.41)	(0.42)	(0.42)	(0.41)	(0.42)
	1413	1979	3392	2822	562	3384
Weekly Income	319.06	321.60	320.35	321.97	310.56	320.42
	(67.08)	(68.47)	(67.80)	(68.07)	(65.14)	(67.79)
	2707	2818	5525	4770	747	5517
Hours Worked	38.85	39.30	39.09	39.03	39.37	39.08
	(11.45)	(11.39)	(11.42)	(11.48)	(10.99)	(11.41)
	2145	2366	4511	3880	629	4509
Christian Age 25	0.18	0.57	0.38	0.33	0.70	0.38
	(0.39)	(0.50)	(0.49)	(0.47)	(0.46)	(0.49)
	2611	2729	5340	4612	721	5333
Max N	4587	4477	9064	7803	1202	9005

Note: Outcomes are described in detail on Page 12. Five A*-C, Five A*-C (inc. English and Maths), Attended University, Degree Class, Attended Russell Group University, and Christian Age 25 are all binary. Each takes value one if the condition is true. Degree class takes the value one if the individual got a first or an upper second class degree, and 0 otherwise. GCSE point score and UCAS point score are continuous variables. Number of Good Passes is discrete.

Figure 3 - Outcomes by School Attendance (Faith vs Non-Faith School) (95% CI)

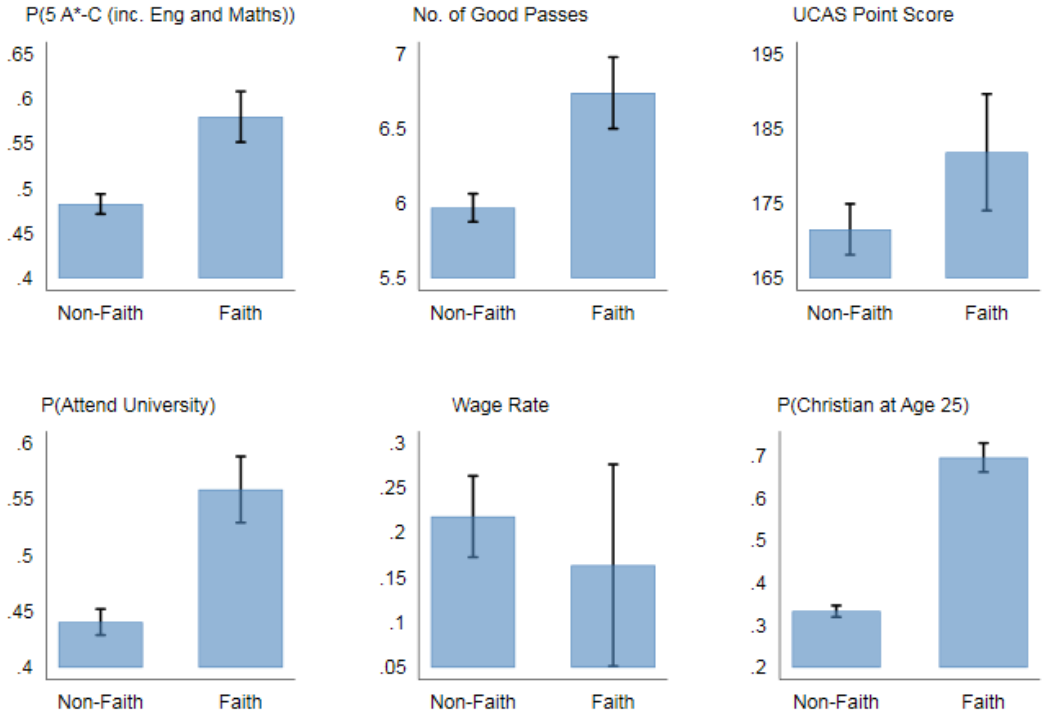
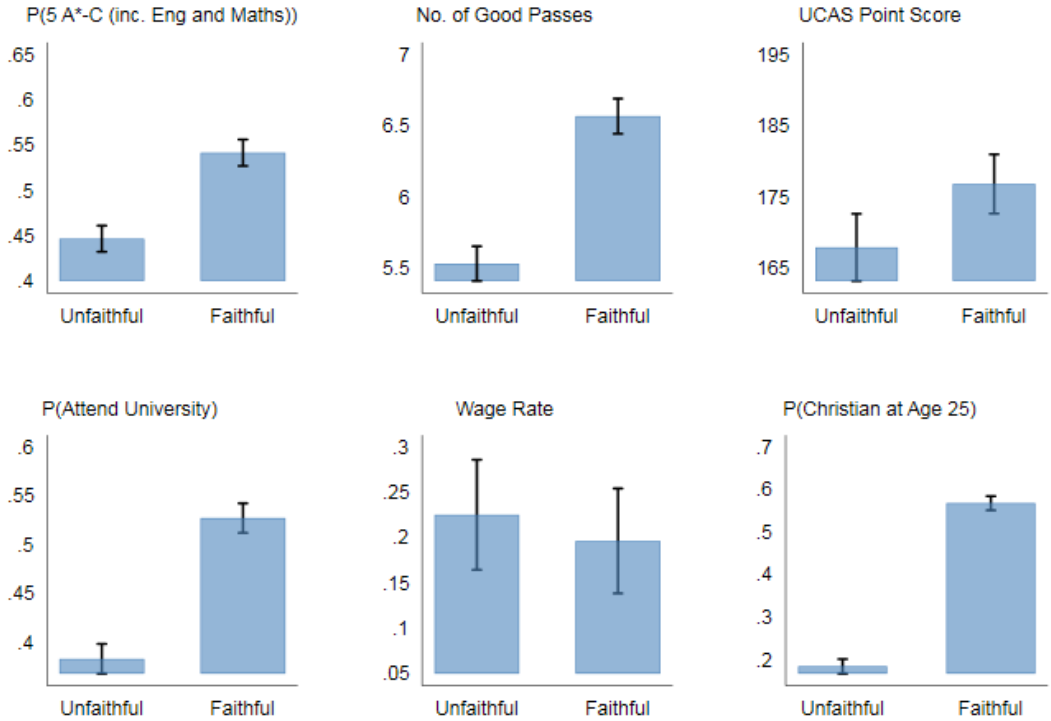


Figure 4 - Outcomes by Faithfulness (Faithful vs Unfaithful) (95% CI)



4 Empirical Strategy

Our analysis begins with an Ordinary Least Squares (OLS) estimation of a simple linear specification:

$$Y_{is} = \beta_0 + \beta_1 F_{is} + \beta_2 FS_{is} + \beta_4 \boldsymbol{X}_{is} + \beta_5 \boldsymbol{S}_i + \epsilon_{is} \quad (1)$$

where Y_{is} is some outcome for individual i in school s : GCSE attainment, A level attainment, whether or not the individual attends university, attends a Russell group university, attaining a "good" degree class, the wage rate at age 25, and whether or not they are a Christian at age 25. F_{is} is a binary variable taking the value zero if the individual says their faith is not at all important in their everyday life, and one if the individual says their faith is more important than that (i.e. not very, fairly, or very faithful). FS_{is} takes the value zero if the individual did not attend a faith school, and one if they did. $\boldsymbol{X}_{is}$ is a vector of controls including gender, ethnicity, religion, parental religion, parental education, parental employment status, and number of dependent children in the household. $\boldsymbol{S}_i$ is a vector of school level characteristics of the cohort member. These include the ethnic mix, the share of pupils on free school meals (FSM), whether the school has a single sex intake, is academically selective, and has a sixth form (senior high school) attached to it. Standard errors (ϵ_i) are clustered at the school level as this is the primary randomisation unit for the data sampling. Evidently the set of controls is both rich and varied.

Religiosity is measured when the cohort members are aged 13 or 14 – in Next Steps' first wave. Though the faithfulness question is asked in subsequent waves the analysis is based on the first wave information only. This is to ensure that our measure of religiosity is recorded pre-treatment – if we were to use wave 3 faithfulness, after GCSE high stakes exams have been taken, there may be an issue of reverse causality between attainment and religiosity. As there is no quasi-experimental variation here it makes sense to minimise issues such as this.

Sensitivity analysis in empirical research is traditionally conducted by observing how treatment effect estimates change as additional control variables are included; if there is little movement in the estimated treatment effects then the threat of unobserved selection is said to be low. However, as pointed out in Oster (2017) this may not be enough.[7] Hence, we augment the OLS

[7] Her example, in the introduction of Oster (2017), is the effect of education on wages. There are two orthogonal components of ability, one that has high variance and the other low variance – if both were included all variation would be explained. Controlling for the low variance ability component would not change coefficient sizes all that much – leading to the conclusion that selection on unobservables was not an issue. But the bias would still exist by omitting the second, high variance, ability control.

estimates with the test suggested in Oster (2017). The test extends prior work by Altonji, Elder, and Taber (2005b). Their paper suggested that the amount of selection on unobservables could be bounded from above by the amount of selection on observables. If covariates to be included in estimations were picked at random from the full set of possible covariates, selection on unobservables would be less than or equal to selection on observables. As researchers do not pick covariates at random but based on other empirical studies and theoretical justification for their inclusion, in reality selection on unobservables in a rich data set is likely to be less than that which is observed and controlled for. Bounds on OLS estimates can be produced using their method.

Oster (2017) points out that observed selection is only informative about unobserved selection if the two are distributed in the same way. Assuming that it is in a rich dataset, it will be the case that explaining all variation, i.e. attaining an R^2 value of one, is impossible. This is due to measurement error in research data. As a result, the Oster test provides a procedure to use the observed R^2 value from estimated regression specifications multiplied by something larger than one. Oster suggests, on the basis of comparison of randomised controlled trial (RCT) estimates with non-experimental estimates from a range of previous studies, that 1.3 would be appropriate. Estimates are also provided that multiply by two in the tables below.

The test can be used in two ways – firstly to infer the degree of unobserved selection the that would need to exist to reduce coefficient magnitudes to zero. This is the δ value. The threshold for robustness in this case is one – equal observed and unobserved selection. The second way is to bound estimates assuming a particular degree of unobserved selection – the β value. The test is not a silver bullet that enables causal inference, but it substantially augments the usefulness of OLS estimates in that it may allow researchers to argue selection bias is unlikely to bias estimates substantially.

We also employ Inverse Probability Weighted Regression Adjustment (IPWRA) as an alternative way of better ensuring robustness (see Imbens and Wooldridge (2009) for a more in-depth description of the method). IPWRA models both the treatment (faithfulness or faith school) and the outcome in two separate equations. Taking the treatment equation first, a propensity score is estimated that suggests the probability of treatment based on included observables. This propensity score is then used to weight the second stage in an attempt to strip out the selection into treatment from the outcome equation.

Based on selection on observables, IPWRA can get closer to causal estimates than OLS by accounting for two levels of selection – in treatment and outcome. It also possesses the so-called "double robustness" property that means it produces consistent estimates if only one of the two equations is correctly specified. In the analysis below, IPWRA is conducted on one treatment at a time controlling for the other treatment, as in the OLS specifications. The estimate of the propensity score in the first stage requires there to be sufficient "overlap" – that both treatment and control groups have a similar distribution of propensity scores.

As a degree of experimentation occurs in the selection of covariates in order to produce sufficient overlap, there might be concerns about cherry-picking the specification that yields the results that look most desirable. We avoid this by generating a random variable, x_{is}, that is used as the outcome variable until the specification that will be used for subsequent analysis has been chosen. In our case, the same treatment equation (the first stage) ultimately produced good overlap for both the faithful and faith school treatments.[8] The coefficient balances and overlap figures are given in Tables A12 and A13 and Figures A1 and A2 respectively.

Once the effects of faithfulness or faith schooling are identified it is useful to try to explain the mechanism(s) through which those estimates operate. One set of potential mediators are non-cognitive skills recorded Next Step's second wave. These skills include work ethic, internal locus of control, self-esteem and sociability. Each has a rationale behind it. Work ethic has an association with religion stretching back decades in sociology in the work of Max Weber through the idea that Protestants are called upon to work hard for its own sake (Weber, 2001). Locus of control may be lower among those who think that an external force has determined what will happen in their lives. Self-esteem could be higher as depression has been shown to be higher among those who can use their faith as a form of support mechanism (Fruehwirth, Iyer, and Zhang, 2019). Equally, sociability could make an individual better at team-working or studying with others, and this could be improved by faithfulness if that makes one attend church social events.

The mediation analysis is based on Acharya, Blackwell, and Sen (2016). Their analysis stems from the observation that including potential mediators that are simultaneously determined with the treatment could risk biasing the treatment effect of interest through "intermediate variable bias", where some unobserved factor is correlated with the potential mediator, the

[8] These variables were gender, FSM status, KS2 achievement, IMD, mother's education, mother's age, number of dependent children in the household, region of residence, whether the individual has a single mother, and whether either of the parents was aged less than 20 when the individual was born.

treatment, and the outcome. They generate examples that suggest this could be a genuine issue and they apply their method to previous empirical work to show how such analysis changes with their method, relative to simply including the potential mediator as a control.

The method is implemented in two steps. First, we estimate the effect of the potential (post-treatment) mediator on the outcome, controlling for treatments, pre-treatment controls, and control variables that are contemporaneous to the potential mediator. Then, we transform the outcome variable by the estimated coefficient and run the second stage with just the treatment and the pre-treatment controls. The resulting impact should show how the treatment acts on the outcome independently of any post-treatment factors. The difference between the initial treatment effect and the treatment effect after the mediation analysis is the impact of the mediator.[9]

5 Results

5.1 OLS Specifications

Regression results are presented below (with additional tables in the Appendix) and the pattern of controls is the same for each OLS table. The whole sample includes those of no religion, Protestants, and Catholics. Controls for the two Christian denominations are added in column (2). Individual characteristics are added in column (3). These are gender, ethnicity, month of birth, month of interview, and the individual's academic performance at KS2. Parental/household characteristics (added in (4)) are the index of multiple depravation (IMD), whether the child is on free school meals (FSM), mother's education, mother's ethnicity, mother's employment status, whether the child has a single mother, the number of dependent children in the household, and the region of residence. The mother's employment and education are interacted with whether the father's characteristics of the same variable are missing. Parental belief (their religion and how important it is to them) is added in column (5). School characteristics (added in (6)) are whether the school has a particular specialism (for which they had been awarded previous additional funding), the percentage of students on FSM, whether the school is academically selective, whether the school has a sixth form, the size of the school and the size of the previous school attended, the percentages of students who have special needs, who are white, speak a first language that is not English, and whether the school

[9] See Huber (2019) for an overview of mediation analysis.

has single sex intake. The column (6) controls are used in the mediation analysis and in the outcome equation of the IPWRA later.

Tables 3 and 4 report regression results for two GCSE outcomes; whether or not the individual attained 5 A*-C grades, including English and Maths, and the number of "good" passes that the individual achieved – i.e. how many grades did they get that were at grade C or above. Columns (1) to (6) show results for the whole sample whilst columns (7) and (8) show only the Protestant (P) and Catholic (C) subsamples. Each table, as will be the case in each of the OLS tables, presents four panels. The first (Panel A) shows the regression results, across numerous specifications, where faithfulness is not included - the only "treatment" is attendance at a faith school. The second (Panel B) is the opposite, faith school is not included - the only treatment is whether the individual is faithful. Panel C includes both treatments together. The reasoning behind presenting the results in such depth is to show the stability of coefficients upon the inclusion of both treatments of interest together. An obvious concern if only panel C was shown would be that one treatment was sapping the significance associated with the other due to the obvious correlation between being more devout and wanting to attend a faith school. This concern is all the more valid considering the papers cited above that suggest a positive effect of faith school attendance on religiosity (e.g. Wadsworth and Walker 2017)). Panel D, to be explained later, presents the Oster (2017) test results.

Looking at Table 3 it appears that both faith school and faithfulness have impacts on the likelihood that an individual attains the benchmark of five A*-C grades (with the added condition that those grades include English and Maths) in a linear probability model. These are each significant; at the five and ten percent levels respectively. The magnitudes are not insubstantial, attending a faith school appears to increase the likelihood of attaining the benchmark by around four percentage points, and being faithful compared to unfaithful by three percentage points. Comparing the coefficients in Panel C to the corresponding coefficients in Panels A and B, it is easy to see that the inclusion of both treatments simultaneously does not seem to alter the coefficient magnitudes by any meaningful amount – indeed the difference is never different in a statistical sense.

Turning to Table 4, where the outcome is number of good passes at GCSE, a number of points stand out. The first is that faith schooling does not appear to have an impact once exogenous individual characteristics (gender, ethnicity, month of birth, and prior attainment at primary school) are accounted for. The second is that faithfulness does – and it has a large impact at that. It is also always significant at the one percent level, except in the Catholic case where the

significance is at the five percent level in Panel C. Taking column 6, which includes the whole sample and the full range of covariates, it appears that around 0.4 of an additional pass could be gained by being faithful compared to unfaithful. These numbers, as in Table 3, are remarkably stable when comparing the panels that include the two treatments separately with their simultaneous inclusion. This same pattern is repeated for the GCSE point score outcome – essentially the same outcome but more granular. This is given in the Appendix Table A5.[10]

A number of other outcomes display significant results. A Level (UCAS) points (Table A6) show the same pattern as number of good passes – faith schooling does not have any impact that is significantly different from zero; faithfulness does for the whole sample and the Protestant-only sample. Coefficient movements between Panels A and B, and Panel C are a little larger in this case but still do not represent marked changes. University Attendance (Table A7) shows the same result. The remaining outcome which displays significant coefficients is Christian belief at age 25 (Table A11). This differs from the previous outcomes discussed in that significance at the one percent level is near universal. The magnitudes are large – a twelve percentage point increase in the likelihood that an individual is a Christian 11 years later for those who are faithful at age 14 compared to those who are not; and a 10 percentage point increase for those who attend a faith school compared to those who do not.

A number of other outcomes, shown in the Appendix, do not have robust results. Indeed, in some cases no statistically significant estimates are to be found. These outcomes are attendance at a Russell Group university (Table A8); degree classification (Table A9), where Catholics, whilst included in the whole sample, are not shown separately due to too small a sample size existing for that survey response; and the wage rate earned at age 25 (Table A10).

The results here present the pattern that will be repeated throughout – GCSE, A Level, university attendance, and Christian belief at age 25 are the outcomes where significant results are identified. It is these that will be the subject of robustness and heterogeneity analysis.

[10] Interestingly, the same pattern is also replicated by subject. Regression results (not shown) for highest English grade attained, maths grade attained, and highest science grade attained show the same pattern as the number of good passes outcome. This suggests that faith schools, as well not being stronger overall, are not any stronger in particular subjects.

Table 3 OLS Results for Attained Five A*-C Grades (inc. English and Maths)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	**Attained Five A*-C Grades (Including English and Maths) at GCSE**							
	Whole Sample						**P only**	**C only**
Panel A								
Faith School	0.102***	0.075**	0.035	0.043**	0.032*	0.042**	0.053*	0.031
	(0.027)	(0.030)	(0.021)	(0.019)	(0.019)	(0.019)	(0.028)	(0.033)
N	9,005	9,005	8,660	7,931	7,905	7,849	3,761	957
R^2	0.004	0.011	0.427	0.455	0.456	0.462	0.457	0.533
Panel B								
Faithful	0.104***	0.060***	0.054***	0.042***	0.029*	0.031*	0.016	0.102**
	(0.013)	(0.021)	(0.015)	(0.016)	(0.016)	(0.016)	(0.017)	(0.045)
N	9,064	9,064	8,713	7,980	7,956	7,803	3,727	945
R^2	0.011	0.012	0.427	0.455	0.456	0.461	0.455	0.534
Panel C								
Faith School	0.066**	0.068**	0.028	0.037*	0.029	0.039**	0.052*	0.009
	(0.027)	(0.030)	(0.021)	(0.019)	(0.019)	(0.019)	(0.028)	(0.034)
Faithful	0.091***	0.053**	0.052***	0.039**	0.028*	0.029*	0.015	0.099**
	(0.013)	(0.021)	(0.015)	(0.016)	(0.016)	(0.016)	(0.017)	(0.046)
N	8,945	8,945	8,604	7,883	7,859	7,803	3,727	945
R^2	0.012	0.013	0.427	0.454	0.455	0.462	0.455	0.534
Panel D: Oster Tests of Panel C								
Faith School								
$R^2_{max} = 1$		0.010	0.174	0.259	0.179	0.252	0.702	0.093
$R^2_{max} = 2\widehat{R^2}$		0.708	0.233	0.310	0.214	0.294	0.840	0.093
$R^2_{max} = 1.3\widehat{R^2}$		1.902+	0.776	1.032+	0.713	0.978	2.788+	0.269
Faithful								
$R^2_{max} = 1$		0.003	0.154	0.121	0.078	0.079	0.220	0.863
$R^2_{max} = 2\widehat{R^2}$		0.181	0.206	0.145	0.093	0.092	0.263	0.863
$R^2_{max} = 1.3\widehat{R^2}$		0.522	0.682	0.483	0.309	0.308	0.877	2.477^
Religion	No	Yes	Yes	Yes	Yes	Yes	No	No
Individual	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Parental	No	No	No	Yes	Yes	Yes	Yes	Yes
Parental belief	No	No	No	No	Yes	Yes	Yes	Yes
School	No	No	No	No	No	Yes	Yes	Yes

Notes: Controls are listed at the beginning of Section 5.1 (page 22). Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1. + indicates passing of robustness threshold in the Oster (2017) test.

Table 4 OLS Regression Results for Number of Good Passes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	**Number of Good Passes (A*-C) at GCSE**							
	Whole Sample						**P only**	**C only**
Panel A								
Faith School	0.843***	0.632**	0.225	0.243	0.163	0.215	0.363	-0.071
	(0.245)	(0.270)	(0.185)	(0.170)	(0.171)	(0.178)	(0.239)	(0.280)
N	9,005	9,005	8,660	7,931	7,905	7,849	3,761	957
R^2	0.004	0.016	0.530	0.561	0.561	0.563	0.557	0.594
Panel B								
Faithful	1.123***	0.711***	0.613***	0.518***	0.449***	0.430***	0.368***	0.658*
	(0.113)	(0.178)	(0.120)	(0.120)	(0.125)	(0.122)	(0.133)	(0.325)
N	9,064	9,064	8,713	7,980	7,956	7,803	3,727	945
R^2	0.017	0.018	0.531	0.562	0.563	0.562	0.557	0.590
Panel C								
Faith school	0.430*	0.551**	0.150	0.176	0.124	0.181	0.344	-0.205
	(0.241)	(0.267)	(0.184)	(0.170)	(0.171)	(0.178)	(0.238)	(0.291)
Faithful	1.015***	0.637***	0.589***	0.493***	0.432***	0.419***	0.362***	0.713**
	(0.112)	(0.178)	(0.121)	(0.121)	(0.126)	(0.122)	(0.133)	(0.361)
N	8,945	8,945	8,604	7,883	7,859	7,803	3,727	945
R^2	0.017	0.019	0.531	0.561	0.561	0.563	0.557	0.590
Panel D: Oster Tests of Panel C								
Faith School								
$R^2_{max} = 1$		0.015	0.161	0.202	0.133	0.202	0.667	-0.396
$R^2_{max} = 2\widehat{R^2}$		0.751	0.161	0.202	0.133	0.202	0.667	-0.396
$R^2_{max} = 1.3\widehat{R^2}$		2.158+	0.475	0.526	0.347	0.523	1.762+	-0.917
Faithful								
$R^2_{max} = 1$		0.004	0.252	0.227	0.181	0.169	0.839	1.247+
$R^2_{max} = 2\widehat{R^2}$		0.202	0.252	0.227	0.181	0.169	0.839	1.247+
$R^2_{max} = 1.3\widehat{R^2}$		0.555	0.739	0.590	0.469	0.438	2.211+	2.865+
Religion	No	Yes	Yes	Yes	Yes	Yes	No	No
Individual	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Parental	No	No	No	Yes	Yes	Yes	Yes	Yes
Parental Belief	No	No	No	No	Yes	Yes	Yes	Yes
School	No	No	No	No	No	Yes	Yes	Yes

Notes: Controls are listed at the beginning of Section 5.1 (page 22). Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10. + indicates passing of the robustness threshold in the Oster (2017) test.

5.2 Oster Tests

5.2.1 Degree of Unobserved Selection Needed to Nullify Observed Results (Oster δs)

In each OLS table there is a fourth panel (D) not yet discussed. These present δ values resulting from Oster tests conducted on each specification other than the first, column (1), specification of Panel C[11]. The δ value represents the amount of unobserved selection that would be needed to drive the results, that have been identified, to zero - assuming that the unobserved selection takes a similar distribution to that which is observed.

Three rows appear in each Panel D. The first row in each assumes that the maximum possible proportion of variation that could be explained is one. In reality this is unattainably high due to measurement error in survey responses. The noise this creates means that explaining all variation becomes impossible. Additionally, if R^2 values get beyond 0.8, then suspicions of severe multi-collinearity may arise. The second two rows assume lower values of maximum explainable variation that are based on multiplying the observed R^2 value by 1.3 or 2.

To be concise, only the final whole sample column, column (6), and the Protestant- and Catholic-only columns, columns (7) and (8), will be discussed. But δ values are given for each column giving rise to the possibility that the δ value is high enough to meet the standard in one column but not another. This is possible as the test assumes that the unobserved selection takes the same form as the observed selection, meaning that the test becomes more reliable the richer the range of included covariates. Where columns disagree, later columns take precedence.

The Oster test can be conducted with amendments made to the assumption that the maximum attainable R^2 is one. Instead the maximum R^2 can be set to be some multiple of the R^2 value that is observed in the regression specifications in each table. The standards adopted are an R^2_{max} of twice the observed R^2 from the estimated regression, and an R^2_{max} of 1.3 times the observed R^2.[12]

If results withstand unobserved selection to the same degree as that which is observed (i.e. δ =1) then the result is thought to be robust. This sets a high bar. As is evident, the R^2 values for the later columns of Tables 3 and 4 range from 0.45 to 0.55 suggesting around half of all possible variation is explained. If true, it seems unrealistic to suppose that as much unobserved

[11] The same tests were conducted for panels A and B and showed the same patterns as those from Panel D.

[12] A good example paper is Clemens, Montenegro, and Pritchett (2019).

selection could exist. But given the non-experimental nature of the methodology employed, it makes sense to use such a rigourous standard.

In Table 3, for the five A*-C grades benchmark, the faith school coefficient clears the Oster test standard for the Protestant-only sample, and virtually clears it for the whole sample, when looking at $R^2_{max} = 1.3\widehat{R^2}$. The faithful coefficient clears it for the Catholic-only sample. This suggests that the faith school results can be viewed as robust. In Table 4, the faithful coefficient for the Protestant-only sample clears the threshold, as happens for the Catholic-only sample. The whole sample does not satisfy the standard which could be due to greater heterogeneity among those in the full sample.

Taking the other significant results from the OLS tables in the Appendix, A level point score (Table A6) has a faithful coefficient that is robust for both the whole sample and the Protestant-only sample. The whole sample faithful coefficient for the university attendance outcome (Table A7) was the only one that displayed significant results, but it does not meet the Oster standard. Christian belief at age 25 (Table A11) contains robust results for the Protestant-only sample for the faithful coefficient, and for both the Protestant- and Catholic-only samples for the faith school coefficient. Again, in the whole sample the results are not robust, though in the faith school coefficient case they get close with a little over 66% as much unobserved selection needed as observed selection needed to nullify the result – high considering the rich range of covariates contained in the analysis.

5.2.2 Bounded Estimates (Oster βs)

The above leads to a suggestion that the most robust results are to be found among the GCSE outcomes, A level results, and Christian belief at age 25 – a list that is virtually unchanged on the summary given at the end of Section 5.1. The omission is university attendance which did not meet the Oster threshold. Moreover, the most common source of robustness is the Protestant-only sample.

The Protestant-only sample will therefore provide the basis for employing the second capability of the Oster test – to generate bounding estimates. Without clearing the Oster threshold value of 1, the bounds begin to dip below zero – so the Protestant-only sample provides the best case in which to show bounded estimates across a range of outcomes. These are given in Table 5. The table uses the maximum R^2 as 1.3 times the observed R^2 in each case and assumes a δ value of 1 – equal unobserved and observed selection.

Panel A, column (1) shows the outcomes for which there were significant and robust faith school coefficients in analysis above; Panel B gives the same for the faithful coefficients. Column (2) gives the lower bound on those estimates. Column (3) tests whether the two estimates, the original and the lower bound, can be said to be statistically different. In no case is the lower bound significantly different from the original OLS estimate.

Table 5 Bounded Estimates (Protestant-Only Sample)

Outcomes	(1) Original Coefficient	(2) Lower Bounds (Oster βs)	(3) T-test of (Original Coeff – Lower Bound)	N
Panel A – Faith School (Protestants Only)				
Five A*-C	0.052*	0.035	0.630	3,727
	(0.027)			
Five A*-C (incl. English and Maths)	0.052*	0.036	0.571	3.727
	(0.028)			
Christian at Age 25	0.075*	0.037	0.864	2,088
	(0.044)			
Panel B – Faithful (Protestants Only)				
No. Good Passes	0.362***	0.209	1.150	3,727
	(0.133)			
GCSE Points	0.121***	0.090	0.969	3,727
	(0.032)			
A Level Points	0.092*	0.082	0.196	2,274
	(0.051)			
Christian Age 25	0.111***	0.087	0.857	2,088
	(0.028)			

Notes: Each specification is estimated using the column (7) controls from Table 3. Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1. The maximum R^2 in the Oster specification is $R^2_{max} = 1.3\widehat{R^2}$. The assumed δ value is 1 – equal unobserved selection to observed selection. Column (3) t-tests the different between the original coefficient and the lower bound using: $\frac{\beta_{ols} - Lower\ Bound}{SE_{ols}}$.

5.3 IPWRA

An alternative approach to the analysis conducted above is to use IPWRA to model both the treatment (i.e. faith school attendance or faithfulness) and the outcome. As outlined in the empirical strategy, overlap is important, as is the coefficient balance. Overlap charts and coefficient balances are given in the Appendix (Figures A1 and A2 and Tables A12 and A13). The outcome variables analysed through IPWRA are those summarised at the end of section 5.1 – GCSE, A level, university attendance, and future Christian belief. Only the significant results from the OLS are analysed for each of the two treatments, though for each outcome that is analysed coefficients are given for the whole, Protestant-only, and Catholic-only samples,

even if they were not significant in all samples initially. Table 6 shows the results for the faith school treatment on two different versions of the five A*-C grades benchmark and future Christian belief. The coefficient magnitudes are generally smaller than the OLS estimates, and only two of the treatments remain robust – Christian belief at age 25 in the whole sample and five A*-C grades including English and maths for Protestants. Taken together, the IPWRA results do not provide a strong endorsement of impacts of faith schooling in England.

In contrast, Table 7 shows broad agreement between what has been presented in previous sections and the IPWRA analysis of the faithful treatment. Large effects are found for GCSE point score and number of good passes, but not for the five A*-C benchmark (with the exception of Catholics). A-level points show no impacts of faithfulness, and the impacts for university attendance are similarly weak. Christian belief at age 25 does show significant results.

Table 6 IPWRA ATE Estimates for Faith School

	Whole	Protestant	Catholic
5 A*-C Grades			
Faith School	0.025	0.045	0.031
	(0.021)	(0.028)	(0.029)
Non-Faith School Mean Outcome	0.621***	0.653***	0.659***
	(0.006)	(0.008)	(0.027)
N	7,802	3,727	945
5 A*-C Grades (inc. English and Maths)			
Faith School	0.021	0.058**	0.037
	(0.021)	(0.029)	(0.029)
Non-Faith School Mean Outcome	0.501***	0.530***	0.544***
	(0.006)	(0.008)	(0.026)
N	7, 802	3,727	945
Christian at Age 25			
Faith School	0.168***	0.072	0.065
	(0.038)	(0.049)	(0.047)
Non-Faith School Mean Outcome	0.368***	0.476***	0.681***
	(0.008)	(0.012)	(0.040)
N	4,195	2,088	502

Note: Each specification is estimated using the column (6) controls from Table 3, excluding religious affiliation for the Protestant and Catholic columns. Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 7 IPWRA ATE Estimates for Faithful

	Whole	Protestant	Catholic
Five A*-C Grades (inc. English and Maths)			
Faithful	0.024	0.013	0.121**
	(0.015)	(0.022)	(0.055)
Unfaithful Mean Outcome	0.477***	0.523***	0.471***
	(0.011)	(0.021)	(0.055)
N	7,802	3,727	945
Number of Good Passes			
Faithful	0.412***	0.301**	1.040**
	(0.116)	(0.151)	(0.410)
Unfaithful Mean Outcome	5.917***	6.316***	5.782***
	(0.083)	(0.15)	(0.413)
N	7,802	3,727	945
GCSE Point Score			
Faithful	0.125***	0.122***	0.121
	(0.027)	(0.037)	(0.09)
Unfaithful Mean Outcome	-0.021	0.041	0.082
	(0.019)	(0.037)	(0.09)
N	7,802	3,727	945
UCAS Point Score (Top 3)			
Faithful	0.05	0.066	.
	(0.047)	(0.068)	.
Unfaithful Mean Outcome	-0.057	-0.039	.
	(0.035)	(0.066)	.
N	4,462	2,274	.
Attend University			
Faithful	0.035*	0.024	0.027
	(0.018)	(0.025)	(0.07)
Unfaithful Mean Outcome	0.445***	0.488***	0.531***
	(0.013)	(0.024)	(0.069)
N	6,547	3,177	800
Christian at Age 25			
Faithful	0.151***	0.205***	.
	(0.026)	(0.031)	.
Unfaithful Mean Outcome	0.296***	0.300***	.
	(0.017)	(0.029)	.
N	4,195	2,088	.

Note: Each specification is estimated using the column (6) controls from Table 3, excluding religious affiliation in the case of the Protestant and Catholic columns. Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1. Blank spaces show where IPWRA specifications would not converge.

5.4 Mediation Analysis

The set of results presented above is suggestive of a relationship between faithfulness (or intrinsic religiosity) and short-term educational outcomes as well as with longer term belief. Weaker evidence exists of a relationship between faithfulness and medium- to long-term educational outcomes. The fact that the effect seems weaker for outcomes further into the future is not surprising. Indeed, the fact that there are any significant coefficients for university attendance for example, suggests that further analysis of religiosity and university attendance would be fruitful. One would not necessarily expect one's own religiosity at age 13 or 14 to be a key driver of university attendance choices at age 18.

For those results that have been found, it is important to establish whether they act through a channel of their own (in essence a direct faithfulness effect) or if they act through some other variable. Here we conduct mediation analysis along the lines of Acharya et al (2016) (outlined in the empirical strategy). The most obvious potential mediators are non-cognitive skills: work ethic, internal locus of control, self-esteem, and sociability. Table 8 gives the mediation analysis for the impact of faithfulness on GCSE point score, the outcome with one of the more robust impacts in analysis up to this point. Each table gives the initial coefficient without mediators. The sample sizes differ slightly from the previous tables (as do the effect sizes) as the sample includes only those who will be in the sample when non-cognitive skills are included, to make estimates more comparable.

The analysis points squarely to the non-cognitive skills doing little to dampen the effect of faithfulness. The two mediators that have some small impact are work ethic and self-esteem. But even with these two dampening the impact somewhat the coefficient stands at over 0.1 of a standard deviation in the whole sample, and around that in the Protestant-only sample – a large impact. The Catholic-only sample is a little more volatile, but the results add up to qualitatively the same point.

This point stands across the range of outcome variables. Indeed, in the case of the five A*-C benchmark (Table A14), number of good GCSE passes (Table A15), A level point score (Table A16), and Christian belief at age 25 (Table A18) the non-cognitive skills appear to accentuate rather than mediate the impact of faithfulness. All this suggest that non-cognitive skills are not the pathway through which faithfulness is working.

Table 8 Mediation Analysis for GCSE Point Score (Standardised)

	(1)	(2)	(3)	(4)	(5)
Outcome:	**GCSE Point Score**				
Mediators	**None**	**Ethic**	**Locus**	**Esteem**	**Sociable**
Panel A - Whole Sample					
Faithful	0.136***	0.102***	0.135***	0.119***	0.132***
	(0.030)	(0.031)	(0.031)	(0.031)	(0.033)
Mediator		0.211***	0.040**	0.040***	-0.025***
		(0.018)	(0.016)	(0.008)	(0.007)
N	7784	7090	6609	7029	6670
R^2	0.543	0.552	0.536	0.539	0.535
Panel B - Oster Tests of Faithful (Panel A)					
$R^2_{max} = 1$	0.207	0.180	0.207	0.190	0.213
$R^2_{max} = 2\widehat{R^2}$	0.207	0.180	0.207	0.190	0.213
$R^2_{max} = 1.3\widehat{R^2}$	0.576	0.487	0.594	0.539	0.614
Panel C – Protestants					
Faithful	0.127***	0.095***	0.125***	0.105***	0.124***
	(0.033)	(0.031)	(0.036)	(0.034)	(0.036)
	0.000	0.002	0.000	0.002	0.000
Mediator		0.189***	0.049**	0.035***	-0.017**
		(0.024)	(0.020)	(0.012)	(0.008)
N	3725	3390	3147	3349	3210
R^2	0.546	0.551	0.538	0.542	0.534
Panel D - Oster Tests of Faithful (Panel C)					
$R^2_{max} = 1$	1.275$^+$	1.305$^+$	1.239$^+$	1.449$^+$	1.692$^+$
$R^2_{max} = 2\widehat{R^2}$	1.275$^+$	1.305$^+$	1.239$^+$	1.449$^+$	1.692$^+$
$R^2_{max} = 1.3\widehat{R^2}$	3.504$^+$	3.533$^+$	3.515$^+$	4.060$^+$	4.881$^+$
Panel E – Catholics					
Faithful	0.207**	0.221**	0.195**	0.237***	0.240**
	(0.089)	(0.094)	(0.091)	(0.077)	(0.101)
Mediator		0.108**	0.057	0.024	-0.011
		(0.042)	(0.039)	(0.018)	(0.018)
N	950	869	813	861	803
R^2	0.535	0.533	0.517	0.508	0.527
Panel F - Oster Tests of Faithful (Panel E)					
$R^2_{max} = 1$	1.756$^+$	1.803$^+$	1.119$^+$	1.508$^+$	1.228$^+$
$R^2_{max} = 2\widehat{R^2}$	1.756$^+$	1.803$^+$	1.119$^+$	1.508$^+$	1.228$^+$
$R^2_{max} = 1.3\widehat{R^2}$	5.003$^+$	5.166$^+$	3.432$^+$	4.765$^+$	3.596$^+$

Note: Each specification is estimated using the column (7) controls from Table 3. Bootstrapped Standard Errors are in parentheses; *** p<0.01, ** p<0.05, * p<0.1. ^ indicates passing of robustness threshold in the Oster (2017) test.

A point worth noting is that in the A level (Table A16) and university attendance (Table A17) tables, additional mediators are included – namely the previous academic score. In the case of A level point score, the number of good GCSE passes does not mediate the impact of faithfulness. In the case of university, including A level point score completely removes the impact of faithfulness. Though university attendance did not have the most robust association with the treatments, it appears that any potential impact is occurring through grades in some way for that outcome.

In terms of potential mediators for the effects of faith school, only the five A*-C benchmark and future Christian belief are tested (Tables A19 and A20 respectively), as in the IPWRA analysis. The faith school coefficients associated with future Christian belief are mitigated by a small amount by non-cognitive skills, but not meaningfully. As in the case of the faithfulness effect, the five A*-C benchmark actually sees its coefficients rise slightly.

5.5 Heterogeneity Analysis

Throughout, there has been some heterogeneity analysis in that the coefficients for Protestant and Catholics were reported separately in all specifications. A reasonable query would be whether any interaction effects between faith and faith schooling exist too. Perhaps the faithful benefit from faith schools but nobody else does. That sort of explanation might be used to argue that the evidence so far presented has missed some effects of faith schooling.

Table 9 reports the column (6) specification for every possible outcome, even those not fully discussed as they did not previously present significant results. The single sentence summary of the table is that the interaction effect does not seem to be important. There does not seem to be meaningful heterogeneity in this regard, the only exception being A level point score where the interaction effect is large.

A similar question might be raised as to whether significant heterogeneity exists by gender. This is shown in Table A21 in the Appendix. Again, a single sentence summary would say that there were few meaningful differences by gender. Panel C of the table shows statistical tests of the coefficients – in only three cases are they different. This includes the faithfulness effect on A level (UCAS) point score – significant for females but not for males. This lends some justification to not stratifying all previous analysis by gender, but instead by religious affiliation.

5.6 Why Choose a Faith School?

Of the evidence presented so far it would appear that there is some reason to believe that one's own innate religiosity is important in shaping some short-term educational outcomes as well as future belief. It would also appear that faith schooling plays a lesser role, with the evidence of any effects for educational outcomes existing only for the five A*-C Benchmark (Table 3). The benchmark is an important educational indicator, but the fact that robustness tests cast doubt on the finding and the fact that effects do not exist for other outcomes raises questions as to why people choose faith schools and whether those choices constitute mistakes. An obvious reason to choose a faith school is one's faith. Faith schools provide parents with an opportunity to have their children schooled in an environment that has an explicit religious association. In the results presented above, this appears to buy a greater likelihood that the child will be religious in later life.

But other reasons may be important, too. Tables 10 and 11 give a range of outcomes that suggest the ethos and environment of faith schools are preferable to their secular counterparts. The outcomes in Table 10 are: How satisfied parents are with discipline in their child's school; How satisfied they are with the progress their child is making; and How well they feel their child fits in and gets on with others at the school.[13] In Table 11 they are: Whether the child has ever been bullied at the school; Ever been sent abusive texts; and Experienced physical violence. The definition of ever bullied includes abusive texts and physical violence, but also covers name calling, social exclusion, and extortion (being made to hand over money).[14]

Table 10 shows: positive and significant results associated with satisfaction with discipline for all samples; positive and significant coefficients on satisfaction with progress; and positive and significant effects for getting on with others for the whole sample and for the Protestant-only sample. Oster tests are broadly supportive with robustness to the proportional selection standard seen in several columns for the second and third rows of Panel B.

Similarly, the coefficients in Table 11 are all negative, although not all statistically significant. For the whole sample and for Protestants the chance of being sent abusing texts or experiencing physical violence is lower in faith schools. For Catholics only the latter is significant. These tables lead to some positive conclusions for faith schools.

[13] Related work by Green et al. (2014) shows that there are negative effects for child well-being associated with private Catholic schools in Spain. English faith schools appear to do better.
[14] Gorman et al. (2020) study the impacts of bullying on educational, labour market, and health outcomes using Next Steps.

Table 9 **Including Interaction Effect in Column (6) OLS Specifications from Previous Tables (Whole Sample)**

Outcomes:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Variables	**Five A*-C**	**Five A*-C Eng+Math**	**Good Passes**	**GCSE Point Score**	**Top 3 A-level score**	**Attends University**	**Russell Group**	**Degree Class**	**Wage Rate**	**Christian at Age 25**
Faith School	0.020	-0.014	0.045	0.071	-0.098	-0.011	-0.017	0.035	-0.036	0.177***
	(0.040)	(0.039)	(0.322)	(0.102)	(0.118)	(0.037)	(0.063)	(0.142)	(0.028)	(0.054)
Faithful	0.027**	0.022**	0.380***	0.123***	0.031	0.041***	0.005	-0.041	0.002	0.242***
	(0.012)	(0.011)	(0.091)	(0.021)	(0.034)	(0.014)	(0.018)	(0.038)	(0.015)	(0.019)
Faith School * Faithful	0.011	0.063	0.043	-0.062	0.254**	0.040	0.047	-0.021	0.020	-0.017
	(0.038)	(0.040)	(0.321)	(0.096)	(0.122)	(0.045)	(0.068)	(0.153)	(0.053)	(0.057)
N	7,803	7,803	7,803	7,803	4,463	6,548	2,872	961	3,609	4,196
R^2	0.449	0.462	0.562	0.543	0.307	0.303	0.174	0.117	0.011	0.204
Individual Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental Belief	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
School Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Each specification is estimated using the column (6) controls from Table 3. The sample includes those of no religion, Protestants and Catholics. EM in column (2) means including English and Maths. Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 10 Parental Satisfaction with the Ethos of the Child's School

Outcomes:	(1) Discipline	(2) Progress	(3) Gets-on	(4) Discipline	(5) Progress	(6) Gets-on	(7) Discipline	(8) Progress	(9) Gets-on
Panel A Faith School	**Whole sample**			**Protestants**			**Catholics**		
Faith School	0.254***	0.057*	0.044*	0.261***	0.091**	0.077**	0.274***	-0.038	0.015
	(0.048)	(0.031)	(0.026)	(0.061)	(0.038)	(0.037)	(0.085)	(0.060)	(0.052)
Protestant	-0.048	-0.041	-0.000						
	(0.039)	(0.032)	(0.026)						
Catholic	-0.063	-0.073*	0.017						
	(0.052)	(0.041)	(0.034)						
N	7,687	7,784	7,803	3,682	3,717	3,727	937	944	945
R^2	0.076	0.092	0.045	0.079	0.089	0.060	0.115	0.151	0.114
Panel B Oster Tests of Faith School Coefficient									
$R^2_{max} = 1$	0.067	0.061	0.094	0.148	0.168	-0.054	0.174	1.300^+	-0.032
$R^2_{max} = 2\widehat{R^2}$	0.765	0.600	1.970^+	1.608^+	1.691^+	-0.301	1.207^+	19.873^+	-0.245
$R^2_{max} = 1.3\widehat{R^2}$	2.176^+	1.975^+	6.442	4.554^+	5.458^+	-0.996	3.155^+	63.477^+	-0.817
Individual Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental Belief	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
School Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Each specification is estimated using the column (6), (7) and (8) controls from Table 3 for the whole, protestant-only, and catholic-only samples respectively. Discipline takes value 1 if the cohort member's parents are satisfied with the disciplinary policies of the schools, 0 otherwise; Progress takes value one if the cohort member's parents are satisfied with how much progress their child is making at school, 0 otherwise; and Gets-on takes value 1 if the cohort member's parents are satisfied with how the child gets on with others at the school, 0 otherwise. Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1. $^+$ indicates passing of robustness threshold in the Oster (2017) test.

Table 11 Experiences of Bullying at School

Outcomes:	(1) Any Bullying	(2) Texts	(3) Violence	(4) Any Bullying	(5) Texts	(6) Violence	(7) Any Bullying	(8) Texts	(9) Violence
Panel A Faith School	**Whole Sample**			**Protestants**			**Catholics**		
Faith School	-0.001	-0.047**	-0.048***	0.008	-0.054*	-0.041*	-0.008	-0.046	-0.062*
	(0.013)	(0.021)	(0.017)	(0.015)	(0.031)	(0.023)	(0.025)	(0.040)	(0.035)
Protestant	0.026***	0.037*	-0.003						
	(0.010)	(0.021)	(0.016)						
Catholic	0.014	0.010	0.003						
	(0.015)	(0.026)	(0.022)						
N	7,803	7,803	7,803	3,727	3,727	3,727	945	945	945
R^2	0.016	0.059	0.049	0.025	0.066	0.060	0.065	0.136	0.118
Panel B Oster Tests of Faith School Coefficient									
$R^2_{max} = 1$	0.001	0.051	0.080	-0.022	0.262	0.335	-0.039	2.220	0.743
$R^2_{max} = 2\widehat{R^2}$	0.076	0.799	1.519$^+$	-0.870	3.679$^+$	5.172$^+$	-0.570	14.008$^+$	5.411$^+$
$R^2_{max} = 1.3\widehat{R^2}$	0.254	2.594$^+$	4.816$^+$	-2.880	11.890$^+$	16.719$^+$	-1.894	45.650$^+$	16.821$^+$
Individual Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental Belief	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
School Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Each specification is estimated using the column (6), (7) and (8) controls from Table 3 for the whole, protestant-only, and catholic-only samples respectively. Any Bullying takes value 1 if the individual reports facing any kind of bullying at schools, and takes value 0 otherwise; Texts takes value 1 if the individual has been sent abusive text messages, 0 otherwise; and Violence takes value one if the individual has been threatened with or actually experience physical violence, 0 otherwise. Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1. $^+$ indicates passing of robustness threshold in the Oster (2017) test.

An interesting feature of the Next Steps dataset is the questions that ask parents why they actually chose their child's school. Figure 5 shows the main reasons for those who attend secular (or non-faith) schools and those who attend faith schools, conditional on the school they are currently at being their first-choice school. Parents can give multiple reasons for choosing their first-choice school, so the charts below are generated by regressing each answer on a dummy for faith school attendance and the number of reasons the parent gave for their choice. Parents of faith school pupils tend to give around 0.2 choices more than those in secular schools, a difference which, whilst small, is statistically significant.

As expected, those in faith schools are much more likely to choose their school because of its religion than those attending secular schools – in line with the finding that faith school attendance "buys" higher religiosity in later life in OLS Table A11. But the biggest reason for

Figure 5 Parent's Reasons for Choosing their Child's School (95% Confidence Interval)

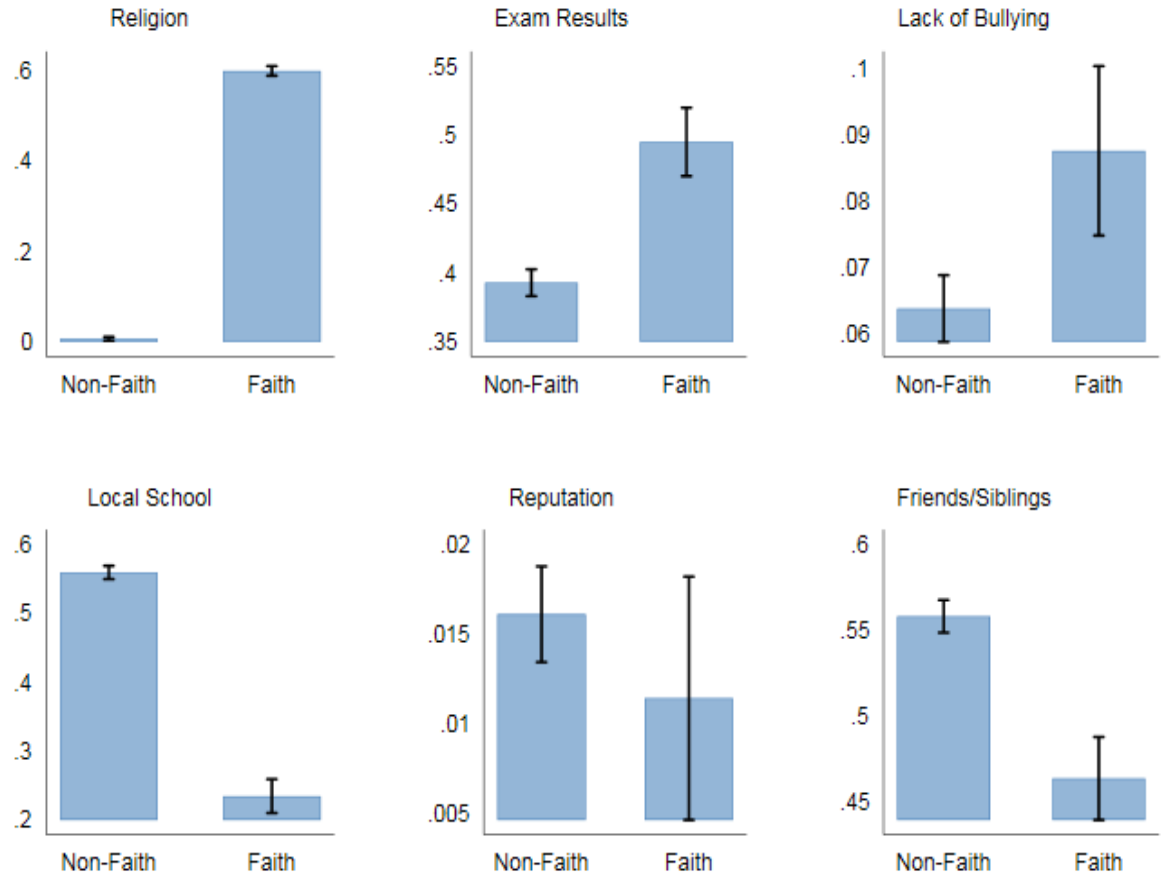


Figure Note: Faith means a faith school and Non-Faith a secular school. Parents could make more than one choice. The six most popular reasons are given. Each is a binary outcome that takes value 1 if it was mentioned and 0 otherwise. Due to the difference in popularity of each option each panel has a different axis range.

choosing a faith school other than that is exam results. This is significantly higher than the number of non-faith attendees who cited the same reason, followed closely by friends or siblings attending, which is lower than for those attending secular schools. Bullying features, but to check the scale on the axis of the bullying panel and compare it to the exam results panel is to notice a substantial difference. Reputation and the school being local are the two remaining reasons, the former being significantly less common among faith attendees than secular school attendees.

Herein lies an interesting discovery, therefore. Though parents report being satisfied with the ethos of the school (based on Tables 10 and 11 above) after making their choice of school, that does not seem to be the reason that most of them chose that school in the first place. Bullying and reputation, the responses that are closest to those from Tables 10 and 11 are much less frequently mentioned by parents than religion and examination results. This suggests that there are ethos and environment related benefits associated with faith school attendance, but that they are not necessarily driving school choice.

6 Discussion and Conclusion

This paper presents robust evidence of a relationship between one's innate religiosity (faithfulness) and a range of outcomes. The strongest results are found for GCSE point scores and Christian belief at age 25, but less robust associations exist for A level point score and university attendance too. This university association, if true, is interesting, as the lack of result for one's degree class suggests that higher religiosity may help an individual get to a university but not increase how they perform once there. Across the results presented, the most robust associations are found among Protestants.

The combination of a rich range of covariates from a unique English dataset with the Oster (2017) test as well as results from inverse probability weighting regression adjustment and analysis of non-cognitive skills as potential mediators all point to relationships beyond simple correlations. Our measure of religiosity also captures intensity of belief better than measures of practise. The degree to which a causal relation can be pinned down in the absence of quasi-experimental methods is, of course, difficult to argue, but given the focus of the literature around faith schools and the emphasis on the fact that no convincing instrument has yet been found, it is arguable that this evidence represents a strong attempt to unearth effects that could be relied on for policy purposes.

Possible explanations for the mechanism by which the faithfulness effect is operating are in line with Hungerman (2014a), that religion prescribes certain behaviours that the faithful enact, and McCullough and Willoughby (2009), that faith provides a coping mechanism for stress. The former explanation should be accounted for in the mediation analysis where work ethic is included, though it is conceivable that an individual following a prescribed behaviour to work hard does not see themselves as hard-working as opposed to doing their duty. The latter should be accounted for in the mediation analysis too, in the variables relating to locus of control and self-esteem, but for similar reasons the Next Steps variables may not capture them perfectly. As it stands, the evidence presented above is consistent with a "pure" religiosity effect for which mediators have not yet been identified.

Despite the attention it has received in the literature, we find that faith schooling, in contrast to faithfulness, does not seem to improve many outcomes, though there is evidence of an association between faith school attendance and the five A*-C benchmark (including English and Maths) and future religious belief. The benchmark is an important outcome in terms of English educational attainment that is used to judge the success of both students and schools alike. Faith schooling also seems to impact future religious belief, a finding that is in tune with Wadsworth and Walker (2017).

Fewer outcomes are positively impacted by faith schooling in our initial specifications than are impacted by faithfulness. This result reflects the literature, where a number of papers have found mixed effects of faith schools. In particular, research that examines faith school effects in England generally do not observe significant impacts. For example, Gibbons and Silva (2011) find very small effects of faith primary schools that are generally not robust to exposure to the Altonji et al method – a finding that is reflected in our own for faith secondary schools.

Where faith schools do appear to perform better in the context of how satisfied parents are with their ethos and environment. Parents of those in faith schools appear to be more satisfied with the progress their child is making, how their child gets on with others, and the discipline of the school. Fewer faith-school-attending children also report having been bullied than their secular equivalents. This seems to be something parents are pleased with in retrospect, as bullying and reputation do not seem to be driving parents to choose the schools in the first place.

The policy environment around faith schools has recently taken on renewed importance. In order to increase the number of "outstanding" school places, faith schools, along with academically selective grammar schools, have been allowed to expand where other state

schools cannot (BBC, 2018). There is an assumption that schools rated as outstanding can expand while maintaining the same performance. Moreover, there is also an assumption that there is something about how faith schools operate that makes them good candidates for expansion. Our work suggests that it is more the people in those schools and that simply expanding faith schools may not have the intended effect.

There are several of avenues for further work suggested by our analysis that our data has the potential to illuminate. Firstly, the association between faithfulness and a range of outcomes suggests that it could be the type of person who attends faith schools that make such schools perform better. The peer effects literature has been focussed almost entirely on the ability of peers rather than any other characteristics. Our data clearly shows that there are many nonfaithful pupils in faith schools and vice versa – sufficient to consider the possibility that the proportion of faithful peers might affect the outcomes, both academic and other, of the non-faithful pupils as well as the faithful. Allen and Vignoles (2016) find little effect of the proximity of a faith school on the performance of the non-faith schools, but this is consistent with, at best, very indirect evidence of (an absence of) faithful-peer effects. In addition, the analysis here uses faith at age 14 as the treatment and does not consider the evolution of religiosity with age – in schools where faithfulness declines slowly we would expect to find more faithful peers remaining at the point of high stakes tests and it may be at this age, in particular, that positive externalities on the never-faithful peers might be most apparent. To the extent that faith is correlated with parental socio-economic background this might have important effects on social mobility – although its not at all clear, right now, whether the existence of state-funded faith schooling promotes social mobility or not.

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Appendix

Table A1 - Measures of Religiosity in Next Steps

Variable Name	Survey Question	Type of Religiosity
Extensive Margin of Belief		
Religion	**What if any is your religion?** None, Christian, Buddhist, Hindu, Jewish, Muslim, Sikh, Another Religion	Affiliation
Christian Denomination	**Which of these would you say it is?** Roman Catholic, Church of England, Methodist, URC/Presbyterian/Congregationalist, Baptist, Other	Affiliation
Intensive Margin of Belief		
Faithfulness*	**How important would you say your religion is to the way you live your life – is it...** Very important, Fairly important, Not very important, Not at all important?	Belief
Religious Classes	**In the last 12 months have you ever gone to classes or courses connected with any religious establishment you might go to?** Yes, No	Practise
Frequency of Attendance at Religious Classes	**How often would you say you have gone to classes like this in the last 12 months – would you say that, on average, you have gone...** More than once a week, Once a week, Two or three times a month, About once a month, Less than once a month?	Practise

* faithfulness is the measure of religiosity used in this paper.

Table A2 – Summary Statistics - Parental and Household

	Faithfulness			School Type		
	Unfaithful	Faithful	Total	Non-Faith	Faith	Total
			Mean/SD/N			
IMD Score	23.59	23.63	23.61	22.96	27.18	23.53
	(17.06)	(16.87)	(16.97)	(16.84)	(17.46)	(16.98)
	5829	5564	11393	9781	1531	11312
Mother Has a Degree	0.09	0.11	0.10	0.10	0.14	0.10
	(0.29)	(0.32)	(0.30)	(0.30)	(0.34)	(0.30)
	5283	5094	10377	8885	1421	10306
Mother in Employment	0.26	0.24	0.25	0.25	0.24	0.25
	(0.44)	(0.43)	(0.43)	(0.43)	(0.43)	(0.43)
	5837	5568	11405	9792	1531	11323
Mother's Ethnicity	0.10	0.24	0.17	0.15	0.29	0.17
	(0.30)	(0.43)	(0.38)	(0.36)	(0.45)	(0.38)
	5837	5568	11405	9792	1531	11323
Young Parent	0.14	0.09	0.12	0.12	0.08	0.12
	(0.35)	(0.29)	(0.32)	(0.33)	(0.27)	(0.32)
	5837	5568	11405	9792	1531	11323
Mother is Faithful	0.44	0.89	0.66	0.63	0.87	0.66
	(0.50)	(0.32)	(0.47)	(0.48)	(0.33)	(0.47)
	5837	5568	11405	9792	1531	11323
Single Mother	0.28	0.25	0.27	0.26	0.28	0.27
	(0.45)	(0.43)	(0.44)	(0.44)	(0.45)	(0.44)
	5537	5313	10850	9310	1469	10779
Number of Dependent Children	2.22	2.21	2.22	2.22	2.23	2.22
	(1.05)	(1.02)	(1.04)	(1.04)	(1.00)	(1.04)
	5790	5522	11312	9713	1517	11230
Experienced Any Bullying	0.91	0.91	0.91	0.91	0.91	0.91
	(0.28)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)
	5837	5568	11405	9792	1531	11323
Been Called Names or Sent Abusive Messages	0.34	0.30	0.32	0.33	0.26	0.32
	(0.47)	(0.46)	(0.47)	(0.47)	(0.44)	(0.47)
	5837	5568	11405	9792	1531	11323
Threatened with or Experienced Violence	0.20	0.16	0.18	0.19	0.15	0.18
	(0.40)	(0.37)	(0.39)	(0.39)	(0.35)	(0.39)
	5837	5568	11405	9792	1531	11323
Parents Satisfied with Discipline	3.06	3.22	3.13	3.10	3.39	3.14
	(0.91)	(0.85)	(0.88)	(0.89)	(0.77)	(0.88)
	5627	5425	11052	9486	1495	10981
Parent's Satisfied with Discipline	3.25	3.39	3.32	3.31	3.39	3.32
	(0.76)	(0.68)	(0.72)	(0.73)	(0.69)	(0.72)
	5741	5496	11237	9648	1509	11157
Parents Satisfied with how Child Gets on With Others	3.58	3.61	3.60	3.59	3.63	3.60
	(0.65)	(0.63)	(0.64)	(0.64)	(0.62)	(0.64)
	5768	5514	11282	9688	1514	11202
Max N	5837	5568	11405	9792	1531	11323

Table A3 – Summary Statistics - School

	Faithfulness			School Type		
	Unfaithful	Faithful	Total	Non-Faith	Faith	Total
			Mean/SD/N			
Protestant School	0.02	0.06	0.04	0.00	0.28	0.04
	(0.13)	(0.23)	(0.19)	(0.00)	(0.45)	(0.19)
	5715	5440	11155	9792	1437	11229
Catholic School	0.02	0.16	0.09	0.00	0.72	0.09
	(0.15)	(0.37)	(0.29)	(0.00)	(0.45)	(0.29)
	5715	5440	11155	9792	1437	11229
Percent on FSM	15.07	16.01	15.53	15.58	15.44	15.56
	(12.47)	(14.56)	(13.54)	(13.53)	(13.63)	(13.55)
	5733	5516	11249	9792	1531	11323
Grammar School	0.03	0.05	0.04	0.04	0.01	0.04
	(0.18)	(0.21)	(0.19)	(0.20)	(0.07)	(0.19)
	5766	5524	11290	9792	1531	11323
Has Sixth Form	0.57	0.60	0.58	0.58	0.63	0.58
	(0.50)	(0.49)	(0.49)	(0.49)	(0.48)	(0.49)
	5733	5516	11249	9792	1531	11323
KS3 School Size	1125.13	1103.67	1114.63	1130.66	1007.64	1114.03
	(352.26)	(349.81)	(351.21)	(352.24)	(329.24)	(351.73)
	5766	5524	11290	9792	1531	11323
KS2 School Size	327.07	322.54	324.89	327.59	305.75	324.64
	(136.45)	(140.90)	(138.62)	(139.30)	(133.63)	(138.74)
	5583	5182	10765	9252	1444	10696
Percentage with Special Educational Needs	2.48	2.29	2.39	2.41	2.21	2.39
	(1.62)	(1.48)	(1.56)	(1.59)	(1.34)	(1.56)
	5704	5480	11184	9680	1531	11211
Percent White	86.28	79.68	83.04	83.89	77.56	83.04
	(17.28)	(23.75)	(20.97)	(20.34)	(24.05)	(20.99)
	5733	5516	11249	9792	1531	11323
Percent who do not have English as First Language	6.47	10.94	8.66	8.41	10.35	8.67
	(11.55)	(16.96)	(14.63)	(14.61)	(14.79)	(14.65)
	5733	5516	11249	9792	1531	11323
School's Average KS3 Score	33.94	34.49	34.21	34.07	35.18	34.22
	(3.40)	(3.53)	(3.47)	(3.57)	(2.59)	(3.47)
	5745	5496	11241	9743	1531	11274
% Achieving Five A*-C Grades (inc. Eng and Maths)	39.21	43.61	41.37	40.13	48.81	41.32
	(19.41)	(20.87)	(20.26)	(20.33)	(18.03)	(20.25)
	5666	5456	11122	9665	1531	11196
Single Sex Intake	0.08	0.12	0.10	0.09	0.14	0.10
	(0.27)	(0.33)	(0.30)	(0.29)	(0.34)	(0.30)
	5766	5524	11290	9792	1531	11323
Max N	5766	5524	11290	9792	1531	11323

Table A4 OLS Regression Results for Five A*-C Grades

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	**Attained Five A*-C Grades at GCSE**							
	Whole Sample						**P only**	**C only**
Panel A								
Faith School	0.102***	0.075**	0.035	0.043**	0.032*	0.042**	0.053*	0.031
	(0.027)	(0.030)	(0.021)	(0.019)	(0.019)	(0.019)	(0.028)	(0.033)
N	9,005	9,005	8,660	7,931	7,905	7,849	3,761	957
R^2	0.004	0.011	0.427	0.455	0.456	0.462	0.457	0.533
Panel B								
Faithful	0.106***	0.057***	0.049***	0.037**	0.029*	0.030*	0.024	0.045
	(0.013)	(0.021)	(0.016)	(0.016)	(0.017)	(0.016)	(0.018)	(0.047)
N	9,064	9,064	8,713	7,980	7,956	7,803	3,727	945
R^2	0.012	0.013	0.424	0.450	0.451	0.448	0.430	0.493
Panel C								
Faith school	0.064**	0.075***	0.034	0.038*	0.036*	0.036*	0.052*	-0.009
	(0.026)	(0.029)	(0.021)	(0.019)	(0.020)	(0.021)	(0.027)	(0.035)
Faithful	0.091***	0.049**	0.046***	0.035**	0.029*	0.028*	0.024	0.048
	(0.013)	(0.021)	(0.016)	(0.016)	(0.017)	(0.016)	(0.018)	(0.048)
N	8,945	8,945	8,604	7,883	7,859	7,803	3,727	945
R^2	0.013	0.014	0.424	0.450	0.450	0.449	0.431	0.493
Panel D: Oster Tests of Panel C								
Faith School								
$R^2_{max} = 1$			0.230	0.262	0.235	0.231	0.606	-0.080
$R^2_{max} = 2\widehat{R^2}$		0.854	0.313	0.321	0.288	0.283	0.801	-0.082
$R^2_{max} = 1.3\widehat{R^2}$		2.220+	1.041+	1.067+	0.957	0.942	2.657+	-0.273
Faithful								
$R^2_{max} = 1$			0.131	0.106	0.079	0.076	0.322	0.644
$R^2_{max} = 2\widehat{R^2}$		0.169	0.178	0.129	0.097	0.093	0.426	0.663
$R^2_{max} = 1.3\widehat{R^2}$		0.498	0.591	0.431	0.323	0.309	1.418+	2.200+
Religion	No	Yes	Yes	Yes	Yes	Yes	No	No
Individual	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Parental	No	No	No	Yes	Yes	Yes	Yes	Yes
Parental Belief	No	No	No	No	Yes	Yes	Yes	Yes
School	No	No	No	No	No	Yes	Yes	Yes

Notes: Controls are listed at the beginning of Section 5.1 (page 22). Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10. + indicates passing of the robustness threshold in the Oster (2017) test.

Table A5 OLS Regression Results for GCSE Point Score (Standardised)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	**GCSE Point Score (Standardised)**							
				Whole Sample			**P only**	**C only**
Panel A								
Faith School	0.203***	0.147**	0.049	0.052	0.038	0.054	0.075	0.056
	(0.059)	(0.067)	(0.052)	(0.052)	(0.053)	(0.055)	(0.063)	(0.079)
N	9,005	9,005	8,660	7,931	7,905	7,849	3,761	957
R^2	0.004	0.017	0.519	0.552	0.552	0.541	0.537	0.528
Panel B								
Faithful	0.286***	0.196***	0.170***	0.148***	0.138***	0.131***	0.122***	0.194**
	(0.026)	(0.041)	(0.029)	(0.029)	(0.030)	(0.029)	(0.032)	(0.082)
N	9,064	9,064	8,713	7,980	7,956	7,803	3,727	945
R^2	0.020	0.021	0.521	0.555	0.555	0.543	0.539	0.525
Panel C								
Faith school	0.095	0.124*	0.028	0.033	0.025	0.043	0.068	0.019
	(0.059)	(0.066)	(0.052)	(0.052)	(0.053)	(0.054)	(0.062)	(0.081)
Faithful	0.261***	0.176***	0.162***	0.141***	0.132***	0.129***	0.121***	0.189**
	(0.026)	(0.041)	(0.029)	(0.029)	(0.030)	(0.029)	(0.032)	(0.084)
N	8,945	8,945	8,604	7,883	7,859	7,803	3,727	945
R^2	0.020	0.021	0.521	0.554	0.554	0.543	0.540	0.525
Panel D: Oster Tests of Panel C								
Faith School								
$R^2_{max} = 1$		0.016	0.121	0.153	0.110	0.199	0.613	0.429
$R^2_{max} = 2\widehat{R^2}$		0.696	0.121	0.153	0.110	0.199	0.613	0.429
$R^2_{max} = 1.3\widehat{R^2}$		2.047+	0.371	0.411	0.296	0.559	1.740+	1.296+
Faithful								
$R^2_{max} = 1$		0.005	0.267	0.257	0.220	0.197	1.208+	1.111+
$R^2_{max} = 2\widehat{R^2}$		0.218	0.267	0.257	0.220	0.197	1.208+	1.111+
$R^2_{max} = 1.3\widehat{R^2}$		0.578	0.811	0.684	0.587	0.549	3.405+	3.309+
Religion	No	Yes	Yes	Yes	Yes	Yes	No	No
Individual	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Parental	No	No	No	Yes	Yes	Yes	Yes	Yes
Parental Belief	No	No	No	No	Yes	Yes	Yes	Yes
School	No	No	No	No	No	Yes	Yes	Yes

Notes: Controls are listed at the beginning of Section 5.1 (page 22). Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10. + indicates passing of the robustness threshold in the Oster (2017) test.

Table A6 OLS Regression Results for A Level (UCAS) Points Score (Top 3, Standardised)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	**A Level (UCAS) Point Score (Standardised)**							
	Whole Sample						**P only**	**C only**
Panel A								
Faith School	0.104*	0.030	0.063	0.038	0.016	0.071	0.111	0.013
	(0.055)	(0.060)	(0.047)	(0.044)	(0.045)	(0.049)	(0.067)	(0.094)
N	5,865	5,865	5,597	4,500	4,485	4,485	2,289	618
R^2	0.001	0.003	0.241	0.289	0.291	0.307	0.305	0.417
Panel B								
Faithful	0.100***	0.118**	0.144***	0.120***	0.100**	0.112**	0.092*	0.143
	(0.030)	(0.046)	(0.044)	(0.046)	(0.048)	(0.048)	(0.050)	(0.156)
N	5,877	5,877	5,604	4,504	4,491	4,463	2,274	611
R^2	0.002	0.004	0.241	0.289	0.291	0.307	0.305	0.417
Panel C								
Faith school	0.071	0.018	0.048	0.025	0.011	0.067	0.106	0.008
	(0.056)	(0.059)	(0.047)	(0.045)	(0.046)	(0.049)	(0.068)	(0.096)
Faithful	0.086***	0.116**	0.139***	0.117**	0.099**	0.109**	0.092*	0.141
	(0.030)	(0.047)	(0.045)	(0.047)	(0.048)	(0.048)	(0.051)	(0.157)
N	5,838	5,838	5,570	4,476	4,463	4,463	2,274	611
R^2	0.003	0.004	0.242	0.289	0.291	0.307	0.306	0.417
Panel D: Oster Tests of Panel C								
Faith School								
$R^2_{max} = 1$		0.001	0.110	0.078	0.029	0.258	1.553	-0.032
$R^2_{max} = 2\widehat{R^2}$		0.132	0.345	0.192	0.071	0.582	3.516	-0.045
$R^2_{max} = 1.3\widehat{R^2}$		0.432	1.147+	0.638	0.238	1.936+	11.647+	-0.149
Faithful								
$R^2_{max} = 1$		0.002	0.245	0.223	0.163	0.200	0.859	2.235+
$R^2_{max} = 2\widehat{R^2}$		0.343	0.766	0.547	0.397	0.451	1.946+	3.123+
$R^2_{max} = 1.3\widehat{R^2}$		0.774	2.517+	1.810+	1.315+	1.495+	6.437+	10.343+
Religion	No	Yes	Yes	Yes	Yes	Yes	No	No
Individual	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Parental	No	No	No	Yes	Yes	Yes	Yes	Yes
Parental Belief	No	No	No	No	Yes	Yes	Yes	Yes
School	No	No	No	No	No	Yes	Yes	Yes

Notes: Controls are listed at the beginning of Section 5.1 (page 22). Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10. + indicates passing of the robustness threshold in the Oster (2017) test.

Table A7 OLS Regression Results for University Attendance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	**University Attendance**							
	Whole Sample						**P only**	**C only**
Panel A								
Faith School	0.110***	0.078***	0.044**	0.038*	0.016	0.033	0.041	0.062
	(0.027)	(0.028)	(0.021)	(0.021)	(0.020)	(0.020)	(0.032)	(0.040)
N	8,098	8,098	7,722	6,656	6,633	6,589	3,208	810
R^2	0.005	0.017	0.242	0.288	0.293	0.302	0.289	0.367
Panel B								
Faithful	0.140***	0.111***	0.086***	0.069***	0.045**	0.041**	0.030	0.067
	(0.013)	(0.019)	(0.017)	(0.018)	(0.019)	(0.020)	(0.020)	(0.061)
N	8,132	8,132	7,751	6,680	6,659	6,548	3,177	800
R^2	0.020	0.020	0.244	0.291	0.295	0.303	0.289	0.371
Panel C								
Faith school	0.055**	0.064**	0.032	0.028	0.011	0.029	0.040	0.053
	(0.026)	(0.028)	(0.021)	(0.020)	(0.020)	(0.020)	(0.032)	(0.040)
Faithful	0.128***	0.101***	0.080***	0.064***	0.042**	0.040**	0.029	0.053
	(0.012)	(0.019)	(0.017)	(0.018)	(0.019)	(0.020)	(0.020)	(0.061)
N	8,039	8,039	7,667	6,613	6,592	6,548	3,177	800
R^2	0.021	0.021	0.244	0.290	0.294	0.303	0.290	0.372
Panel D: Oster Tests of Panel C								
Faith School								
$R^2_{max} = 1$		0.015	0.086	0.089	0.031	0.090	0.182	0.507
$R^2_{max} = 2\widehat{R^2}$		0.637	0.267	0.217	0.074	0.207	0.445	0.854
$R^2_{max} = 1.3\widehat{R^2}$		1.862+	0.888	0.722	0.245	0.688	1.477+	2.821+
Faithful								
$R^2_{max} = 1$		0.006	0.080	0.082	0.047	0.045	0.124	0.253
$R^2_{max} = 2\widehat{R^2}$		0.233	0.248	0.200	0.113	0.104	0.304	0.427
$R^2_{max} = 1.3\widehat{R^2}$		0.585	0.809	0.658	0.376	0.345	1.009+	1.415+
Religion	No	Yes	Yes	Yes	Yes	Yes	No	No
Individual	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Parental	No	No	No	Yes	Yes	Yes	Yes	Yes
Parental Belief	No	No	No	No	Yes	Yes	Yes	Yes
School	No	No	No	No	No	Yes	Yes	Yes

Notes: Controls are listed at the beginning of Section 5.1 (page 22). Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10. + indicates passing of the robustness threshold in the Oster (2017) test.

Table A8 OLS Regression Results for Russell Group University Attendance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	**Russell Group University Attendance**							
				Whole Sample			**P only**	**C only**
Panel A								
Faith School	-0.004	-0.030	-0.027	-0.036	-0.032	0.011	-0.009	0.030
	(0.028)	(0.028)	(0.027)	(0.026)	(0.027)	(0.027)	(0.034)	(0.057)
N	3,384	3,384	3,239	2,893	2,886	2,883	1,512	422
R^2	0.000	0.002	0.109	0.152	0.152	0.174	0.173	0.291
Panel B								
Faithful	-0.013	-0.019	-0.015	-0.021	-0.015	-0.010	-0.008	-0.062
	(0.016)	(0.026)	(0.025)	(0.026)	(0.026)	(0.026)	(0.028)	(0.081)
N	3,392	3,392	3,246	2,900	2,893	2,872	1,505	418
R^2	0.000	0.002	0.109	0.153	0.153	0.175	0.174	0.297
Panel C								
Faith school	0.001	-0.029	-0.028	-0.038	-0.036	0.008	-0.009	0.027
	(0.028)	(0.028)	(0.028)	(0.026)	(0.027)	(0.027)	(0.034)	(0.058)
Faithful	-0.013	-0.015	-0.011	-0.016	-0.012	-0.011	-0.008	-0.067
	(0.016)	(0.026)	(0.025)	(0.026)	(0.026)	(0.026)	(0.028)	(0.083)
N	3,372	3,372	3,227	2,882	2,875	2,872	1,505	418
R^2	0.000	0.002	0.110	0.153	0.153	0.175	0.174	0.298
Panel D: Oster Tests of Panel C								
Faith School								
$R^2_{max} = 1$		-0.002	-0.155	-0.317	-0.319	-0.065	0.038	-0.102
$R^2_{max} = 2\widehat{R^2}$		-0.787	-1.253	-1.751	-1.757	-0.309	0.181	-0.240
$R^2_{max} = 1.3\widehat{R^2}$		-1.803	-4.140	-5.774	-5.802	-1.030	0.605	-0.798
Faithful								
$R^2_{max} = 1$		0.001	0.049	0.153	0.080	0.088	0.134	-0.533
$R^2_{max} = 2\widehat{R^2}$		0.542	0.399	0.847	0.444	0.416	0.636	-1.254
$R^2_{max} = 1.3\widehat{R^2}$		1.603^+	1.327^+	2.820^+	1.477^+	1.385^+	2.120^+	-4.135
Religion	No	Yes	Yes	Yes	Yes	Yes	No	No
Individual	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Parental	No	No	No	Yes	Yes	Yes	Yes	Yes
Parental Belief	No	No	No	No	Yes	Yes	Yes	Yes
School	No	No	No	No	No	Yes	Yes	Yes

Notes: Controls are listed at the beginning of Section 5.1 (page 22). Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10. + indicates passing of the robustness threshold in the Oster (2017) test.

Table A9 OLS Regression Results for Degree Classification

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	**Degree Classification**							
				Whole Sample			**P only**	**C only**
Panel A								
Faith	-0.026	0.009	0.017	0.029	0.028	0.033	0.068	.
School	(0.040)	(0.044)	(0.047)	(0.048)	(0.049)	(0.053)	(0.074)	.
N	1,202	1,202	1,156	963	962	962	519	.
R^2	0.000	0.002	0.046	0.089	0.095	0.117	0.142	.
Panel B								
Faithful	-0.014	-0.032	-0.020	-0.049	-0.052	-0.054	-0.100*	.
	(0.026)	(0.042)	(0.041)	(0.045)	(0.049)	(0.050)	(0.056)	.
N	1,204	1,204	1,158	965	964	961	519	.
R^2	0.000	0.003	0.046	0.088	0.094	0.117	0.146	.
Panel C								
Faith	-0.023	0.014	0.021	0.038	0.033	0.038	0.068	.
school	(0.041)	(0.044)	(0.047)	(0.048)	(0.049)	(0.053)	(0.073)	.
Faithful	-0.009	-0.034	-0.023	-0.054	-0.056	-0.056	-0.100*	.
	(0.026)	(0.042)	(0.041)	(0.045)	(0.049)	(0.050)	(0.056)	.
N	1,200	1,200	1,154	962	961	961	519	.
R^2	0.001	0.003	0.046	0.090	0.097	0.118	0.148	.
Panel D: Oster Tests of Panel C								
Faith School								
$R^2_{max} = 1$		-0.001	-0.016	-0.041	-0.041	-0.051	-0.178	.
$R^2_{max} = 2\widehat{R^2}$		-0.251	-0.334	-0.412	-0.381	-0.382	-1.020	.
$R^2_{max} = 1.3\widehat{R^2}$		-0.783	-1.103	-1.354	-1.256	-1.262	-3.322	.
Faithful								
$R^2_{max} = 1$		0.022	-0.277	-0.196	-0.250	-0.312	-1.105	.
$R^2_{max} = 2\widehat{R^2}$		6.839	-5.668	-1.968	-2.310	-2.317	-6.190	.
$R^2_{max} = 1.3\widehat{R^2}$		16.959	-18.698	-6.371	-7.501	-7.554	-19.020	.
Religion	No	Yes	Yes	Yes	Yes	Yes	No	.
Individual	No	No	Yes	Yes	Yes	Yes	Yes	.
Parental	No	No	No	Yes	Yes	Yes	Yes	.
Parental Belief	No	No	No	No	Yes	Yes	Yes	.
School	No	No	No	No	No	Yes	Yes	.

Notes: Controls are listed at the beginning of Section 5.1 (page 22). Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10. + indicates passing of the robustness threshold in the Oster (2017) test.

Table A10 – OLS Regression Results for Wage Rate at Age 25

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	**Wage Rate at Age 25**							
	Whole Sample						**P only**	**C only**
Panel A								
Faith School	-0.034*	-0.018*	-0.025*	-0.017	-0.022	-0.008	-0.038	-0.016
	(0.018)	(0.010)	(0.013)	(0.016)	(0.021)	(0.027)	(0.045)	(0.019)
N	4,509	4,509	4,329	3,649	3,639	3,632	1,827	438
R^2	0.000	0.000	0.004	0.006	0.007	0.011	0.038	0.115
Panel B								
Faithful	-0.024	0.025**	0.019*	0.014	0.011	0.014	0.014	-0.034*
	(0.031)	(0.012)	(0.010)	(0.011)	(0.010)	(0.011)	(0.012)	(0.018)
N	4,511	4,511	4,331	3,649	3,639	3,609	1,810	432
R^2	0.000	0.000	0.003	0.006	0.007	0.011	0.038	0.121
Panel C								
Faith school	-0.026**	-0.020*	-0.028*	-0.020	-0.024	-0.010	-0.039	-0.016
	(0.013)	(0.011)	(0.014)	(0.017)	(0.021)	(0.028)	(0.045)	(0.020)
Faithful	-0.020	0.027**	0.022**	0.017	0.014	0.015	0.014	-0.030
	(0.031)	(0.012)	(0.011)	(0.012)	(0.010)	(0.011)	(0.012)	(0.021)
N	4,477	4,477	4,299	3,626	3,616	3,609	1,810	432
R^2	0.000	0.000	0.004	0.006	0.007	0.011	0.038	0.123
Panel D: Oster Tests of Panel C								
Faith School								
$R^2_{max} = 1$		0.000	0.004	0.004	0.006	0.002	-0.083	-1.893
$R^2_{max} = 2\widehat{R^2}$		0.587	1.222+	0.594	0.810	0.211	-2.079	-13.189
$R^2_{max} = 1.3\widehat{R^2}$		1.793+	3.998+	1.966+	2.675+	0.703	-6.899	-41.715
Faithful								
$R^2_{max} = 1$		0.000	-0.001	-0.001	-0.001	-0.002	0.024	-0.513
$R^2_{max} = 2\widehat{R^2}$		-0.200	-0.225	-0.212	-0.168	-0.180	0.603	-3.544
$R^2_{max} = 1.3\widehat{R^2}$		-0.575	-0.741	-0.703	-0.557	-0.598	2.009+	-10.955
Religion	No	Yes	Yes	Yes	Yes	Yes	No	No
Individual	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Parental	No	No	No	Yes	Yes	Yes	Yes	Yes
Parental Belief	No	No	No	No	Yes	Yes	Yes	Yes
School	No	No	No	No	No	Yes	Yes	Yes

Notes: Controls are listed at the beginning of Section 5.1 (page 22). Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10. + indicates passing of the robustness threshold in the Oster (2017) test.

Table A11 – OLS Regression Results for Christian Belief at Age 25

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	**Christian Belief at Age 25**							
	Whole Sample						**P only**	**C only**
Panel A								
Faith School	0.359***	0.174***	0.173***	0.161***	0.122***	0.110***	0.086**	0.120*
	(0.024)	(0.028)	(0.029)	(0.031)	(0.030)	(0.031)	(0.043)	(0.061)
N	5,333	5,333	5,090	4,262	4,249	4,223	2,108	509
R^2	0.060	0.175	0.184	0.191	0.205	0.213	0.078	0.213
Panel B								
Faithful	0.361***	0.171***	0.160***	0.167***	0.126***	0.123***	0.112***	0.156*
	(0.015)	(0.023)	(0.024)	(0.026)	(0.026)	(0.026)	(0.028)	(0.087)
N	5,340	5,340	5,098	4,264	4,252	4,196	2,088	502
R^2	0.141	0.176	0.184	0.192	0.205	0.215	0.082	0.205
Panel C								
Faith school	0.228***	0.156***	0.156***	0.142***	0.113***	0.101***	0.075*	0.108*
	(0.024)	(0.028)	(0.029)	(0.031)	(0.031)	(0.031)	(0.044)	(0.063)
Faithful	0.320***	0.154***	0.142***	0.150***	0.116***	0.118***	0.111***	0.132
	(0.014)	(0.023)	(0.024)	(0.026)	(0.026)	(0.026)	(0.028)	(0.087)
N	5,294	5,294	5,054	4,234	4,222	4,196	2,088	502
R^2	0.163	0.184	0.192	0.199	0.209	0.218	0.083	0.211
Panel D: Oster Tests of Panel C								
Faith School								
$R^2_{max} = 1$		0.094	0.097	0.093	0.072	0.057	0.052	0.198
$R^2_{max} = 2\widehat{R^2}$		0.402	0.397	0.364	0.268	0.205	0.564	0.721
$R^2_{max} = 1.3\widehat{R^2}$		1.216+	1.206+	1.130+	0.854	0.662	1.806+	2.240+
Faithful								
$R^2_{max} = 1$		0.035	0.034	0.038	0.028	0.030	0.110	0.441
$R^2_{max} = 2\widehat{R^2}$		0.149	0.139	0.148	0.106	0.106	1.131+	1.617+
$R^2_{max} = 1.3\widehat{R^2}$		0.452	0.428	0.452	0.337	0.338	3.235+	5.096+
Religion	No	Yes	Yes	Yes	Yes	Yes	No	No
Individual	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Parental	No	No	No	Yes	Yes	Yes	Yes	Yes
Parental Belief	No	No	No	No	Yes	Yes	Yes	Yes
School	No	No	No	No	No	Yes	Yes	Yes

Notes: Controls are listed at the beginning of Section 5.1 (page 22). Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.10. + indicates passing of the robustness threshold in the Oster (2017) test.

Figure A1 – Overlap for Faith School (Whole Sample)

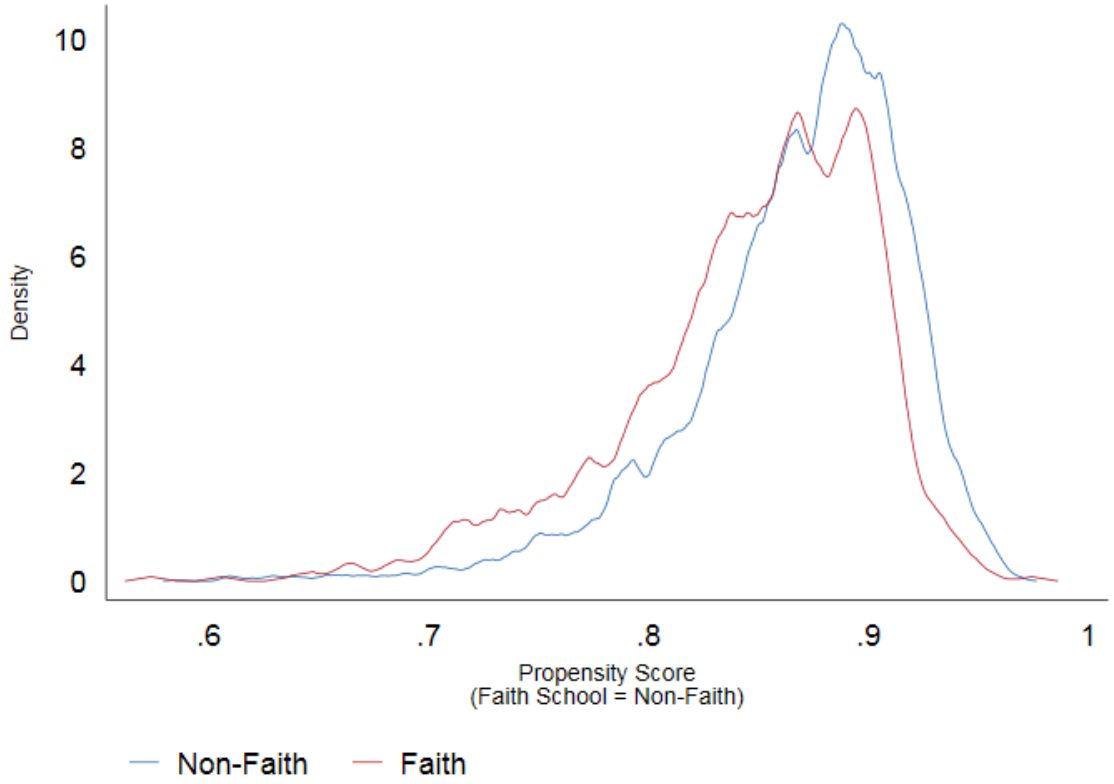

Table A12 – Coefficient Balances for Faith School (Whole Sample)

		Raw	Weighted
	Total	7,802	7,802.00
	Treated	1,059	3,892.30
	Control	6,743	3,909.70
	Standardized Differences		**Variance Ratio**	
Variables	**Raw**	**Weighted**	**Raw**	**Weighted**
Gender	0.076	-0.007	0.999	1
FSM	-0.005	-0.002	0.989	0.996
KS2 Achievement	0.112	-0.003	0.848	0.928
IMD	0.265	0.032	1.095	0.841
Mother's Education	0.127	-0.005	1.161	1.048
Mother's Age	0.137	-0.018	0.978	1.039
Number of Dependent Children in HH	-0.021	-0.009	0.958	0.931
Region	-0.186	-0.031	0.985	0.963
Single Mother	0.058	-0.004	1.07	0.995
Young Parent	-0.127	0.026	0.696	1.066
Month of Birth	0.035	-0.001	1.046	1.037

Figure A2 – Overlap for Faithful (Whole Sample)

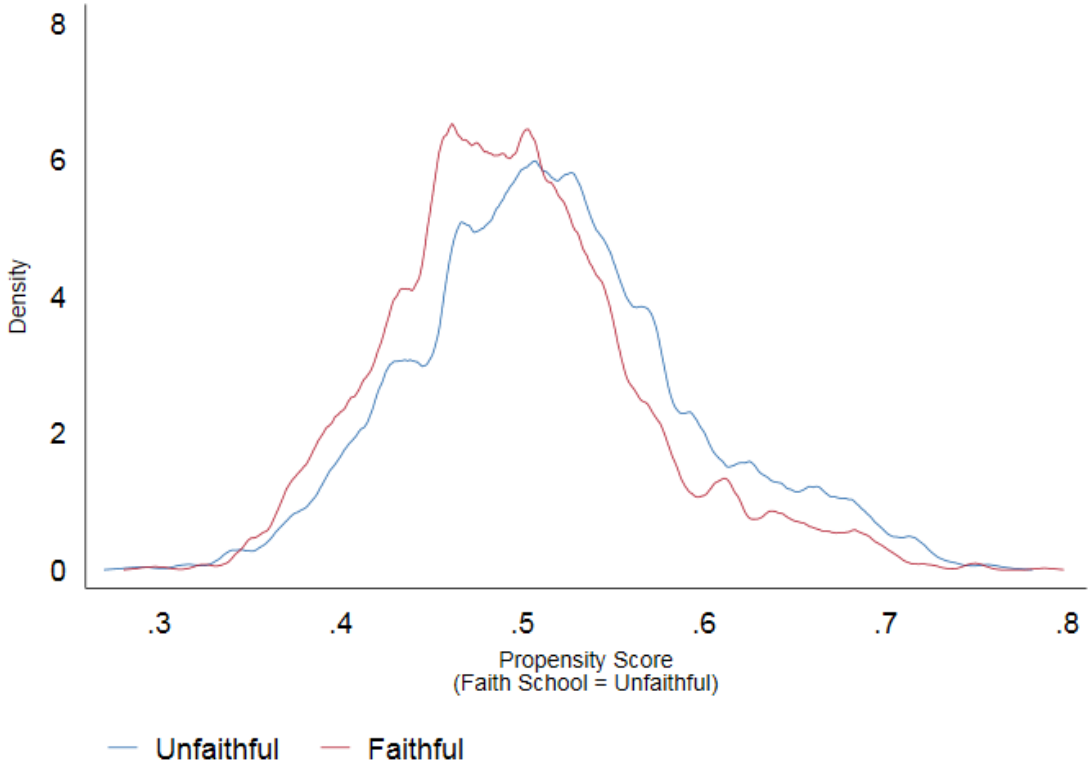

Table A13 – Coefficient Balance for Faithful (Whole Sample)

		Raw	Weighted
	Total	7,802	7,802.00
	Treated	1,059	3,892.30
	Control	6,743	3,909.70
	Standardized Differences		**Variance Ratio**
Variables	**Raw**	**Weighted**	**Raw**	**Weighted**
Gender	0.000	1.003	1.000	0.098
FSM	0.053	0.003	0.872	1.007
KS2 Achievement	0.109	0.001	0.921	0.968
IMD	0.034	0.001	0.931	0.943
Mother's Education	0.122	0.001	1.011	0.916
Mother's Age	0.234	0.004	0.923	0.935
Number of Dependent Children in HH	0.025	0.001	0.962	0.962
Region	-0.009	0.001	0.996	0.997
Single Mother	0.081	0.001	0.906	1.002
Young Parent	0.187	0.002	0.610	1.006
Month of Birth	0.003	0.000	0.975	0.982

Table A14 – Mediation Analysis for Five A*-C Grades (inc. English and Maths) (Faithful)

	(1)	(2)	(3)	(4)	(5)
Outcome	**Attained 5 A*-C Grades (inc. English and Maths) at GCSE**				
Variables	**None**	**Ethic**	**Locus**	**Esteem**	**Sociable**
Panel A - Whole Sample					
Faithful	0.030*	0.028*	0.034**	0.040**	0.038**
	(0.016)	(0.016)	(0.017)	(0.016)	(0.017)
Mediator		0.076***	0.016*	0.016***	-0.016***
		(0.009)	(0.009)	(0.004)	(0.003)
N	7784	7090	6609	7029	6670
R^2	0.462	0.468	0.464	0.463	0.458
Panel B - Oster Tests of Faithful (Panel A)					
$R^2_{max} = 1$	0.081	0.088	0.095	0.119	0.112
$R^2_{max} = 2\widehat{R^2}$	0.095	0.100	0.110	0.138	0.132
$R^2_{max} = 1.3\widehat{R^2}$	0.315	0.332	0.367	0.460	0.440
Panel C - Catholics					
Faithful	0.101**	0.106**	0.084*	0.101**	0.119**
	(0.047)	(0.054)	(0.047)	(0.046)	(0.051)
Mediator		0.040	0.035*	0.007	-0.011
		(0.025)	(0.018)	(0.011)	(0.010)
N	950	869	813	861	803
R^2	0.540	0.539	0.543	0.535	0.544
Panel D - Oster Tests of Faithful (Panel C)					
$R^2_{max} = 1$	1.177^+	1.069^+	0.760	0.926	0.909
$R^2_{max} = 2\widehat{R^2}$	1.177^+	1.069^+	0.760	0.926	0.909
$R^2_{max} = 1.3\widehat{R^2}$	3.304^+	3.008^+	2.113^+	2.648^+	2.491^+

Note: Each specification is estimated using column (7) controls from Table 3.
Bootstrapped Standard Errors in Parentheses; *** p<0.01, ** p<0.05, * p<0.1.
$^+$ indicates passing of robustness threshold in Oster (2017) test..

Table A15 – Mediation Analysis for Number of Good Passes (Faithful)

	(1)	(2)	(3)	(4)	(5)
Outcome:	**Number of Good Passes**				
Variables	**None**	**Ethic**	**Locus**	**Esteem**	**Sociable**
Panel A - Whole Sample					
Faithful	0.419***	0.365***	0.449***	0.436***	0.479***
	(0.125)	(0.124)	(0.133)	(0.128)	(0.134)
Mediator		0.863***	0.180***	0.163***	-0.136***
		(0.069)	(0.065)	(0.032)	(0.027)
N	7784	7090	6609	7029	6670
R^2	0.561	0.571	0.557	0.560	0.556
Panel B - Oster Tests of Faithful (Panel A)					
$R^2_{max} = 1$	0.170	0.169	0.184	0.186	0.204
$R^2_{max} = 2\widehat{R^2}$	0.170	0.169	0.184	0.186	0.204
$R^2_{max} = 1.3\widehat{R^2}$	0.440	0.422	0.486	0.485	0.541
Panel C - Protestants					
Faithful	0.354***	0.307**	0.380***	0.360**	0.420***
	(0.137)	(0.130)	(0.146)	(0.143)	(0.140)
Mediator		0.782***	0.129	0.171***	-0.094***
		(0.108)	(0.086)	(0.051)	(0.036)
N	3725	3390	3147	3349	3210
R^2	0.557	0.564	0.550	0.555	0.548
Panel D - Oster Tests of Faithful (Panel C)					
$R^2_{max} = 1$	0.812	0.921	0.853	1.088$^+$	1.233$^+$
$R^2_{max} = 2\widehat{R^2}$	0.812	0.921	0.853	1.088$^+$	1.233$^+$
$R^2_{max} = 1.3\widehat{R^2}$	2.147$^+$	2.363$^+$	2.317$^+$	2.902$^+$	3.373$^+$
Panel E - Catholics					
Faithful	0.779**	0.888**	0.757*	0.920**	0.946**
	(0.371)	(0.428)	(0.400)	(0.369)	(0.431)
Mediator		0.428**	0.315*	0.124*	-0.082
		(0.188)	(0.168)	(0.079)	(0.065)
N	950	869	813	861	803
R^2	0.597	0.602	0.585	0.587	0.589
Panel F - Oster Tests of Faithful (Panel E)					
$R^2_{max} = 1$	2.072$^+$	2.242$^+$	1.364$^+$	1.958$^+$	1.400$^+$
$R^2_{max} = 2\widehat{R^2}$	2.072$^+$	2.242$^+$	1.364$^+$	1.958$^+$	1.400$^+$
$R^2_{max} = 1.3\widehat{R^2}$	4.619$^+$	4.894$^+$	3.194$^+$	4.535$^+$	3.206$^+$

Note: Each specification is estimated using column (7) controls from Table 3.
Bootstrapped Standard Errors in Parentheses; *** p<0.01, ** p<0.05, * p<0.1.
$^+$ indicates passing of robustness threshold in Oster (2017) test.

Table A16 – Mediation Analysis for A Level (UCAS) Point Score (Top 3, Standardised) (Faithful)

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome:	**A Level (UCAS) Points Score**					
Mediators:	**None**	**Ethic**	**Locus**	**Esteem**	**Sociable**	**A Level**
Panel A - Whole Sample						
Faithful	0.099**	0.097*	0.125**	0.115**	0.115**	0.097**
	(0.048)	(0.050)	(0.054)	(0.050)	(0.050)	(0.048)
Mediator		0.162***	0.052*	0.022*	-0.025**	0.115***
		(0.029)	(0.027)	(0.013)	(0.010)	(0.008)
N	4550	4156	3897	4162	3944	4331
R^2	0.309	0.321	0.306	0.311	0.312	0.181
Panel B - Oster Tests of Faithful (Panel A)						
$R^2_{max} = 1$	0.179	0.214	0.265	0.215	0.284	0.114
$R^2_{max} = 2\widehat{R^2}$	0.402	0.452	0.600	0.475	0.625	0.514
$R^2_{max} = 1.3\widehat{R^2}$	1.332$^+$	1.498$^+$	1.983$^+$	1.572$^+$	2.069$^+$	1.695$^+$
Panel C - Protestants						
Faithful	0.080	0.083	0.115**	0.101**	0.100*	0.089*
	(0.050)	(0.055)	(0.057)	(0.055)	(0.055)	(0.049)
Mediator		0.191***	0.080**	0.003	-0.035*	0.114***
		(0.044)	(0.036)	(0.019)	(0.015)	(0.011)
N	2315	2111	1970	2105	2007	2197
R^2	0.315	0.318	0.303	0.310	0.317	0.184
Panel D - Oster Tests of Faithful (Panel C)						
$R^2_{max} = 1$	0.558	0.852	0.985	0.708	0.971	0.269
$R^2_{max} = 2\widehat{R^2}$	1.212$^+$	1.822$^+$	2.258$^+$	1.572$^+$	2.088$^+$	1.186$^+$
$R^2_{max} = 1.3\widehat{R^2}$	4.017$^+$	6.036$^+$	7.438$^+$	5.193$^+$	6.900$^+$	3.896$^+$

Note: Each specification is estimated using column (7) controls from Table 3.
Bootstrapped Standard Errors in Parentheses; *** p<0.01, ** p<0.05, * p<0.1.
$^+$ indicates passing of robustness threshold in Oster (2017) test.

Table A17 Mediation Analysis for University Attendance (Faithful)

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome:	**Attended University**					
Mediators:	**None**	**Ethic**	**Locus**	**Esteem**	**Sociable**	**A Level**
Panel A - Whole Sample						
Faithful	0.045**	0.033*	0.046**	0.050**	0.044**	-0.008
	(0.020)	(0.020)	(0.021)	(0.020)	(0.021)	(0.026)
P-value	0.026	0.101	0.030	0.014	0.033	0.762
Mediator		0.112***	0.027**	0.007	-0.010**	0.176***
		(0.011)	(0.011)	(0.005)	(0.004)	(0.011)
N	6556	5997	5597	5961	5647	3950
R^2	0.304	0.310	0.300	0.301	0.301	0.058
Panel B - Oster Tests of Faithful (Panel A)						
$R^2_{max} = 1$	0.049	0.040	0.051	0.056	0.050	-0.002
$R^2_{max} = 2\widehat{R^2}$	0.112	0.089	0.119	0.130	0.115	-0.033
$R^2_{max} = 1.3\widehat{R^2}$	0.370	0.297	0.393	0.430	0.382	-0.108

Note: Each specification is estimated using column (7) controls from Table 3.
Bootstrapped Standard Errors in Parentheses; *** p<0.01, ** p<0.05, * p<0.1.
[+] indicates passing of robustness threshold in Oster (2017) test.

Table A18 Mediation Analysis for Christian Belief at Age 25 (Faithful)

	(1)	(2)	(3)	(4)	(5)
Outcome:	**Christian at Age 25**				
Mediators:	**None**	**Ethic**	**Locus**	**Esteem**	**Sociable**
Panel A - Whole Sample					
Faithful	0.121***	0.126***	0.130***	0.121***	0.138***
	(0.026)	(0.028)	(0.028)	(0.028)	(0.028)
Mediator		0.033**	-0.002	0.014**	0.005
		(0.015)	(0.014)	(0.007)	(0.006)
N	4208	3856	3604	3820	3595
R^2	0.222	0.219	0.221	0.223	0.215
Panel B - Oster Tests of Faithful (Panel A)					
$R^2_{max} = 1$	0.031	0.032	0.033	0.032	0.035
$R^2_{max} = 2\widehat{R^2}$	0.107	0.112	0.115	0.108	0.127
$R^2_{max} = 1.3\widehat{R^2}$	0.341	0.355	0.365	0.345	0.397
Panel C - Protestants					
Faith School	0.111***	0.117***	0.119***	0.108***	0.131***
	(0.028)	(0.029)	(0.033)	(0.031)	(0.030)
Mediator		0.030	-0.013	0.018*	-0.005
		(0.025)	(0.021)	(0.010)	(0.008)
N	2099	1925	1780	1899	1798
R^2	0.084	0.084	0.087	0.088	0.090
Panel D - Oster Tests of Faithful (Panel C)					
$R^2_{max} = 1$	0.111	0.118	0.120	0.116	0.143
$R^2_{max} = 2\widehat{R^2}$	1.134^+	1.196^+	1.162^+	1.135^+	1.329^+
$R^2_{max} = 1.3\widehat{R^2}$	3.252^+	3.386^+	3.287^+	3.300^+	3.666^+

Note: Each specification is estimated using column (7) controls from Table 3.
Bootstrapped Standard Errors in Parentheses; *** p<0.01, ** p<0.05, * p<0.1.
$^+$ indicates passing of robustness threshold in Oster (2017) test.

Table A19 Mediation Analysis for Five A*-C Grades (inc. Eng and Maths) (Faith School)

	(1)	(2)	(3)	(4)	(5)
Outcome:	**Attained 5 A*-C Grades (inc. English and Maths) at GCSE**				
Mediators	**None**	**Ethic**	**Locus**	**Esteem**	**Sociable**
Panel A - Whole Sample					
Faith School	0.035*	0.038**	0.041**	0.038**	0.043**
	(0.019)	(0.018)	(0.018)	(0.017)	(0.017)
Mediator		0.076***	0.016**	0.016***	-0.016***
		(0.009)	(0.009)	(0.004)	(0.003)
N	7784	7090	6609	7029	6670
R^2	0.462	0.468	0.464	0.463	0.458
Panel B - Oster Tests of Faith School (Panel A)					
$R^2_{max} = 1$	0.228	0.271	0.277	0.271	0.271
$R^2_{max} = 2\widehat{R^2}$	0.265	0.308	0.321	0.314	0.321
$R^2_{max} = 1.3\widehat{R^2}$	0.883	1.023$^+$	1.067$^+$	1.043$^+$	1.068$^+$
Panel C - Protestants					
Faith School	0.042	0.044*	0.054**	0.050**	0.058**
	(0.028)	(0.026)	(0.026)	(0.025)	(0.026)
Mediator		0.070***	0.017	0.013**	-0.009
		(0.014)	(0.012)	(0.006)	(0.005)
N	3725	3390	3147	3349	3210
R^2	0.458	0.462	0.457	0.458	0.451
Panel D - Oster Tests of Faith School (Panel C)					
$R^2_{max} = 1$	0.511	0.763	0.717	0.707	0.732
$R^2_{max} = 2\widehat{R^2}$	0.604	0.887	0.854	0.836	0.891
$R^2_{max} = 1.3\widehat{R^2}$	2.007$^+$	2.949$^+$	2.834$^+$	2.778$^+$	2.956$^+$

Note: Each specification is estimated using column (7) controls from Table 3.
Bootstrapped Standard Errors in Parentheses; *** p<0.01, ** p<0.05, * p<0.1.
$^+$ indicates passing of robustness threshold in Oster (2017) test.

Table A20 Mediation Analysis for Christian Belief at Age 25 (Faith School)

	(1)	(2)	(3)	(4)	(5)
Outcome:	**Christian Belief at Age 25**				
Mediators:	**None**	**Ethic**	**Locus**	**Esteem**	**Sociable**
Panel A - Whole Sample					
Faith School	0.105***	0.095***	0.107***	0.102***	0.099***
	(0.030)	(0.030)	(0.030)	(0.030)	(0.031)
Mediator		0.033**	-0.002	0.014**	0.005
		(0.015)	(0.014)	(0.007)	(0.006)
N	4208	3856	3604	3820	3595
R^2	0.222	0.219	0.221	0.223	0.215
Panel B - Oster Tests of Faithful (Panel A)					
$R^2_{max} = 1$	0.060	0.054	0.060	0.060	0.058
$R^2_{max} = 2\widehat{R^2}$	0.209	0.189	0.211	0.208	0.209
$R^2_{max} = 1.3\widehat{R^2}$	0.675	0.613	0.680	0.674	0.677
Panel C - Protestants					
Faith School	0.074	0.069	0.070	0.082*	0.060
	(0.042)	(0.043)	(0.046)	(0.045)	(0.046)
Mediator		0.030	-0.013	0.018*	-0.005
		(0.025)	(0.021)	(0.010)	(0.008)
N	2099	1925	1780	1899	1798
R^2	0.084	0.084	0.087	0.088	0.090
Panel D - Oster Tests of Faithful (Panel C)					
$R^2_{max} = 1$	0.051	0.045	0.045	0.060	0.047
$R^2_{max} = 2\widehat{R^2}$	0.553	0.483	0.460	0.606	0.470
$R^2_{max} = 1.3\widehat{R^2}$	1.771$^+$	1.555$^+$	1.482$^+$	1.927$^+$	1.528$^+$
Panel E - Catholics					
Faith School	0.139**	0.127*	0.136**	0.108*	0.132*
	(0.061)	(0.067)	(0.065)	(0.065)	(0.071)
Mediator		-0.044	-0.094	0.030	0.017
		(0.042)	(0.046)	(0.018)	(0.023)
N	504	469	434	459	424
R^2	0.186	0.207	0.196	0.224	0.212
Panel F - Oster Tests of Faithful (Panel E)					
$R^2_{max} = 1$	0.246	0.237	0.215	0.202	0.240
$R^2_{max} = 2\widehat{R^2}$	1.023$^+$	0.879	0.847	0.684	0.864
$R^2_{max} = 1.3\widehat{R^2}$	3.000$^+$	2.655$^+$	2.516$^+$	2.133$^+$	2.612$^+$

Note: Each specification is estimated using column (7) controls from Table 3.
Bootstrapped Standard Errors in Parentheses; *** p<0.01, ** p<0.05, * p<0.1.
$^+$ indicates passing of robustness threshold in Oster (2017) test.

Table A21 Analysis by Gender

Variables	(1) Five A*-C	(2) Five A*-C (EM)	(3) Good Passes	(4) Point Score	(5) Alevel Top 3	(6) Attends University	(7) Russell	(8) Degree Class	(9) Wage Rate	(10) Christian (Age 25)
Panel A - Males										
Faith School	0.023	0.032	-0.019	0.045	0.081	-0.022	0.057	0.198**	-0.124	0.164***
	(0.020)	(0.020)	(0.156)	(0.037)	(0.063)	(0.025)	(0.038)	(0.081)	(0.166)	(0.035)
Faithful	0.024*	0.029**	0.405***	0.121***	0.021	0.028	0.066**	-0.009	-0.026	0.240***
	(0.014)	(0.014)	(0.109)	(0.026)	(0.046)	(0.018)	(0.028)	(0.057)	(0.117)	(0.024)
N	3,971	3,971	3,971	3,971	2,102	3,253	1,285	407	1,664	1,875
R^2	0.452	0.454	0.564	0.554	0.303	0.305	0.208	0.223	0.036	0.219
Panel B - Females										
Faith School	0.039**	0.050**	0.143	0.005	0.005	0.047*	0.028	-0.063	-0.024	0.165***
	(0.019)	(0.020)	(0.149)	(0.035)	(0.035)	(0.025)	(0.030)	(0.060)	(0.020)	(0.030)
Faithful	0.030**	0.019	0.354***	0.118***	0.118***	0.055***	-0.044*	-0.078	0.007	0.261***
	(0.014)	(0.015)	(0.112)	(0.026)	(0.026)	(0.019)	(0.025)	(0.051)	(0.015)	(0.023)
N	3,832	3,832	3,832	3,832	3,832	3,295	1,587	554	1,945	2,321
R^2	0.429	0.467	0.549	0.513	0.513	0.294	0.182	0.124	0.047	0.238
Panel C - Differences by Gender - Tests of coefficient differences										
Faith School	0.571	0.517	0.435	0.418	0.281	0.047	0.530	0.004	0.514	0.993
Faithful	0.786	0.630	0.745	0.929	0.064	0.297	0.003	0.333	0.305	0.545
Individual	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental Belief	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
School	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1. Note: Each column includes the column (6) controls from Table 3.