

Parental religiosity and human capital development: A field study in Pakistan*

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Abstract

In developing countries, a child's human capital development often depends on a trade-off between attending school and engaging in work activities. While the emphasis placed by religion on education means that parents may assign more importance to schooling, parents engaging in time-consuming religious activities may require their children to work more to compensate. Given these countervailing forces, we conduct a field study in Pakistan to assess the impact of parental religiosity on children's educational attainment and work activities. We find that parental religiosity has a robust positive impact on children's school outcomes and reduces their work activity, and parents with less time-consuming religious practices drive these results.

Key words: Religion, Human Capital.

JEL codes: I25, J13, Z12

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1 Introduction

Parents play a fundamental role in the human capital development of their children. In so doing, parents influence micro outcomes, such as the long-term economic prospects of their children, because of the impact of schooling on labor market outcomes. Moreover, parental decision-making can also have a significant impact on macro outcomes, such as economic growth, because of the well-documented nexus between growth and levels of human capital. In general, how parents influence their children’s human capital development depends on the economic environment and noneconomic individual characteristics. The impact of economic factors has been widely studied, but much less is known about noneconomic characteristics. Religion is a potentially important noneconomic factor that has been identified as an important determinant of economic behavior and outcomes (see, e.g., Iannaccone, 1992; Glaeser and Glendon, 1998; Barro and McCleary, 2003; Guiso et al., 2003; Clingingsmith et al., 2009; De la Croix and Delavallade, 2018; Bryan et al., 2021). However, while there is prior work linking religion to human capital in general (see, e.g., Becker and Woessmann, 2009), there is little prior research on the impact of parents’ religiosity on their children’s human capital development.

Moreover, it is *a priori* unclear what impact we expect parents’ religiosity to have on the human capital development of their children. On the one hand, most of the prominent religious teachings worldwide encourage individuals to place importance on gaining knowledge and acquiring education. For instance, in Islam, which provides the context for our study, the first word of the Quran is “read”. Various sayings of the Prophet (*Hadith*) also highlight the importance placed on gaining knowledge, such as “seeking knowledge is a duty upon every Muslim (and Muslimah) (*Sunan Ibn Majah*)”, “the best gift from a father to his child is education and upbringing (*Al Tirmidhi Hadith Collection*)”.¹ On the other hand, the time invested in religious activities may crowd out other activities and time investments that could be important for human capital development.

In this paper, we study how parents’ religiosity affects their children’s human capital development in a developing country context. We believe that the developing country context is especially relevant because the impact of religion in daily life is arguably stronger in many developing countries and, at the same time, there are persistently poor levels of human capital

¹Several other sayings also reflect the spirit of the emphasis of education in Islam, such as “seek knowledge from the cradle to the grave” or “seek knowledge even if it is as far as China”. Similar to Islam, almost all other religions also place value on educational attainment. For example, in Buddhism, learning is essential to attaining enlightenment; in Hinduism, learning is often viewed as an antidote to ignorance; in Judaism, it is prescribed that parents educate their children; and finally, in Christianity, the emphasis on reading the bible inherently places great importance on learning among believers.

accumulation.²

In general, a key challenge in studying the impact of noneconomic variables on human capital development, especially in developing countries, is the limited availability of data linking the religiosity of parents to their child's educational achievements. To overcome this challenge, [Figlio et al. \(2019\)](#) adapt an approach proposed in [Fernández and Fogli \(2009\)](#), where the outcomes of children of immigrants are linked to the predominant culture of their country of origin. This approach is valuable in a developed economy context but does not lend itself well to developing countries where immigration is essentially absent.³ The developing country context also presents other challenges. First, relative to developed economies, noneconomic factors, especially traditional measures of religion such as denomination, tend to be less diverse.⁴ Second, in developing countries, children are frequently engaged in various types of work activities, which can be a substantial impediment to educational attainment and human capital development. In developing countries, parents therefore face a decision problem where human capital development is not limited to children's schooling but also considers their labor market participation. To understand the role of the noneconomic factors that shape the dynamics of parents' decisions for human capital investment in developing economies, it is important to employ appropriate measures of religiosity and to include in the human capital framework the issue of the frequent opportunities for children to engage in work activities.⁵

To evaluate the impact of religion, we conduct a novel parent-child linked survey among low-income households in Kasur, Punjab, Pakistan, which overcomes many of the challenges by directly linking parental characteristics to the child's human development outcomes. We selected the area of Kasur because it has average levels of various human development indicators for the province of Punjab, such as monthly income, population involved in agriculture, and youth labor market participation. Moreover, the context of Pakistan naturally lends itself to our general question because of the poor educational outcomes, potential disinvestment in children's schooling due to their engagement in business enterprises and domestic chores, and the issue of low inter-generational social mobility, which other developing economies also face. Therefore, while the households in our sample are not intended to represent the full spectrum of households found in a developing country context, we believe the human capital decisions faced by the parents in our

²For instance, a Gallup poll from 2008–2009 reported that a majority of respondents in developing economies said that religion was “important in [their] daily life”.

³The UN International Migration Report 2017 shows that low-income countries received less than 5% of international migrants in the past two decades.

⁴The country-based religious diversity index (RDI) scores published by the Pew Research Center calculate the RDI by using the share of each country's 2010 population that belongs to each religious group. With few exceptions (such as Vatican City), the RDI score is less than 1 for low-income countries (mostly in Asia and Africa). Additionally, more than 80% of our sample of parents identify themselves as Sunni Muslims. These data come from our follow-up survey.

⁵See discussions in [Strulik \(2004\)](#); [Posso \(2017\)](#); [Thakurata and D'Souza \(2018\)](#).

sample are representative of those faced by many low-income families throughout the developing world. For these families, there is a meaningful trade-off between child work and a child's schooling, and religion is an important part of daily life. As a result, our study has relevance well beyond that of Kasur by shedding light on the link between parental religiosity and the human development decisions of parents in low-income developing countries.

To measure noneconomic characteristics, we use [Koenig and Büssing \(2010\)](#)'s DUREL measure for intrinsic religiosity and active engagement in religious activities. For each head of household (who is asked to be the responding parent), the measures of religion are linked to a wide range of children's labor market participation measures by surveying the parent and children and the schooling outcomes of the children based on administrative data. In particular, for the schooling outcomes, we (i) access the results of a central exam, which provides a standardized measure of school performance, and (ii) use school ledgers to measure school attendance. The labor market participation data allow us to capture a child's engagement in both paid and informal work (such as domestic chores), the latter being a predominant form of work in developing countries that is often unaccounted for in official data.

Our study also allows us to collect a large number of additional variables. First, we are able to collect a rich set of controls of household characteristics, including income, age, education and the cognitive ability of both the responding parent and child. Second, to control whether the effect of religion on human capital is driven by a correlation between religiosity and parental preferences that is relevant for human capital decisions, we use a range of incentivized experiments to collect time and risk preferences as well as a measure of parental altruism. The collected data, therefore, are uniquely suitable for studying the importance of parents' religiosity on the human capital development of their children.

We find religiosity to be important for human capital development, with our measures of religion playing a role in both children's schooling outcomes and their work activity. In particular, we find that religion has a substantial impact on schooling outcomes, with children of more-religious parents being more likely to pass the central exam and attend school. We also find that religiosity has a strong effect on work, with the children of more religious parents engaging significantly less in both economic and noneconomic work activities. Since religiosity may be correlated with other unobservables, we use a rich set of controls, including parents' age, education, cognitive ability, and preferences; household family income and size; and children's age, gender and cognitive ability. We also account for omitted variable bias using the methodology proposed by [Oster \(2019\)](#) and show that the effects are robust.

To shed light on the mechanism behind this link, we develop a simple conceptual framework in which parents maximize their household consumption by allocating their own time across religious and work activities and their child's time across schooling and work. This framework

highlights the countervailing effects of the religiosity of parents. While religious parents may place more value on their child's schooling, as prescribed by many religious teachings, if their religious practices involve time-intensive activities, it may crowd out the time they allocate to work, requiring their children to spend more time working to compensate. To test the relevance of these countervailing forces for explaining the impact of religiosity on human capital development, we conduct a heterogeneity analysis of parents' religious practices. Consistent with the framework, we find that the positive effect of religiosity on human capital outcomes depends on whether religiosity involves time-consuming activities. Moreover, we find that parents who do not engage in time-consuming religious activities are more likely to spend more hours at work and engage more in household chores, leaving their children more time to concentrate on their education.

Our results make three important contributions to the literature: First, our results provide new evidence of the importance of religiosity in influencing economic outcomes. While the literature has found religion to be important for growth [Barro and McCleary \(2003\)](#), economic attitudes [Guiso et al. \(2003\)](#); [Clingsmith et al. \(2009\)](#), and subjective well-being and earnings [Campante and Yanagizawa-Drott \(2015\)](#), we highlight a positive impact on human capital development through the impact of religiosity on parental decision-making.

Second, our results provide evidence of a positive impact of religion on human capital development in a developing country context. While some prior work has found differing results for religion's impact on education depending on the sample and religious denomination, we find a positive impact in our sample of low-income Muslim households. Moreover, our unique dataset allows us to shed light on the underlying mechanism and shows that the countervailing forces of a positive effect of religious teaching versus a negative effect of time-consuming engagement in religious activity are likely to be key determinants of how religion impacts human capital.

Finally, we are the first to document that the religiosity of parents is linked not only to a child's schooling outcomes but also strongly to child labor market participation. This contribution is possible because, unlike the prior literature, we do not limit our data collection to schooling outcomes. Instead, we take a multifaceted approach to human capital development by including outcomes related to child labor participation, which often deprives children of the acquisition of human capital in developing countries.

2 Related Literature

Our work contributes to two broad strands of literature. In this section, we highlight our contribution to the literature on human capital in developing countries and the effects of religiosity on human capital.

Human capital in developing countries: Economics has a long tradition of considering the human capital accumulation of children as driven in large part by their parents. In particular, the notion of children being dependent agents and their parents the decision-makers is embedded in the theoretical models of [Becker and Tomes \(1979, 1986\)](#) and in the more recent work of [Doepke and Zilibotti \(2017\)](#), who highlight the importance of a parent's style of parenting in terms of their child's human capital development and future economic success.

In developing countries, human capital accumulation is often made more complex by parents having to choose between their child's education and labor (see, e.g., [Baland and Robinson, 2000](#); [Strulik, 2004](#); [Posso, 2017](#)). While placing their children in school allows them to develop human capital, having their children work provides contemporaneous consumption for their household but impedes human capital development ([Thakurata and D'Souza, 2018](#)).

A number of studies have empirically investigated whether there is a relationship between the number of hours worked by children and their schooling (see, e.g., [Akabayashi and Psacharopoulos, 1999](#); [Ray, 2004](#); [Ray and Lancaster, 2005](#)); generally, they find that there is a trade-off between schooling and waged labor. As a result, to understand parents' human capital investment decisions, the issue of education must be joined with the matter of parents in developing economies routinely engaging their children in work. Our paper contributes to the literature by considering the importance of the religiosity of parents in decision-making regarding their children's schooling and work.

The importance of parents as the decision-makers for their child's human capital development in this setting has motivated empirical researchers to understand how parental characteristics (such as education and age), the child's own characteristics (such as gender and age) and, more generally, common household factors (such as income, assets and family size) influence decisions about the child's work and education. To construct the richest conditioning variables, we invoke the past literature and include characteristics for parents ([Strauss and Thomas, 1995](#); [Kurosaki et al., 2006](#); [Emerson and Souza, 2007](#)), children ([Levison and Moe, 1998](#); [Cartwright, 1999](#); [Levison et al., 2001](#); [Edmonds and Pavcnik, 2005](#)), cognitive abilities ([Heckman et al., 2006](#); [Burks et al., 2009](#); [Borghans et al., 2010](#); [Almlund et al., 2011](#)) and household income ([Hanushek, 1992](#); [Patrinos and Psacharopoulos, 1997](#)). The large number of factors illustrates the importance of having many control variables when studying human capital. A key advantage of our survey is that it allows us to gather information and control for these factors when considering the importance of religion on human capital.

Religion and human capital: While there is little prior work linking parents' religiosity to the human capital development of their children in a developing country context, there are studies on the relationship between religion and educational achievement in developed countries. One

prominent strand of literature is based on empirical findings that children from Catholic schools in the U.S. tend to significantly outperform similar children in other schools (Coleman et al., 1982; Evans and Schwab, 1995; Neal, 1997; Ewing, 2000). These results have led to an influential theory of how religion positively impacts human capital development based on the idea that religion improves schooling through its effect on social capital (e.g., Coleman, 1988). Fan (2008) uses this idea to develop a model in which parents' participation in religion is partially driven by them taking into account religion's positive impact on children's human capital formation.

While the literature generally finds a positive impact of religion on schooling, the literature also finds worse outcomes among more extreme religious observers. Berman (2000) finds that ultra-orthodox Jews in Israel have worse levels of education and relates these findings to the Iannaccone (1992) influential theory of religious clubs. Iannaccone (1992) provides evidence in the case of extreme sects within Christian denominations, and Berman and Stepanyan (2004) find evidence for radical Islam.

This study complements the literature by focusing on a developing country context in which there is a potential trade-off between work and schooling with the goal of determining whether parental religiosity has a positive or negative impact on children's human capital development in this setting.

3 Conceptual Framework

In this section, we develop a simple conceptual framework that captures the essence of the potential impact of parents' religiosity on their child's schooling outcomes and work activity in a developing country context.

Consider a parent that makes the time allocation decisions for a household that, for simplicity, consists of one parent and one child. The parent can allocate a fraction of their own time $l_p \in [0, 1]$ to work for a wage w_p . To reflect the developing country context, we also allow the parent to allocate a fraction of the child's time $l_c \in [0, 1]$ to work for a wage w_c . The parent cares about household consumption c , which is financed using the income earned by the parent and the child: $c = w_p l_p + w_c l_c$.

The time allocation problem has two additional features. First, the parent finds it important to devote time to participating in religious activities. In their seminal work on the theory of religious participation, Azzi and Ehrenberg (1975) suggest three reasons why people participate in religious activities: (i) they view their expected afterlife as being related to their participation, (ii) they derive current satisfaction from participation because of their religious beliefs or for purely social reasons, or (iii) social pressures in a community may suggest that religious activities will increase an individual's economic success. Based primarily on (ii), we assume that the parent

derives utility from the time allocated to religious activity, $r = 1 - l_p$. Second, time spent by the child working takes time away from schooling and therefore affects educational performance.⁶ Following Banerjee (2004), we assume that the parent derives utility from their child doing well academically and thus cares about the child's education performance, which is a function of how much time the child spends on schooling s : $g = g(s) = g(1 - l_c)$.

The parent therefore maximizes the following utility:

$$U(c, r, g) = U(w_p l_p + w_c l_c, 1 - l_p, g(1 - l_c)). \quad (1)$$

Now, let $w_p = w_c = 1$, $g(s)$ be linear and utility (1) have the constant elasticity of substitution form:

$$U(c, r, g) = [\alpha_1(l_p + l_c)^\rho + \alpha_2(1 - l_p)^\rho + \alpha_3(\alpha_2)(1 - l_c)^\rho]^{\frac{1}{\rho}}, \quad (2)$$

where $\rho < 1$, and $\alpha_1 + \alpha_2 + \alpha_3(\alpha_2) = 1$.⁷ Then the weight α_1 provides a measure of the relative importance to the parent of household consumption, the weight α_2 measures the relative importance of religious activity and therefore is a measure of their religiosity, and weight $\alpha_3(\alpha_2)$ is a measure of the relative importance of a child's success in school, which we assume is a function of religiosity.⁸ The following proposition connects the parent's religiosity to the child's work activity and school performance.

Proposition 1 *Let $\varepsilon(\alpha_3, \alpha_2) \equiv \frac{\partial \alpha_3(\alpha_2)}{\partial \alpha_2} \frac{\alpha_2}{\alpha_3(\alpha_2)}$ be the elasticity of the weight of a child's education with respect to religiosity. Then, a parent's religiosity reduces the child's work activity ($\frac{\partial l_c}{\partial \alpha_2} < 0$)*

⁶In order to test this assumption, we use our data to calculate correlations between a child's work hours and a number of schooling outcomes, and present these correlations and corresponding tests in Table A2.1 in Appendix A2.1. In line with this assumption, we find a significant negative correlation between a child's school and work hours and between a child's work hours and important measures of schooling performance.

⁷Using this specification, a parent's and child's work are substitutes for each other: to maintain a given level of household consumption, if a parent works less, the child needs to work more to compensate. In line with this idea, Table A2.1 in Appendix A2.1 also presents correlations between a child's and parent's work hours and shows that there is a significantly negative correlation between the work hours of a child and those of the father but not the mother.

⁸As summarized in Section 2 the literature generally finds a positive impact of religion on education, apart from extreme forms of religion. In line with these findings, our follow-up survey data show that 90% of parents believe that their religion considers the education of children to be moderately to extremely important, with approximately 73% believing that their religion considers it to be extremely important. Data on the parents' education aspirations for their children also support the emphasis of religion on their child's education for a relevant subset of parents; we present these findings in Section 7.

and improves the child's school performance if

$$\varepsilon(\alpha_3, \alpha_2) > \frac{\alpha_1^{\frac{1}{1-\rho}}}{\alpha_1^{\frac{1}{1-\rho}} + \alpha_2^{\frac{1}{1-\rho}}}, \quad (3)$$

Otherwise, religiosity increases work activity and worsens school performance.

Proof. See Appendix A2.1. ■

Proposition 1 implies that the overall impact of a parent's religiosity on their child's schooling outcomes and work activity is unclear, as it depends on two countervailing forces. On the one hand, a more religious parent may place more emphasis on engaging in religious activity, reducing the time available to work and requiring their child to work more to compensate, worsening the child's educational outcomes. On the other hand, if a more religious parent places greater weight on education, then the incentive to have their child work is reduced, improving the child's educational outcomes.

Condition 3 determines which of these two countervailing forces dominates. If the weight the parent places on their child's education is (i) positively related to religiosity and (ii) responsive enough to religiosity, then the child of a more religious parent works less and performs better at school than the child of a less religious parent; otherwise, the child of a more religious parent works more and performs worse at school.

The importance of religious practices There is potential heterogeneity in the value religious parents place on participating in religious activities, reflecting that some religious individuals practice their religion by engaging in religious activities whereas for others, religiosity is more about intrinsic religious beliefs (e.g. Barro and McCleary, 2003). This heterogeneity in religious practices may have important consequences for the impact of parental religiosity on a child's outcomes because there will be differences in the importance parents place on dedicating time to religious activity.

To illustrate the effect of this heterogeneity, we can extend the conceptual framework by letting α_2 be the weight on disutility of parental labor and α_3 be the weight on disutility of child labor, with both being a function of parental religiosity δ , i.e., $\alpha_2(\delta)$ and $\alpha_3(\delta)$. This extension allows us to capture the heterogeneity of how the relative importance of parental versus child labor is impacted by religiosity by distinguishing between the impact on the disutility of parental labor (i.e., how responsive α_2 is to changes in δ) and the impact on the disutility of child labor (i.e., how responsive α_3 is to changes in δ). The following proposition connects the parent's religiosity to the child's work activity and school performance in this extended setting.

Proposition 2 Let $\varepsilon(\alpha_2, \delta) \equiv \frac{\partial \alpha_2(\delta)}{\partial \delta} \frac{\delta}{\alpha_2(\delta)}$ be the elasticity of the weight on the disutility of parental labor with respect to religiosity and $\varepsilon(\alpha_3, \delta) \equiv \frac{\partial \alpha_3(\delta)}{\partial \delta} \frac{\delta}{\alpha_3(\delta)}$ be the elasticity of the weight on the disutility of child labor with respect to religiosity. Then, a parent’s religiosity reduces the child’s work activity ($\frac{\partial l_c}{\partial \delta} < 0$) and improves the child’s school performance if

$$\frac{\varepsilon(\alpha_3, \delta)}{\varepsilon(\alpha_2, \delta)} > \frac{\alpha_1^{\frac{1}{1-\rho}}}{\alpha_1^{\frac{1}{1-\rho}} + \alpha_2(\delta)^{\frac{1}{1-\rho}}}, \quad (4)$$

Otherwise, religiosity increases work activity and worsens school performance.

Proof. See Appendix A2.1. ■

In Proposition 2 the elasticity $\varepsilon(\alpha_2, \delta)$ measures the responsiveness of the disutility from parental labor to religiosity, and the elasticity $\varepsilon(\alpha_3, \delta)$ measures the responsiveness of the disutility from child labor to religiosity.

For a parent whose religiosity is activity oriented, it is more likely that the disutility from parental labor will be more responsive to religiosity since religion requires a certain time commitment by the parent. Hence, Condition 4 is less likely to hold for parents whose religiosity is activity oriented. On the other hand, for a parent whose religiosity is intrinsically oriented, the disutility of parental labor will be less responsive to religiosity since there are fewer time commitments associated with religious practice. Hence, Condition 4 is more likely to hold for parents whose religiosity is intrinsically oriented. As a result, if we find that child work activity is lower for more religious parents than for less religious parents, Proposition 2 shows that we expect this decrease in child work activity to come primarily from those parents whose religiosity is intrinsically oriented. For parents whose religiosity is activity oriented, we expect religiosity will lead to a less significant decrease in child work activity and may even increase child work activity.

4 Sample and Data

Our dataset includes 1,416 parent–child pairs and contains information about each child’s engagement in economic and noneconomic work activities, time spent working, performance on a central exam conducted at the end of primary school for transfer to middle school and the child’s school attendance.⁹ For parents, the data include their work activity, work hours, and time allocated to other activities such as child care. Finally, the data include a broad range of

⁹We contacted 1,500 parent–child pairs, so the response rate was approximately 95%. Nonresponses were primarily because the family household head was not available or the address did not match the residential address records obtained from the school.

both conventional and novel characteristics of the child, parent(s) and household. In this section, we describe the sample selection and discuss the sources of the collected data.

4.1 Sample selection

We acquired parents' contact information from school records and restricted the sample to public schools. In Pakistan, such schools are almost exclusively used by low-income households, and as we also find, it is common in this population to have children do some form of work; therefore, there is an important trade-off between work and schooling in our sample.¹⁰ To facilitate data collection, we further restricted the sample to schools for which it was possible for the students to transition within the same school, which is common in Pakistan. We concentrated on peri-urban localities (often referred to as rural/urban areas) of the Kasur district in Punjab.¹¹ This process left a pool of 45 schools from which we selected the sample. We selected 32 schools, where the probability of a school being chosen for our sample increased with the number of students in grade 5.¹²

4.2 Data

The data were obtained from three sources: administrative data collected from school and government records, data from surveys conducted separately for parents and children, and a follow-up survey of parents.

Administrative data from schools and government records: To provide a measure of school performance, we collected the central exam result for each child by accessing administrative data collected by the government of Punjab. It is required that all children in Pakistan successfully pass the exam, which represents the culmination of five years of schooling, at the end of primary school to enable their transition to middle school. The fact that exams are centrally set and the exam questions are uniform across all students is vital for our study, as only standardized measures of school performance allow for meaningful conclusions (see, e.g., [Gunnarsson et al., 2006](#); [Baird et al., 2011](#); [Dumas, 2012](#)).

We were able to uniquely match 1,332 students from our sample of 1,416 children using the school name, father's full name and child's full name. We excluded students who were absent

¹⁰Note that the children who never enrolled in the school are not part of our sample. However, in Kasur, the [ASER \(2018\)](#) shows that only 1.7% of the children have never enrolled in primary school. Our sample is not representative for this small sub-group.

¹¹We chose the district of Kasur in Punjab because the average level of various development indicators (such as school drop-out rates, monthly income of employed, population involved in agriculture, youth labor market participation and crime rate) in Punjab are closest to those observed in Kasur in the district data collected from the Alif Ailaan campaign (2013–2018) for education in Pakistan.

¹²The distribution of these schools by grade and gender is provided in Table [B1](#).

during the exam (this was a small number of 13 students). We then constructed a dummy variable for passing the exam, which required a minimum score of 33% for each of five subjects: English, Islamic studies, Urdu, Science and Mathematics. While passing the central exam is a crucial outcome variable, as it determines whether the child is able to continue to the next stage of education, the vast majority of children pass, so there is not much variation in this variable. Using the marks on the exam instead of merely pass/fail is an attempt to address this issue, but for a student who did not manage to score 33% for each of the subjects, the reported final score is simply denoted as *fail* without the marks, and the largest variation in marks is due to the pass/fail criterion. Using marks conditional on passing eliminates this issue but then also takes the children with the worst school performance outcomes out of the analysis. Thus, we use three outcome variables: The first is a binary variable, assigning 1 if the student passes the exam and 0 otherwise. The second is marks, where we assign 0 for the aggregate marks if the child failed the exam. The third is marks after restricting the analysis to children who passed the central exam.

School performance provides a measure of the output of a child's time in school. To also provide a measure of a child's time input into their education, we accessed school ledgers from all the schools in our sample, which contain information on each child's attendance over the previous academic year. As argued by [Baird and Özler \(2012\)](#), school ledgers should be regarded as the benchmark measure of attendance, as self-reported school participation may be subject to bias. Together with our exam results, we also use a robust independent measure of the child's time input into schooling by including their school attendance based on school ledgers.

Parent-child linked survey data: Our surveys for each parent-child pair include two parts. The first contains incentivized tests. For parents, this includes an incentivized standard Raven's test to collect information on their cognitive ability and a range of standard incentivized experiments to elicit discounting, risk aversion and altruism.

The second part involves survey questions. For parents, the survey contained questions to elicit their religiosity using the Duke University Religion Index (DUREL), which divides religious practices into three dimensions ([Koenig and Büssing, 2010](#)). In particular, a dimension of intrinsic religiosity (IR) measures subjective religiosity and assesses the degree of personal religious commitment or motivation. Active participation in religious activities is divided into organized religious activities (ORA) and nonorganized religious activities (NORA). ORA involve public religious activities, such as attending religious services or participating in other group-related religious activities (prayer groups, Quran study groups, etc.), while NORA consist of religious activities performed in the home, such as prayer, Quran study, watching religious TV or listening to religious radio. The Online Appendix provides the questionnaire for the DUREL measure, adapted to the context of the Muslim population in Pakistan.

Along with religiosity, the parent survey also provides information on standard control vari-

ables (such as parental education, income, age, household size, and child’s age and gender) and information on their time spent on both economic and noneconomic work. Moreover, we derive our main child work variables using the survey of the parents. No consensus exists on whether it is better to ask parents or the child about the child’s work activity, and while [Dillon et al. \(2012\)](#) find little difference between work reported by children and that reported by their guardians, both [Dammert and Galdo \(2013\)](#) and [Janzan \(2018\)](#) find the reports to be inconsistent in a significant number of cases. We take the following approach: For questions regarding types of work (extensive margin), we ask the child’s guardian, as we believe guardians are well suited to answer what type of work their child performs for them, whereas for the hours of work (intensive margin), we ask the children themselves, as we believe they are best suited to answer how they typically spend their day.

For children, the first part of the survey includes an incentivized colored Raven’s test to measure their cognitive ability. The second part involves the survey questions to collect information about their allocation of hours to work in a typical day. In the Online Appendix, we further elaborate the protocols and payments made to parents and children for their participation in the study.

In Appendix [A1](#), Table [A1.1](#) provides the mean and standard deviation for the independent variables and Figure [A1.2](#) illustrates our religiosity variables. Appendix [A1](#) also presents Table [A1.2](#), which provides the mean and standard deviation for dependent variables for the full sample as well as for male and female children separately and Figures [A1.3-A1.4](#) illustrate each of our dependent variables.

Follow-up survey: In the existing survey, we collected information about parents’ own allocation of time between work and household chores. However, the survey lacked information about the parents’ religious denomination and whether their religion places emphasis on the education of their child. To gather this missing information, we conducted a follow-up telephone survey with parents in the summer of 2020. To increase the rate of response, we designed the module to be brief, with yes and no questions. As a result, we were able to collect observations for approximately 70% (980 parents) of our sample.

5 Econometric Model

In line with our conceptual framework, we model outcome variables denoted by Y_{is} for child i who goes to school s in equation [5](#):

$$Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}, \quad i = 1 \dots N \quad (5)$$

where α_s is a school-specific error term and μ_{is} is an idiosyncratic error term that may be correlated across students in school s , depending on the sampling scheme.

Our control variables (X_{is}) include a battery of variables for the parents. We start with the binary variable of education status denoted by $Edu(Father)$ and $Edu(Mother)$, both of which take a value of 1 if, respectively, the father and mother of the child are educated.¹³ We also include variables for the ages of the father and mother, denoted by $Age(Father)$ and $Age(Mother)$, respectively. To account for differences in innate abilities, we conduct incentivized Raven’s standard progressive test for parents and Raven’s colored progressive test for children (Raven et al., 1938) and include the cognitive ability of the responding parent, denoted by $Raven(Parent)$ and child $Raven(Child)$. For the child, in addition to $Raven(Child)$ our set of variables includes age and gender, denoted respectively by $Age(Child)$ and $Female$ (coded as 1 if the child is female).

Finally, for household variables, we include family size, denoted by $Family-size$, and household income, denoted as $HH Income$. Zero family income is reported for one-quarter of the sample, but such responses may not be accurate given that more than 98% of the respondents also report their labor status as employed. However, similar to Fruehwirth et al. (2019), we address this issue by replacing unreported or zero income with zero and including a dummy for missing income to avoid any systematic attrition of the data that could impact the results.

We also use control variables that would otherwise be omitted variables and can bias our estimate. The two sets of additional control variables are motivated by the local context and the theoretical links shown to matter for children’s schooling outcomes. The first control variable pertains to the parents’ safety concerns about their children attending school in light of recent terrorist-linked activities targeting schools. For this, we include a variable asking parents’ level of concern about their child’s school being targeted and denote it as $Scared$. Since Muralidharan and Prakash (2017) show that, theoretically, the distance between home and school is an important variable for children’s participation in school, we include a variable $Walk$ to ask whether the child walks to school to assess its proximity. Finally, we include behavioral factors of parents’ discounting of the future, denoted by $Discounting$, risk-loving behavior, denoted by $risk loving$, and altruism, denoted by $altruism$, to explore whether the impact of religiosity is instead driven by these behavioral variables, which are often modeled in the literature (such as Baland and Robinson (2000)) on parental decisions to engage their children in work activities.

For our explanatory variables of interest, we construct a measure of religiosity Rel , which is composed of three dimensions of the DUREL measure of religiosity adapted from Koenig and Büssing (2010). These dimensions are constructed using items based on a Likert scale: the first

¹³The reason we use binary variables instead of the level of education is that in our sample, 66% of the fathers and 85% of the mothers are uneducated. As a result, most of the variation is captured by this binary version of the variable.

pertains to the average response to three questions about deeper religiosity, denoted by *Intrinsic*; the second captures the response to a question about engagement in private religious activities, denoted by *Nonorganized religious Act*, and the third captures outwardly religious activities, denoted by *Organized religious Act*.

Since more than 95% of our sample parents identify as Muslim (See Figure A1.1), we adapted the DUREL measure in the context of a Muslim population. In particular, intrinsic religiosity (IR) measures assess the degree of personal religious commitment or motivation and include the following three questions: “In my life, I experience the presence of Allah”; “My religious beliefs are what really lie behind my whole approach to life”; and “I try hard to carry my religion over into all other dealings in life”. NORA consist of religious activities performed in the home, such as prayer, Quran study, and watching religious TV, and are measured by the following question: “How often do you spend time in private religious activities, such as prayer or Quran recitation?” Finally, ORA involve public religious activities, such as attending religious services or participating in other group-related religious activities (prayer groups, Quran study groups, etc.) and are measured by the following question: “How often do you attend mosque or other religious meetings?” In the Online Appendix we present the figures (see figure A1.2) corresponding to the responses of parents on each of the religiosity questions.

The last measure is the most time consuming because it measures engagement in religious practices in the public sphere (for example, praying at a mosque would require walking/commuting to the mosque)¹⁴, while the other two measures of religiosity are less costly, with intrinsic religiosity having the least cost of all forms of practicing religion.¹⁵ In the absence of these distinctions, our variable *Rel* is constructed by aggregating all the responses and normalizing the total score for each parent by the maximum possible score. This measure ranges from 0 to 1 and provides a simple interpretation that if *Rel* is high, the parent is more religious. However, as posited in our conceptual framework, we explore whether the distinction of religiosity in terms of time costs plays an important role in the differential impact of religion on children’s outcomes. In the Appendix we illustrate our index for religiosity (*Rel* variable) used in the analysis (see figure A1.2.3). We also construct the religiosity index using the principal component analysis and factor analysis. Because the estimated effects of religiosity are remarkably similar to the religiosity index used in our baseline analysis, we relegate additional analysis to the Online Appendix A3.1.

Our outcomes include binary and continuous variables for schooling and work. The binary variable for schooling performance is called *Pass*, which is coded as 1 if the child passes the

¹⁴One potential motivation behind this form of religiosity pertains to the mechanism of demonstrating one’s religiosity to others.

¹⁵In contrast to organized religious activities, there is no demonstration involved with nonorganized or intrinsic religiosity.

central exam and 0 otherwise. The continuous schooling participation variable are marks on a central exam denoted by *Unconditional Marks*, marks conditional on passing denoted by *Conditional Marks* and attendance in school, which is the total number of days a child attends school in an average month and is denoted by *Presence*. For work outcomes, the binary variables include *Work*, which is coded 1 if the child worked in any fashion (including economic activity and household chores) and 0 otherwise. We further disaggregate *Work* into work categories: *Economic Activity*, which is coded 1 if the child worked formally or informally in a family enterprise and 0 otherwise, and *Household Chores*, which is coded 1 if the child conducted household chores for free and 0 otherwise.¹⁶ Finally, we include the hours of work a child spends on various work activities, which is denoted by *Work Hours*.

We further investigate how to treat school-specific error terms with respect to estimation and calculating standard errors. If going to school s affects outcome Y_{is} and is correlated with the other explanatory variables, then β_1, γ_x will potentially be biased unless we include school fixed effects. For example, consider the β_1 of the religiosity variable. This variable can be transmitted to the students through their parents or through the relevant institutions, e.g., schools. School dummies allow us to separate the transmission through schools from our main variables of interest. In other words, with the fixed effect specification, we simply compare children within the same school, which removes numerous aforementioned institutional differences across neighborhoods.

Following the traditional path suggested by Moulton (1986, 1990), we may need to adjust the standard errors for correlation across students at the same school. However, recent work by Abadie et al. (2017) demonstrates that such clustering is not always necessary and that using it unnecessarily leads to overly conservative standard errors and confidence intervals. We, therefore, present both unclustered and clustered standard errors throughout our analysis.

6 Results

As outlined in our conceptual framework in Section 3, the impact of parents' religiosity on their child's schooling outcomes and work activity could go in either direction. On the one hand, the religious activities of parents can take time away from work, requiring the child to work more to compensate, reducing the child's time for schooling and, therefore, negatively affecting schooling outcomes. On the other hand, religious parents may value schooling outcomes more because religion places importance on education, in which case parents require less work from their child

¹⁶For binary outcomes, the regression specification takes a probit form and is as follows:

$$P(Y_{is}=1|X_i) = \Phi(\beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is}),$$

to allow the child to focus on school.¹⁷ Due to these countervailing effects, in Section 6.1, we first report the estimates of the effect of parental religiosity on children’s schooling and work-related outcomes using specification 5. In the next section, we explore the potential channel for whether the parent’s type of religious practices can rationalize the estimated effects of religiosity on children’s work and schooling decisions.

6.1 Effects of parental religiosity on child’s outcomes

Baseline In Table 1, we summarize the point estimates and the standard errors (unclustered and clustered by schools). We also report the margins for the probit regressions (for binary outcomes) to facilitate quantitative interpretation. In Appendix Table A3.1, we provide the full regression tables.

Table 1: Baseline: Impact of religiosity on children’s educational outcomes

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Religiosity Religiosity	53.0**	1.97**	8.73	0.78**	-2.09***	-1.56***	-2.16***	-1.46***
<i>unclustered s.e</i>	(23.6)	(0.87)	(14.1)	(0.36)	(0.52)	(0.56)	(0.52)	(0.45)
<i>clustered s.e</i>	[29.0]	[0.74]	[16.2]	[0.39]	[1.10]	[0.99]	[1.10]	[0.90]
<i>margins</i>		(0.32)			(-0.56)	(-0.34)	(-0.59)	
N	1243	599	1165	1246	1319	1165	1316	1180

Notes: Table 1 presents the estimated effect of religiosity (β_1) using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with unclustered standard errors (in parentheses) and standard errors clustered by school [in squared bracket]. The specification includes fixed effects for schools and includes a battery of control variables X for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. In Appendix Table A3.1, we provide the full regression table.

As seen in Appendix Table A3.1, the effects of our control variables are consistent with the past literature showing that parental education has a positive influence on children’s schooling (Kurosaki et al., 2006; Emerson and Souza, 2007). With respect to the child’s age, our results are consistent with those reported in Cartwright (1999), where the child’s probability of working increases with age. One novel feature of our control variables is the addition of the cognitive ability of both the child and the responding parent, which accounts for nonobservables that are frequently missing in the literature. Similar to Heckman et al. (2006), we find that one’s own cognitive ability improves schooling outcomes. Moreover, we show that parental cognitive ability is mostly responsible for inhibiting the likelihood that a child engages in work.

¹⁷The follow-up survey data show that 90% of the parents believe that their religion assigns moderate to extreme importance to educating their children.

Our results show that the religiosity of parents affects both the schooling- and work-related outcomes of their child. In particular, there is a 53 additional marks and a 32% higher marginal effect of religiosity on predicted probability of child passing the central exam. In terms of standard deviation, if the parent has a one standard deviation higher level of religiosity, there is a 6% higher chance of the child passing the exam. Note that the number of observations for the *Pass* variable is considerably smaller than that for the other variables. This is because we use school fixed effects, and when there is no variation in the school's pass variable (approximately half of the schools have no variation in this variable), the observations are simply omitted from the analysis. In the next section, where we also employ the random effects model, the number of observations is comparable to those for other variables. We, however, do not find any significant effect on marks conditional on passing. The effect is less precisely estimated but remains positive.

The effect of a more religious parent also translates into 0.78 additional days of school in an average month. Moreover, the marginal effect of religiosity on the predicted probability of child engaging in any type of work is negative and 56%, which is driven by a reduction in the predicted probability of engaging in economic activity by 34% and a reduction in the likelihood of performing household chores by 59%. In terms of standard deviation, if the parent has a one standard deviation higher level of religiosity, there is 1% less chance of the child engaging in any type of work and household chores, and a 4% less chance of engagement in economic activity. The effect of a one-unit increase in this measure also reduces the number of work hours per day by 1.5 hours.

Gender Since public schools in Pakistan are segregated according to gender, using the fixed effect specification does not allow us to estimate the effect of gender. However, past evidence provided in [Edmonds and Pavcnik \(2005\)](#) shows that gender plays an important role in the type of work activity in which a child may be involved. For example, household chores inside the house are more likely and outside work is less likely for girls, while the opposite is true for boys. In terms of schooling, it is often posited that in developing countries, gender inequality starts early, as girls are often excluded from schooling opportunities. Therefore, we study whether parental religiosity affects certain child outcomes more than other outcomes depending on the gender of the child. To do so, we estimate the following specification:

$$Y_i = \beta_0 + \beta_1 * Rel_i + \beta_2 * Female_i + \beta_3 * Rel_i * Female_i + \gamma_x * X_i + \mu_i \quad (6)$$

where *Female* is coded as 1 if the child is female and 0 otherwise. In this specification, the impact of religiosity on boys is captured by β_1 , and the effect of religiosity on girls is captured by $\beta_1 + \beta_3$.

Table 2: Impact of religiosity on children's outcomes by gender

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Religiosity	40.1	1.54*	-8.64	1.10**	-1.80***	-2.81***	-1.89***	-1.74***
<i>unclustered s.e</i>	(29.8)	(0.91)	(18.1)	(0.45)	(0.63)	(0.65)	(0.63)	(0.55)
<i>clustered s.e</i>	[33.3]	[0.49]	[19.0]	[0.51]	[1.31]	[1.09]	[1.32]	[1.01]
Female	20.1	-0.79	1.90	0.75	0.62	-4.27***	0.58	-0.040
<i>unclustered s.e</i>	(47.7)	(1.95)	(28.1)	(0.70)	(0.96)	(1.10)	(0.96)	(0.86)
<i>clustered s.e</i>	[69.5]	[2.58]	[34.4]	[0.73]	[2.11]	[2.12]	[2.12]	[1.72]
Female*Religiosity	28.2	1.69	36.0	-0.80	-0.69	4.67***	-0.63	-0.074
<i>unclustered s.e</i>	(48.6)	(2.16)	(28.9)	(0.73)	(1.03)	(1.18)	(1.03)	(0.93)
<i>clustered s.e</i>	[62.5]	[2.78]	[32.1]	[0.72]	[2.32]	[2.31]	[2.33]	[1.93]
Religiosity (Female=1)	68.276*	0.133	27.409	0.300	-0.678***	0.370*	-0.689***	-1.809**
<i>unclustered s.e</i>	(38.528)	(0.097)	(22.533)	(0.582)	(0.228)	(0.205)	(0.229)	(0.748)
<i>p-value</i>	0.076	0.172	0.224	0.607	0.003	0.070	0.003	0.016
<i>clustered s.e</i>	[53.204]	[0.139]	[26.063]	[0.558]	[0.517]	[0.403]	[0.520]	[1.638]
<i>p-value</i>	0.199	0.338	0.293	0.591	0.189	0.358	0.185	0.269
<i>N</i>	1243	1243	1165	1246	1319	1325	1316	1180

Notes: Table 2 presents the estimated effect of religiosity by gender. Gender of the child is coded as 1 if *Female* and 0 otherwise. The specification is as follows: $Y_i = \beta_0 + \beta_1 * Rel_i + \beta_2 * Female_i + \beta_3 * Rel_i * Female_i + \gamma_x * X_i + \mu_i$ and we give unclustered standard errors (in parentheses) and standard errors clustered by schools [in squared bracket]. The specification does not include fixed effects for schools but includes a battery of control variables X for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). Significance levels from unclustered standard errors are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. In Appendix Table A3.2, we provide the full regression tables.

In Table 2, we summarize our results¹⁸, which show that the heterogeneity across children's gender is not stark, but the few differential effects we see are broadly consistent with the context of developing economies. First, there is some evidence that schooling outcomes for both boys and girls are related to their parents' religiosity, but unconditional marks are affected by parent's religiosity for girls and not for boys, whereas pass and attendance is affected by parents' religiosity for boys and not for girls. However, the estimated effect for both genders is in the same direction. We also see that the relationship between religiosity and household chores is significant for girls, while for both household chores and economic activity, religiosity shows a negative impact for boys. Since a female child is more likely to be engaged in household chores, the effect of religiosity may only be constrained to this type of work. However, for girls the effect on economic activity is positive but less precisely estimated, whereas for boys, the impact is negative and significant for economic activity as well. In summary, while there are some differences

¹⁸The full table with estimates for the control variables is presented in Table A3.2.

across genders, overall, the parent's religiosity impacts schooling and work outcomes for both genders.¹⁹

6.2 Robustness

We now proceed to a number of alternative specifications. We first discuss potential issues that may impact our baseline results and then conduct additional analyses to illustrate the robustness of our baseline results. We present these robustness analyses in Tables 3-5, the estimates for which show remarkable similarity to those presented using our baseline specification.

We start with the estimation including additional control variables to explore whether the coefficients estimated in the last section are driven by variables that are traditionally unobservable or omitted but can bias our estimate for religiosity. Given the theoretical link between children's safety and distance to schools reported in (Muralidharan and Prakash, 2017), we elicited from parents how concerned they are about terrorists targeting schools. This question is important in the context of Pakistan, which has recently witnessed terrorist attacks against schools, as it may feed into parents' decisions regarding whether to send their children to school or have them engage in outside household chores and economic activities. Relatedly, we also collected data on the mode of transportation the child uses to commute to school, which allows us to proxy for more local safety concerns and the transportation cost associated with attending school. In the results shown in panel A columns (1)–(8) in Table 3, we find that on their own, concerns about terrorism in school do not significantly impact a child's outcomes; however, whether the child walks to school has an impact, as theorized in the literature. The closer the school is, the more likely the child will attend school and the less likely the child will participate in work activity. However, despite the importance of this variable, the estimated impact of religiosity is unaffected when we include these additional control variables, which confirms that the additional control variables do not seem to bias our estimates for religiosity.

Additionally, the decision to invest in education rather than having children work may also be influenced by the behavioral preferences of parents. To guide our analysis with regard to which variables are traditionally important in our context, we invoke theories of child labor that routinely have intertemporal investment (i.e., time discounting) and parental altruism as common features (Baland and Robinson, 2000; Ranjan, 2001; Dessy and Knowles, 2008; Kumar, 2013) and models of human capital and wealth accumulation (Doepke and Zilibotti, 2008; Dohmen et al., 2015) that feature time discounting and risk aversion. Parental altruism is also important in the seminal work of Becker and Tomes (1979) as well as in Basu and Van (1998). Moreover, it is often argued that these preferences may be affected by a person's religiosity (Iannaccone, 1998;

¹⁹We also note that with clustered standard errors, the effect is not significant for girls, but unlike the fixed effect specification, this estimation does not control for any institutional differences across neighborhoods.

[Benjamin et al., 2016](#)).

To investigate whether these additional behavioral factors impact our estimate for parents' religiosity, we include the degree of impatience (*discounting*), willingness to take on risk (*risk loving*) and parents' selfless concern for their child's well-being (*altruism*) in our specification. All these measures were elicited using incentivized experiments. While the first two preferences are continuous measures, altruism is a dummy variable that takes a value of 1 for an altruistic parent. We provide additional details about our design for these experiments in the online Appendix and present these results in panel B columns (1)-(8) in Table 3.²⁰ We find that while the effects on passing or absence do not have a significant association with these parental behavioral factors, children's work participation is reduced when the parent is patient and altruistic. However, as with the other additional variables, evidence that the child of a religious parent performs better at school and is less likely to participate in work activity remains robust when including these additional behavioral factors.

Finally, children working may lead to human capital development if their parents work in skilled trades and the children act as apprentices. Such children may then pick up important skills through working, helping them earn a living later. If being a trades-person is correlated with having lower religiosity the omitted variable may be a potential confounding factor. To investigate if our results are affected by this variable, in Panel C we include an additional dummy variable for father's main employment (*skilled trade*) where this variable takes a value of 1 if the father is involved in skilled trade such as (a) Agriculture (b) Construction and (c) Repair of Machines where apprenticeships would be frequent, otherwise the variable is 0. We find that the estimated effect of religiosity continue to be significant and similar to our baseline results. The effect of skilled trade on child's education is insignificant but surprisingly children of fathers involved in skilled trade have less involvement in economic activity. This could be because the children may be too young to be useful for skilled trade. The effect on work hours is positive (although it is insignificant with clustered standard errors).

To further ensure that unobserved variables do not bias our results, we address this issue by employing the methodology of [Oster \(2019\)](#) and estimate a bias-adjusted coefficient for each of our variables of interest. This method allows us to study whether the degree of selection on unobservables can fully confound the estimates. In this method, [Oster](#) exploits information on both the movements in the R square and the movement of coefficients when additional controls are added. With this, we can estimate the omitted variable bias-adjusted coefficients for religiosity. However, this method is only applicable for linear model specification. In Table 4, we present

²⁰The time and risk preference elicitation experiments are based on standard designs. For altruism we use a modified dictator game based on [Vyrastekova et al. \(2014\)](#) in which a parent chooses between a gift for the child or receiving a direct payment for themselves.

Table 3: Robustness: Additional control variables

Panel A	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Scared	0.73	0.031	0.12	0.037	-0.030	-0.062	-0.033	-0.061
<i>unclustered s.e</i>	(2.06)	(0.081)	(1.22)	(0.031)	(0.044)	(0.047)	(0.044)	(0.039)
<i>clustered s.e</i>	[1.70]	[0.074]	[1.28]	[0.037]	[0.075]	[0.061]	[0.077]	[0.061]
Walk	-8.50	-0.17	-5.87	0.41***	-0.72***	-0.32	-0.72***	-0.33**
<i>unclustered s.e</i>	(8.47)	(0.37)	(4.97)	(0.13)	(0.21)	(0.20)	(0.21)	(0.16)
<i>clustered s.e</i>	[9.71]	[0.50]	[5.51]	[0.24]	[0.22]	[0.28]	[0.22]	[0.15]
Religiosity	54.2**	2.02**	9.74	0.65*	-1.95***	-1.46***	-2.02***	-1.34***
<i>unclustered s.e</i>	(23.7)	(0.87)	(14.2)	(0.36)	(0.52)	(0.56)	(0.53)	(0.45)
<i>clustered s.e</i>	[28.8]	[0.75]	[16.0]	[0.35]	[1.07]	[0.98]	[1.07]	[0.90]
N	1243	599	1165	1246	1319	1165	1316	1180
Panel B	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Discounting	-0.63	-1.17*	14.5	0.0036	1.07***	-0.28	1.10***	0.68**
<i>unclustered s.e</i>	(15.5)	(0.70)	(9.39)	(0.21)	(0.34)	(0.42)	(0.34)	(0.30)
<i>clustered s.e</i>	[14.9]	[0.71]	[7.90]	[0.20]	[0.53]	[0.46]	[0.51]	[0.39]
Risk Loving	2.29	0.17*	-0.47	-0.016	-0.045	0.10*	-0.047	-0.034
<i>unclustered s.e</i>	(2.04)	(0.096)	(1.24)	(0.027)	(0.045)	(0.055)	(0.045)	(0.039)
<i>clustered s.e</i>	[2.21]	[0.084]	[1.34]	[0.027]	[0.038]	[0.073]	[0.040]	[0.028]
Altruism	4.68	0.42**	-2.15	-0.018	-0.22**	-0.34***	-0.19*	-0.16
<i>unclustered s.e</i>	(4.98)	(0.21)	(3.06)	(0.067)	(0.11)	(0.13)	(0.11)	(0.096)
<i>clustered s.e</i>	[4.48]	[0.21]	[1.94]	[0.053]	[0.13]	[0.14]	[0.14]	[0.11]
Religiosity	55.9**	2.38**	5.53	0.33	-2.26***	-1.70***	-2.35***	-1.79***
<i>unclustered s.e</i>	(25.5)	(1.03)	(15.7)	(0.34)	(0.58)	(0.65)	(0.58)	(0.50)
<i>clustered s.e</i>	[33.6]	[1.00]	[17.5]	[0.25]	[1.27]	[1.11]	[1.28]	[1.04]
N	1030	472	970	1034	1096	934	1094	983
Panel C	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Skilled Trade	-0.26	0.07	-2.16	-0.11	0.10	-0.44***	0.075	0.17**
<i>unclustered s.e</i>	(4.52)	(0.17)	(2.68)	(0.069)	(0.096)	(0.11)	(0.095)	(0.084)
<i>clustered s.e</i>	[4.57]	[0.17]	[2.74]	[0.076]	[0.16]	[0.17]	[0.15]	[0.13]
Religiosity	55.2**	1.99**	9.94	0.66*	-2.81***	-2.13***	-2.88***	-1.77***
<i>unclustered s.e</i>	(25.0)	(0.89)	(14.9)	(0.38)	(0.59)	(0.59)	(0.59)	(0.47)
<i>clustered s.e</i>	[32.2]	[0.84]	[18.0]	[0.37]	[1.06]	[1.01]	[1.06]	[0.81]
N	1197	572	1120	1201	1268	1114	1265	1134

Notes: Table 3 presents the estimated effect of religiosity (β_1) using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with unclustered standard errors (in parentheses) and standard errors clustered by school [in squared bracket]. The specification includes fixed effects for schools and includes a battery of control variables X for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). In this specification, in addition to control variables X , we also include controls for safety (*Scared*) and distance from school (*Walk*) in Panel A and behavioral preferences of parents (*Discounting*, *Risk Loving* and *Altruism*) in Panel B, and father's main employment in skilled trade (*Skilled Trade*) in Panel C.. Significance levels from unclustered standard errors are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. In Appendix Tables A3.3-A3.5, we provide the full regression tables.

the results from this exercise and show that the sign of the religiosity coefficient for all of the outcome variables stays the same when we allow for selection on unobservables.

Table 4: Robustness: Omitted variables bias

	Omitted Variable Bias (Religiosity)							
	Unconditional Marks		Pass(Y/N)		Conditional Marks		Presence	
	β	Switch	β	Switch	β	Switch	β	Switch
OLS	53.04	Switch	0.17	Switch	8.73	Switch	0.78	Switch
Bias-Adjusted	51.84	No	0.17	No	7.56	No	0.89	No
	All Work(Y/N)		Economic Activity(Y/N)		Household Chores(Y/N)		Work Hours	
	β	Switch	β	Switch	β	Switch	β	Switch
OLS	-0.42	Switch	-0.32	Switch	-0.63	Switch	-1.46	Switch
Bias-Adjusted	-0.60	No	-0.38	No	-0.62	No	-1.48	No

Notes: Table 4 presents the stability of coefficient of religiosity (β) using Oster (2019)'s method with the degree of selection on unobserved variables relative to that on observed variables (denoted by δ). The OLS β corresponds to $\delta = 0$ and the \tilde{R} is the associated R-squared value from this uncontrolled specification. The Bias-Adjusted β corresponds to $\delta = 1$ and $R_{max} = 1.3\tilde{R}$ as proposed by Oster (2019). The baseline estimates are not exclusively driven by unobserved variables if the bound between the estimated coefficient β 's safely excludes 0, which is denoted by a Yes/No switch.

While we use a rich and complete set of background variables and additional variables (such as variables for local context, behavioral factors and the Raven score of parents) in our analysis to limit the extent to which our estimates are affected by omitted variable bias, adding a rich set of controls can itself pose an issue by oversaturating the statistical model. In an alternative specification in Table 5 (columns 3 and 8), we also show that the limited vector of control variables does not alter our main results.

To reiterate, as our baseline specification, we estimate a fixed effect specification. In most contexts, using school fixed effects would be the preferred path, as one sacrifices some efficiency/statistical precision but ensures against the biases. However, in our case, the trade-off is different because our schools are segregated by gender, and using school fixed effects precludes directly measuring gender effects. While we use the fixed effect model as our baseline specification, we also estimate the regression using random effects as part of the robustness exercise, where we include the gender of the child as an additional covariate (see columns 4 and 9).²¹ While throughout the fixed effect analysis we also provide clustered standard errors, in an additional robustness exercise (columns 5 and 10), we cluster the standard errors for random effect specification as well to show that our results are mostly unaffected by clustered standard errors.

²¹For the same reason, we also present the effects of religiosity for female and male children in Table 2.

Table 5: Robustness: Alternative specifications

	Unconditional Marks					Pass(Y/N)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster
Religiosity	53.0** (23.6)	53.0* (29.0)	53.5** (23.7)	50.5** (23.6)	50.5* (29.0)	1.97** (0.87)	1.97*** (0.74)	1.75** (0.85)	1.84** (0.82)	1.84*** (0.67)
N	1243	1243	1243	1243	1243	599	599	599	1243	1243
	Conditional Marks					Presence				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster
Religiosity	8.73 (14.1)	8.73 (16.2)	10.1 (14.1)	5.37 (14.2)	5.37 (15.9)	0.78** (0.36)	0.78** (0.39)	0.73** (0.36)	0.80** (0.36)	0.80** (0.39)
N	1165	1165	1165	1165	1165	1246	1246	1246	1246	1246
	All Work(Y/N)					Economic Activity(Y/N)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster
Religiosity	-2.09*** (0.52)	-2.09* (1.10)	-2.24*** (0.51)	-2.05*** (0.50)	-2.05* (1.08)	-1.56*** (0.56)	-1.56 (0.99)	-1.56*** (0.56)	-1.38** (0.54)	-1.38 (0.95)
N	1319	1319	1319	1319	1319	1165	1165	1165	1325	1325
	Household Chores(Y/N)					Work Hours				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster
Religiosity	-2.16*** (0.52)	-2.16** (1.10)	-2.29*** (0.52)	-2.12*** (0.51)	-2.12** (1.08)	-1.46*** (0.45)	-1.46 (0.90)	-1.50*** (0.45)	-1.77*** (0.44)	-1.77** (0.87)
N	1316	1316	1316	1316	1316	1180	1180	1180	1180	1180

Notes: Table 5 presents the estimated effect of religiosity (β_1) on schooling and work outcomes using alternative specifications. The baseline equation 5 is $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$, where X includes a battery of control variables for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). The alternative specifications present estimates for the fixed effects model with standard errors clustered by school, the fixed effects model with reduced X variables, the random effects model and, finally, the random effects model with standard errors clustered by school. Significance levels are denoted by ***1%, **5%, *10%. In Appendix Tables A3.6-A3.7, we provide the full regression tables.

7 The Role of Religious Practices

Having established that our main results on parental religiosity are robust to a number of potential issues, we now use our data to explore the mechanism behind our findings guided by the conceptual framework described in Section 3.

In particular, the results that parental religiosity is associated with less work activity and better schooling outcomes is in line with the idea outlined in Section 3; that while more religious parents' desire to engage in time-consuming religious activity, which means they have an incentive to have their children work more to compensate, this incentive is outweighed by the importance their religion places on a child's education; i.e., Condition 3 in Proposition 1 holds. To investigate further if this mechanism is what may be driving the results, we now conduct a

heterogeneity analysis of parents' religious practices.

7.1 Dimensions of religiosity

Our religious measure can be split into three dimensions of religious practices—organized religious activities (ORA), nonorganized religious activities (NORA), and intrinsic religiosity (IR)—which all differ in terms of their time requirements, with ORA being the most time consuming, as it is related to religious activities outside the house, and IR being the least, as it is related to a deeper belief system. Since these three ways of practicing religion differ in how much they involve time-consuming religious activities, we might expect the overall impact of parental religiosity on children's outcomes to be less apparent if parents' religiosity is more activity oriented (Proposition 2).

We therefore study how our results for the effects of a parental religiosity differ by the three dimensions of religiosity. For this analysis, we re-estimate the specification 5 with the continuous measure of each dimension of religiosity rather than the composite measure of all three. The results are presented in Table 6. Panel A presents the results for IR, panel B for NORA and panel C for ORA. The interpretation of this analysis is the effect on children's outcomes of higher versus lower value of a dimension of parental religiosity (for example IR) regardless of their levels of other dimensions (for example NORA and ORA).

The results show that IR has a strong positive effect on school performance and a negative effect on all work-related outcomes, exactly in line with the findings from the composite religiosity measure. In contrast, the ORA measure representing the most time-consuming type of religiosity shows no significant results for any of the outcomes. NORA does have a significant positive relationship with marks and school attendance and a negative relationship with economic activity, but the effects are economically smaller (nearly threefold smaller) than the effects for IR. Therefore, we see an important difference between the dimensions of religiosity, with religiosity having the biggest impact when it is not related to religious activity (IR) and little impact when it requires external activity (ORA).

In the Appendix Table A3.11 we provide the stability of the coefficients relating to the IR, ORA and NORA by using Oster (2019)'s method. We find that the IR coefficients are always stable when we account for omitted variable bias. The coefficients for ORA and NORA are also stable except for *All Work* where the coefficient switches sign from positive to negative, however the probit regressions in the main table show that these coefficients are not significant either.

Table 6: Impact of religiosity on children's outcomes

Panel A	Unconditional	Pass	Conditional	Presence	All Work	Economic Activity	Household Chores	Work
	Marks	(Y/N)	Marks		(Y/N)	(Y/N)	(Y/N)	Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IR	12.5**	0.49*	4.21	0.14*	-0.74***	-0.47***	-0.75***	-0.53***
<i>unclustered s.e</i>	(5.33)	(0.20)	(3.17)	(0.082)	(0.12)	(0.13)	(0.12)	(0.10)
<i>clustered s.e</i>	[6.17]	[0.21]	[3.35]	[0.077]	[0.21]	[0.25]	[0.21]	[0.15]
N	1243	599	1165	1246	1319	1165	1316	1180
Panel B	Unconditional	Pass	Conditional	Presence	All Work	Economic Activity	Household Chores	Work
	Marks	(Y/N)	Marks		(Y/N)	(Y/N)	(Y/N)	Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NORA	4.65**	0.17**	0.18	0.069**	-0.059	-0.14**	-0.059	-0.011
<i>unclustered s.e</i>	(2.35)	(0.085)	(1.41)	(0.035)	(0.050)	(0.056)	(0.050)	(0.044)
<i>clustered s.e</i>	[3.42]	[0.12]	[1.21]	[0.039]	[0.089]	[0.094]	[0.089]	[0.090]
N	1243	599	1165	1246	1319	1165	1316	1180
Panel C	Unconditional	Pass	Conditional	Presence	All Work	Economic Activity	Household Chores	Work
	Marks	(Y/N)	Marks		(Y/N)	(Y/N)	(Y/N)	Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ORA	0.94	0.033	-0.39	0.035	-0.036	0.021	-0.044	-0.032
<i>unclustered s.e</i>	(2.11)	(0.084)	(1.25)	(0.032)	(0.044)	(0.052)	(0.044)	(0.041)
<i>clustered s.e</i>	[2.65]	[0.10]	[1.32]	[0.020]	[0.075]	[0.081]	[0.076]	[0.078]
N	1243	599	1165	1246	1319	1165	1316	1180

Notes: Table 6 presents the estimated effect of three dimensions of religiosity (β_1) using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with unclustered standard errors (in round brackets) and standard errors clustered by school [in squared bracket]. *Rel* is a continuous measure of intrinsic religiosity (*IR*) in panel A, nonorganized religious activities (*NORA*) in panel B and organized religious activities (*ORA*) in Panel C. The specification includes fixed effects for schools and includes a battery of control variables *X* for the parents (*Edu(Father)*, *Edu(Mother)*, *Age(Father)*, *Age(Mother)*, *Raven(Parent)*) and the child (*Age(Child)*, *Raven(Child)*). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. In Appendix Tables A3.8-A3.10, we provide the full regression tables.

7.2 Types of parent by religiosity

To further investigate whether the conceptual framework outlined in Section 3 is an appropriate way to interpret our findings, we now consider how the time allocation of parents varies across religious practices in a subsample (approximately 45%) of our data in which we can cleanly categorize the parents into four types. Parents who are characterized as having high IR (“IR”) are parents who reported a maximum value of five on the questions related to intrinsic religiosity but less than the maximum value on all others. Likewise, parents who are characterized as high NORA (“NORA”) reported a maximum value of six on the NORA question but less than the maximum value on the others, and parents characterized as high ORA (“ORA”) reported a maximum value of six on the ORA question but less than the maximum value on the others. Parents who reported less than the maximum values on all questions are characterized as less religious (“LR”).

²² As we do lose a large number of parents in this exercise, the results are only indicative. The distribution of these four types of parents by religiosity are provided in Table A3.12.

Parents’ behavior In the conceptual framework, if religious parents (IR, NORA, ORA) care more about their children’s education than less religious parents (LR), then they should work more so that their children can dedicate more time to their studies. However, if parents with time-consuming religious practices (ORA and to a lesser extent NORA) use their time to engage in these activities, then this reduces the time they have available to work, offsetting the incentive to work more for the benefit of their child’s schooling. As a result, IR parents should generally work more than LR, ORA and NORA parents. The comparison of LR, ORA and NORA parents is less clear as it depends on how strong the offsetting effect of religious activities is, although we would expect to see NORA parents working more than ORA parents as their religious activities should be less time consuming.

To investigate, we estimate the following specification:

$$Y_i = \beta_0 + \beta_1 * Rel\ Type_i + \gamma_x * X_i + \mu_i, \quad i = 1 \dots N \quad (7)$$

where *Rel Type* is 0 for the LR type and is the omitted group; 1 for the IR type; 2 for the NORA type; and 3 for the ORA type. We include the same battery of controls as in specification 5 but do not include school fixed effects due to the number of observations. For the dependent variable, we consider parent’s time allocation toward total work, economic activity, household chores, and the parents’ aspirations for their child in terms of their expectation that their child

²²The remaining 55% of parents have either high levels of all types of religiosity or at least two out of three types of religiosity

will achieve the highest level of education (university). We present these results in Table A3.13, and the corresponding figures are provided in Figures 1–4.

Table 7: Mechanism: The parent’s behavior

	Total Work Hours Per Day	Total Work Hours On Friday	Economic Activity Hours Per Day	Economic Activity Hours on Friday	Household Work Hours Per Day	Household Work Hours On Friday	Aspiration for University Education
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
High IR	1.39 (0.88)	1.99* (1.04)	0.54 (0.48)	1.27* (0.66)	0.82 (0.53)	0.53 (0.56)	0.16** (0.066)
High NORA	-0.75* (0.39)	-1.31*** (0.49)	-0.32 (0.31)	-0.71* (0.41)	-0.61** (0.25)	-0.74*** (0.24)	-0.033 (0.048)
High ORA	-0.64 (0.60)	-1.08 (0.79)	-0.60 (0.41)	-1.11** (0.53)	-0.18 (0.35)	-0.13 (0.42)	0.067 (0.062)
IR vs. NORA							
<i>diff</i>	2.135**	3.308***	0.857*	1.988***	1.431***	1.265**	0.197***
<i>p-value</i>	[0.014]	[0.001]	[0.070]	[0.002]	[0.007]	[0.022]	[0.003]
IR vs. ORA							
<i>diff</i>	2.031**	3.071***	1.139**	2.381***	0.994*	0.658	0.097
<i>p-value</i>	[0.037]	[0.009]	[0.035]	[0.001]	[0.088]	[0.298]	[0.217]
NORA vs. ORA							
<i>diff</i>	-0.103	-0.238	0.282	0.392	-0.437	-0.606	-0.100*
<i>p-value</i>	[0.856]	[0.749]	[0.461]	[0.434]	[0.182]	[0.108]	[0.099]
N	479	478	510	510	552	550	589

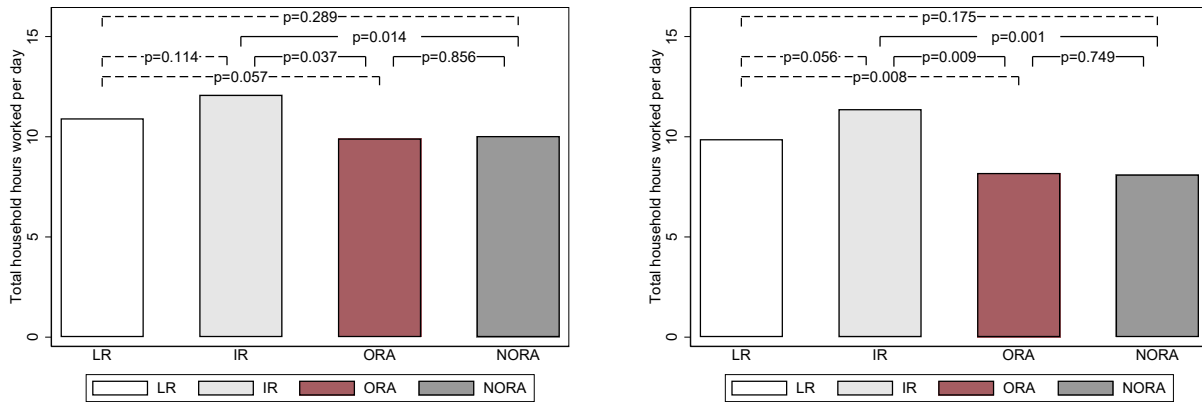
Notes: Table 7 presents the estimates of *Rel Type* on parent’s time allocation and aspiration for their child’s higher education. We estimate specification 7: $Y_i = \beta_0 + \beta_1 * Rel Type_i + \gamma_x * X_i + \mu_i$, where *Rel Type* is 0 for the “less-religious” type and is the omitted group; 1 for the “high IR” type; 2 for the “high NORA” type; and 3 for the “high ORA” type. The specification includes a battery of control variables X for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%. The lower panel provides the p values for the test statistics comparing the estimates for each type of religiosity with each other. The full regression table with control variables is provided in Appendix Table A3.13.

We first look at the total hours worked by parents, which includes the hours allocated to both economic activities and household chores. We see in Figure 1.1 that, consistent with the conceptual framework, the IR parents allocate approximately 12 hours of the day to work, which is significantly more hours than those allocated by NORA and ORA parents (approximately 10 hours). Relative to LR parents, we see that the hours of work of IR parents are also higher, although the estimate is not significant. We see no difference in the number of hours worked between NORA and ORA.

Friday holds an important place in the Islamic religious context because most individuals engage in Friday congregational prayer and attend sermons. As shown in Figure 1.2, the IR parents have approximately 2 more hours relative to LR parents and more than 3 additional allocated to work relative to ORA and NORA parents, who again have the same hours as each other. This difference is primarily because the parents other than IR parents reduce their work hours on Friday and not because the IR parents increase theirs, indicating that it is the additional time re-

quirement of religious activity on Friday that increases the difference between NORA and ORA parents compared to the IR parents.²³

Figure 1: Parents’ engagement in economic activity and household chores



1.1: Average total work hours per day

1.2: Total work hours on Friday

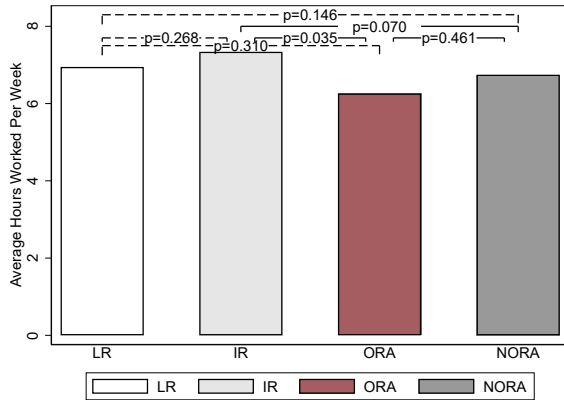
Notes: Figure 1.1 shows the average of the sum of hours allocated to economic activities and household chores (total work hours) of the parent per day by their religious category, and Figure 1.2 shows the same for Friday. *LR* denotes the “less religious” type; *IR* denotes the “high IR” type; *ORA* denotes the “high ORA” type; and *NORA* denotes the “high NORA” type. The p values are based on the regression, which includes our control variables.

When we look separately at the category of economic activity in Figure 2.1, we see, again consistent with the conceptual framework, that parents engaging in costly religious activities do indeed devote fewer hours to economic activities per day: IR parents report more than 7 hours of economic activity, which is more than those reported by both ORA and NORA parents. The difference is even more stark when we look at the hours of economic activity on Friday in Figure 2.2. The Friday work hour results show that while all parents, regardless of religious type, work fewer hours on Friday, the IR parents do not reduce their work hours as much as the NORA and ORA parents, who reduce their time dedicated to working by 2 hours. No significant differences are observed between any of the other types of parents and LR parents, except on Friday, when the IR parents have more hours and ORA and NORA parents have fewer hours.

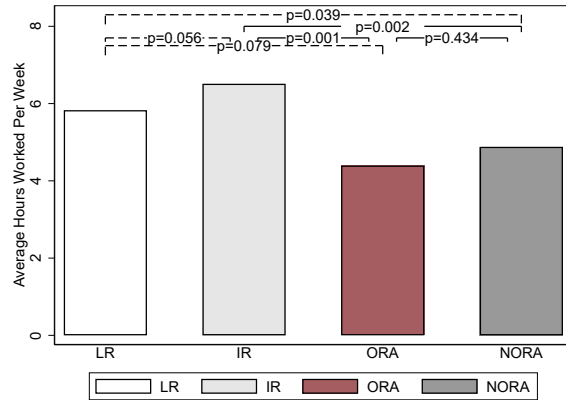
In addition to hours spent on economic activities, NORA and ORA parents may also have less time for household chores. In Figure 3.1, we see that there is also a difference in the hours spent on household chores according to the type of religiosity. IR parents spend more than 4.5 hours

²³If the time used for religious activities takes parents’ time away from work, then this may result in income heterogeneity by religious practices. We may observe higher incomes earned by parents with higher IR but lower levels of other forms of religiosity. To account for such potential differences, in all the specifications, we control for household income as well as family size, but we do not observe any statistically significant differences in income by religiosity type.

Figure 2: Parents' engagement in economic activity



2.1: Average economic activity in hours per day



2.2: Economic activity in hours on Friday

Notes: Figure 2.1 shows the average hours engaged in economic activities by parent per day by their religious category, and Figure 2.2 shows the same for Friday. *LR* denotes the “less religious” type; *IR* denotes the “high IR” type; *ORA* denotes the “high ORA” type and *NORA* denotes the “high NORA” type. The p values are based on the regression, which includes our control variables.

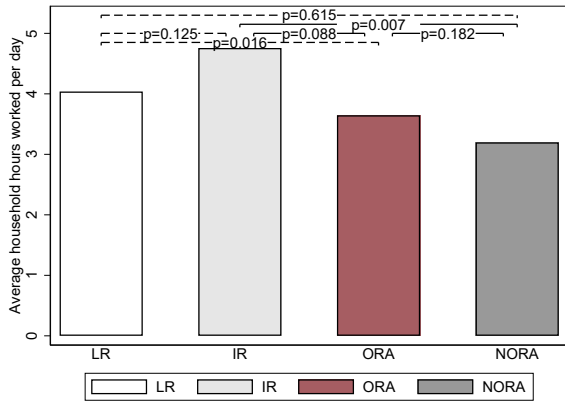
on household chores, while the other two religious types spend 3 to 3.5 hours. The same patterns are observed on Friday, as shown in Figure 3.2. Relative to LR parents, IR parents allocate similar hours for chores, but ORA parents allocate significantly fewer hours.

For the conceptual framework to explain our main results regarding the impact of parental religiosity on a child’s outcomes, the weight parents place on their child’s education must be positively related to their religiosity. While religious teachings do often emphasize the importance of knowledge and learning, it is difficult to directly test the validity of this idea using our data. However, we did ask parents in the survey about their aspirations for their children’s education, with almost all answering either high school or university. If religious parents place more emphasis on education, then we would generally expect them to have higher aspirations for their children. However, if a parent’s religiosity manifests itself in time-consuming religious activities, then these parents’ aspirations may be dampened by the fact that they require their children to work more to compensate, which reduces the opportunities for the child to progress academically.

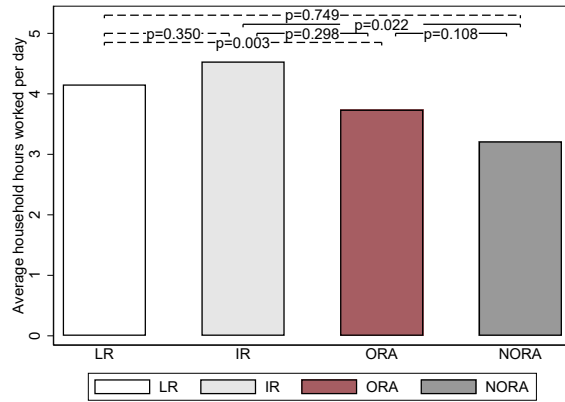
Consistent with this idea, Figure 4 shows that about 80% of IR parents aspire that their children attend university, whereas roughly 60% of the other parents aspire the same for their children, with significant differences between IR and LR parents and between IR and NORA parents.

Child outcomes We now consider whether the children of the different types of parents have different outcomes. To do so, we use the same specification as in 7, but the dependent variables

Figure 3: Parents' engagement in household chores



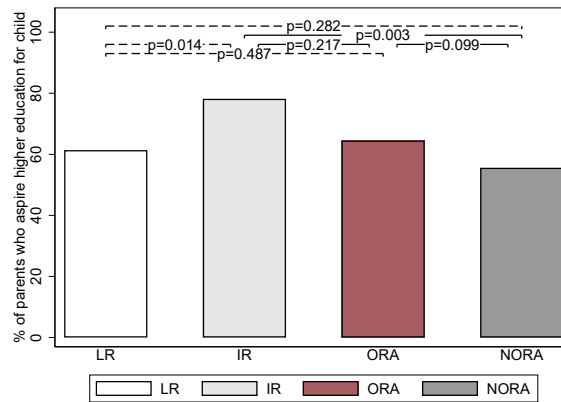
3.1: Average household chores in hours per day



3.2: Household chores in hours on Friday

Notes: Figures 3.1-3.2 show the average hours spent on household chores per day and Friday, respectively, for parents by their religious practices. *Rel Type* is 0 for the “less religious” type; 1 for the “high IR” type; 2 for the “high NORA” type; and 3 for the “high ORA” type. The p values are based on the regression, which includes our control variables.

Figure 4: Parental aspirations for higher education



Notes: Figure 4 shows the higher education (university) aspirations of parents by their religious practices. *LR* denotes the “less religious” type; *IR* denotes the “high IR” type; *ORA* denotes the “high ORA” type; and *NORA* denotes the “high NORA” type. The p values are based on the regression, which includes our control variables.

are the same outcome variables we use in our baseline specification.

Table 8: Mechanism

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High IR	8.63 (15.8)	0.013 (0.044)	5.05 (9.26)	0.11 (0.13)	-0.13** (0.065)	-0.076 (0.053)	-0.14** (0.066)	-0.27 (0.26)
High NORA	5.27 (9.98)	0.035 (0.028)	-5.81 (5.67)	0.085 (0.13)	-0.048 (0.035)	-0.17*** (0.032)	-0.048 (0.035)	-0.076 (0.14)
High ORA	-6.57 (12.5)	0.022 (0.036)	-14.1** (6.81)	-0.16 (0.32)	0.084** (0.037)	-0.078* (0.045)	0.071* (0.038)	0.17 (0.14)
IR vs. NORA								
<i>diff</i>	3.358	-0.022	10.862	0.027	-0.086	0.094*	-0.090	-0.192
<i>p-value</i>	[0.826]	[0.591]	[0.236]	[0.825]	[0.190]	[0.058]	[0.178]	[0.460]
IR vs. ORA								
<i>diff</i>	15.202	-0.010	19.118*	0.275	-0.218***	0.001	-0.210***	-0.438*
<i>p-value</i>	[0.379]	[0.841]	[0.058]	[0.419]	[0.001]	[0.982]	[0.002]	[0.096]
NORA vs. ORA								
<i>diff</i>	11.844	0.013	8.256	0.248	-0.131***	-0.092**	-0.120***	-0.246*
<i>p-value</i>	[0.302]	[0.694]	[0.207]	[0.416]	[0.000]	[0.015]	[0.002]	[0.076]
N	562	562	519	574	600	601	598	536

Notes: Table 8 presents the estimates of *Rel Type* on parent’s time allocation and aspiration for their child’s outcomes. We estimate specification 7: $Y_i = \beta_0 + \beta_1 * Rel Type_i + \gamma_x * X_i + \mu_i$, where *Rel Type* is 0 for the “less-religious” type and is the omitted group; 1 for the “high IR” type; 2 for the “high NORA” type; and 3 for the “high ORA” type. The specification includes a battery of control variables X for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%. The lower panel provides the p values for the test statistics comparing the estimates for each type of religiosity with each other. The full regression table with control variables is provided in Appendix Table A3.14.

The results are presented in Table 8. We find results broadly consistent with the framework when we look at the child’s outcomes. In particular, relative to children of LR parents, children of IR parents perform better in school and work less, although the results are only significant for all work and household chores. Interestingly, children of ORA parents work significantly more and have significantly lower conditional marks relative to children of LR parents, in line with a strong offsetting effect of religious activity for these types of parents.

Comparing the different types of religious parents, we see that at least relative to children of ORA parents, children of IR parents perform better in school (apart from pass variable) and work less, and this is significant for all work and weakly significant for conditional marks. We also see that the children of NORA parents work less and educationally outperform (although not always significantly) the children of ORA parents.

Overall, using this exercise, we see strong evidence that the conceptual framework is appro-

priate for explaining the parents' behavior, and there is evidence that this is directly correlated with children's outcomes.²⁴

8 Conclusion

In developing countries, the parents of young children face a complex household time allocation problem. As in any country, they make decisions about their own labor supply, which influence decisions regarding schooling for their children. However, unlike in most developed countries, these parents often must simultaneously decide how much work their child should engage in, knowing that time spent by the child working may reduce the time the child can spend on his or her education.

In this paper, we studied how a parent's religiosity impacts how they solve this complex household time allocation problem and, as a result, how parental religiosity impacts a child's human capital development in a developing country context. We developed a simple conceptual framework to understand how parental religiosity may impact a child's schooling outcomes and work activity. This framework incorporates two countervailing forces that initially make it challenging to disentangle how parental religiosity impacts a child's human capital development. On the one hand, parents who are more religious may place greater weight on a child's education in accordance with the teachings of many religions. This emphasis on education means that parents are less inclined to have their children work so that they can spend more time on school and improve their schooling outcomes. On the other hand, a religious parent may find it important to engage in religious activities, as is also the norm in many religions, and this time spent on religious activities reduces their own available time to work. Parents may therefore require their child to work more to compensate, and this increased work activity by the child reduces his or her schooling outcomes.

Our study has two main findings: First, we find that a parent's religiosity has a positive impact on a child's human capital development, improving school outcomes and reducing work activity. Second, we find evidence that our conceptual framework seems appropriate for organizing these results, as the parent's religiosity has a positive impact on a child's human capital development only if the parent's religious practices are less time consuming. As a result, we find that a parent's religiosity will have a positive impact on a child's human capital development only if the parent's religious practices do not overemphasize time-consuming religious activities.

²⁴In the Appendix we provide the stability of the coefficients of parent's behavior (Table A3.15) and children's outcome (Table A3.16) relating to the High IR, High ORA and High NORA by using Oster (2019)'s method. Broadly we find evidence that our coefficients are stable when we account for omitted variable bias.

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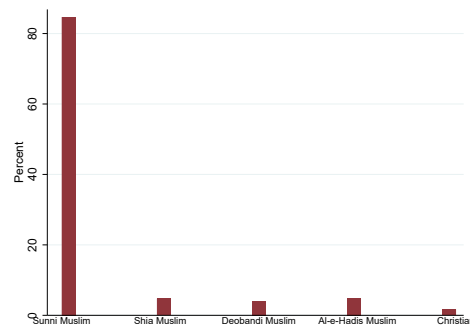
A1 Data Appendix

Table A1.1: Summary statistics: Independent variables

Control-Parents	mean (sd) [N]	Control-Family	mean (sd) [N]	Control-Child	mean (sd) [N]
Edu(Father)	0.34	Family-size	6.97	Age(child)	12.35
s.e.	(0.47)	s.e.	(1.39)	s.e.	(0.90)
N	[1416]	N	[1360]	N	[1395]
Edu(Mother)	0.15	HH Income (PKR/month)	12321.96	Female	0.46
s.e.	(0.35)	s.e.	(9283.7)	s.e.	(0.50)
N	[1416]	N	[1416]	N	[1416]
Age(Father)	43.43	HH Income Missing	0.22	Raven(child)	17.24
s.e.	(6.65)	s.e.	(0.41)	s.e.	(5.36)
N	[1406]	N	[1416]	N	[1395]
Age(Mother)	38.92				
s.e.	(6.20)				
N	[1411]				
Raven(parent)	21.92				
s.e.	(9.15)				
N	[1409]				
Religiosity Index	mean (sd) [N]	Behavioral Preferences	mean (sd) [N]	Additional Controls	mean (sd) [N]
Religiosity	0.91	Discounting	0.19	Scared	4.20
s.e.	(0.089)	s.e.	(0.15)	s.e.	(1.01)
N	[1416]	N	[1301]	N	[1416]
Intrinsic Religiosity	4.65	Risk loving	-0.092	Walk	0.93
s.e.	(0.38)	s.e.	(1.2)	s.e.	(0.25)
N	[1416]	N	[1250]	N	[1416]
Non-organized Religious Act	4.55	Altruism	0.57		
s.e.	(0.90)	s.e.	(0.49)		
N	[1416]	N	[1416]		
Organized Religious Act	4.26				
s.e.	(1.02)				
N	[1416]				

Notes: Table A1.1 provides the mean, standard errors (in parentheses) and number of observations [in squared brackets] for all the independent variables.

Figure A1.1: Religious sects

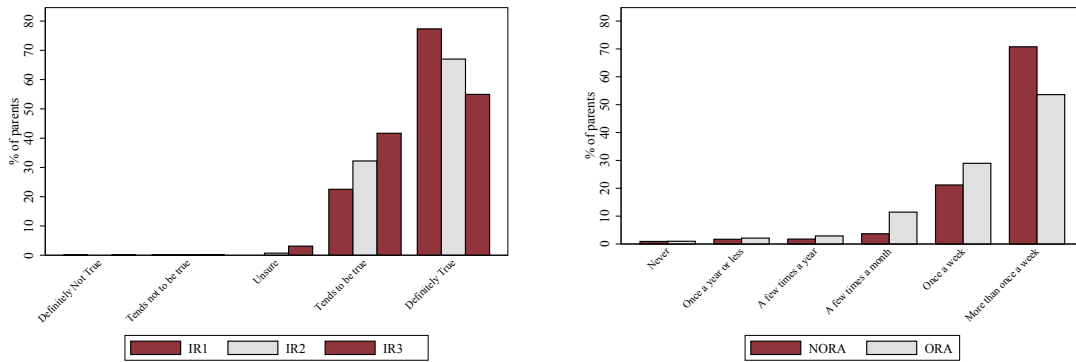


Items of the Duke University Religion Index (DUREL).

- IR1: In my life, I experience the presence of Allah;
1 - Definitely not true; 2 - Tends not to be true; 3 - Unsure; 4 - Tends to be true; 5 - Definitely true of me
- IR2: My religious beliefs are what really lie behind my whole approach to life;
1 - Definitely not true; 2 - Tends not to be true; 3 - Unsure; 4 - Tends to be true; 5 - Definitely true of me

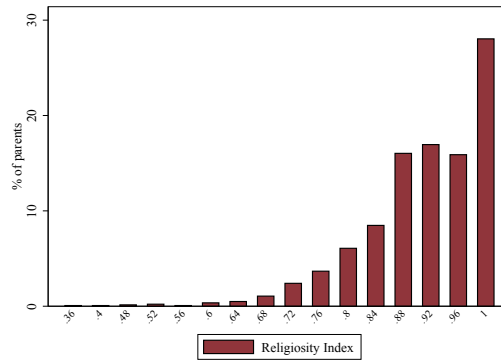
3. IR3: I try hard to carry my religion over into all other dealings in life.
1 - Definitely not true; 2 - Tends not to be true; 3 - Unsure; 4 - Tends to be true; 5 - Definitely true of me
4. ORA: How often do you attend mosque or other religious meetings?
1 - Never; 2 - Once a year or less; 3 - A few times a year; 4 - A few times a month; 5 - Once a week; 6 - More than once a week
5. NORA: How often do you spend time in private religious activities, such as prayer or Quran recitation?
1 - Rarely or never; 2 - A few times a month; 3 - Once a week; 4 - Two or more times/week; 5 - Daily; 6 - More than once a day

Figure A1.2: Religiosity



A1.2.1: Intrinsic Religiosity

A1.2.2: Organized and Unorganized Religiosity



A1.2.3: Religiosity Index

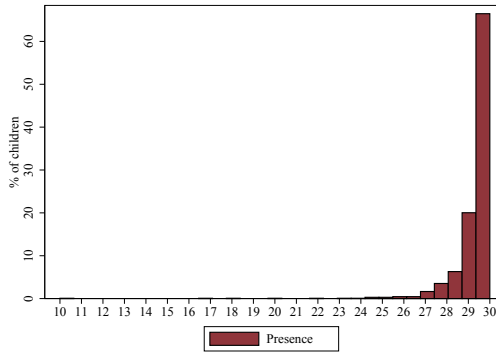
Notes: Figure A1.2 shows the responses of the parents for each of the religiosity questions (Figures A1.2.1-A1.2.2) and the religiosity index (Figure A1.2.3). We construct a religiosity index *Rel* by aggregating all the responses on individual questions (IR1, IR2, IR3, NORA, and ORA) on religion and normalizing the total score for each parent by the maximum possible score. This measure ranges from 0 to 1 and provides a simple interpretation that if *Rel* is high, the parent is more religious.

Table A1.2: Summary statistics: Dependent variables

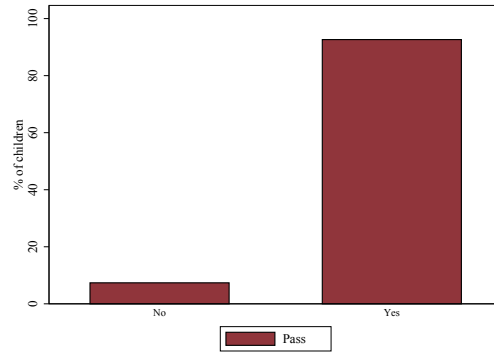
	All Sample	Females	Males
	(1)	(2)	(3)
Unconditional Marks	287.74	319.27	259.10
<i>s.e</i>	(91.64)	(69.94)	(99.34)
<i>N</i>	[1332]	[634]	[698]
Pass	0.93	0.97	0.90
<i>s.e</i>	(0.26)	(0.16)	(0.30)
<i>N</i>	[1332]	[634]	[698]
Conditional Marks	307.60	327.53	287.99
<i>s.e</i>	(53.52)	(48.03)	(51.38)
<i>N</i>	[1246]	[618]	[628]
Presence	29.32	29.25	29.38
<i>s.e</i>	(1.12)	(0.89)	(1.27)
<i>N</i>	[1333]	[601]	[732]
All Work	0.75	0.73	0.77
<i>s.e</i>	(0.43)	(0.44)	(0.42)
<i>N</i>	[1410]	[652]	[758]
Economic Activity	0.16	0.16	0.15
<i>s.e</i>	(0.37)	(0.37)	(0.36)
<i>N</i>	[1416]	[655]	[761]
Household Chores	0.75	0.73	0.76
<i>s.e</i>	(0.43)	(0.44)	(0.42)
<i>N</i>	[1407]	[652]	[755]
Work Hours	1.89	1.80	1.97
<i>s.e</i>	(1.37)	(1.37)	(1.36)
<i>N</i>	[1240]	[553]	[687]

Notes: Table A1.2 provides the mean, standard errors (in parentheses) and number of observations [in squared brackets]. All Work, Economic Activity, Household Chores and Pass are binary variables, while the remaining variables are continuous.

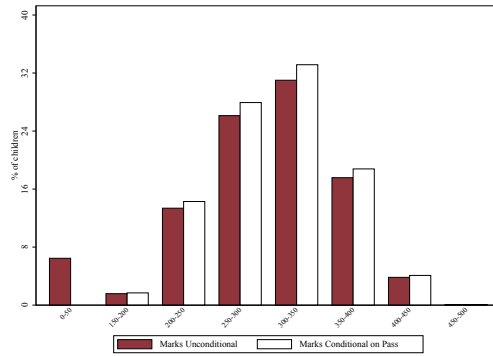
Figure A1.3: Schooling outcomes



A1.3.1: Presence



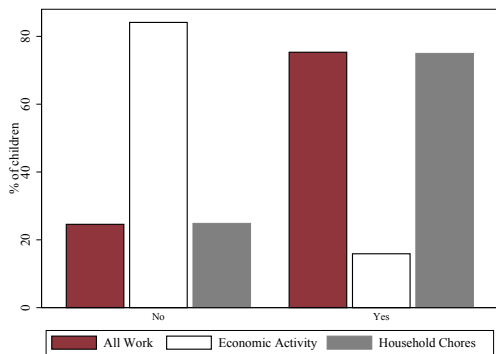
A1.3.2: Pass



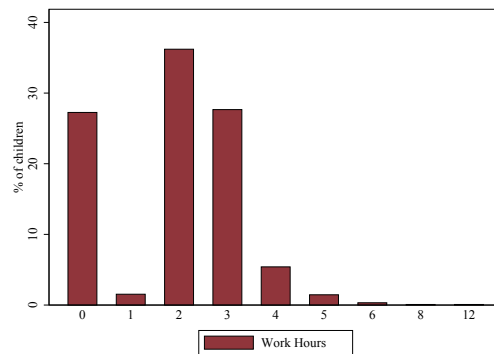
A1.3.3: Marks

Notes: Figure A1.3 shows schooling outcomes: the percentage of children by school attendance per month (Figure A1.3.1), percentage of children who pass the central exam (Figure A1.3.2) and the percentage of children by grades as well as grades conditional on passing the central exams (Figure ??).

Figure A1.4: Work outcomes



A1.4.1: Work Activity



A1.4.2: Work Hours

Notes: Figure A1.4 shows the work outcomes for children: the percentage of children engaged in various work activities (Figure A1.4.1) and the percentage of children by work hours (Figure A1.4.2).

A2.1 Appendix: Conceptual Framework

Correlations

Table A2.1 presents the correlations between the work hours and school hours of children provided by the parental survey, measures of a child's school performance based on the performance in the exam (child's marks, whether the child passed or marks was conditional on passing), and the parent's work hours split into the father's and mother's hours. More details on these variables are presented in Section 4.

Table A2.1: Correlation table

	School Hours	Unconditional Marks	Pass (Y/N)	Conditional Marks
	(1)	(2)	(3)	(4)
Work Hours	-0.25***	-0.061**	-0.034	-0.063**
	Father Work Hours	Mother Work Hours		
	(1)	(2)		
Work Hours	-0.099***	0.0035		

Notes: Table A2.1 presents the correlations between a child's work hours and school hours (both measured using children's survey on how they allocate their day between work, school and other activities), marks and pass (measured using the administrative data on marks attained on the central exam), and parent's work hours (average work). For more details about these variables, see Section 4 on data and the Methodology Section 5.

Proof of Proposition 1

Proof. Maximizing:

$$U(c, r, g) = [\alpha_1(l_p + l_c)^\rho + \alpha_2(1 - l_p)^\rho + \alpha_3(\alpha_2)(1 - l_c)^\rho]^{\frac{1}{\rho}}$$

with respect to l_p :

$$l_p = \frac{\left(\frac{\alpha_2}{\alpha_1}\right)^{\frac{1}{\rho-1}} - l_c}{1 + \left(\frac{\alpha_2}{\alpha_1}\right)^{\frac{1}{\rho-1}}}; \quad (\text{A2.1})$$

and with respect to l_c :

$$l_c = \frac{\left(\frac{\alpha_3(\alpha_2)}{\alpha_1}\right)^{\frac{1}{\rho-1}} - l_p}{1 + \left(\frac{\alpha_3(\alpha_2)}{\alpha_1}\right)^{\frac{1}{\rho-1}}}. \quad (\text{A2.2})$$

Solving (A2.1) and (A2.2) for l_c :

$$l_c = \frac{\alpha_3(\alpha_2)^{\frac{1}{\rho-1}} - \alpha_2^{\frac{1}{\rho-1}} + \left(\frac{\alpha_2\alpha_3(\alpha_2)}{\alpha_1}\right)^{\frac{1}{\rho-1}}}{\alpha_2^{\frac{1}{\rho-1}} + \alpha_3(\alpha_2)^{\frac{1}{\rho-1}} + \left(\frac{\alpha_2\alpha_3(\alpha_2)}{\alpha_1}\right)^{\frac{1}{\rho-1}}}$$

Then $\frac{\partial l_c}{\partial \alpha_2} < 0$ if and only if Condition 3 holds. Finally, school performance g is a negative function of l_c . ■

Proof of Proposition 2

Proof. Maximizing:

$$U(c, r, g) = [\alpha_1(l_p + l_c)^\rho + \alpha_2(\delta)(1 - l_p)^\rho + \alpha_3(\delta)(1 - l_c)^\rho]^{\frac{1}{\rho}}$$

with respect to l_p and l_c , and solving for l_c as above:

$$l_c = \frac{\alpha_3(\delta)^{\frac{1}{\rho-1}} - \alpha_2(\delta)^{\frac{1}{\rho-1}} + \left(\frac{\alpha_2(\delta)\alpha_3(\delta)}{\alpha_1}\right)^{\frac{1}{\rho-1}}}{\alpha_2(\delta)^{\frac{1}{\rho-1}} + \alpha_3(\delta)^{\frac{1}{\rho-1}} + \left(\frac{\alpha_2(\delta)\alpha_3(\delta)}{\alpha_1}\right)^{\frac{1}{\rho-1}}}$$

Then $\frac{\partial l_c}{\partial \delta} < 0$ if and only if Condition 4 holds, and school performance is a negative function of l_c . ■

A3.1 Appendix: Tables and Figures

Table A3.1: Baseline: Impact of religiosity on children's outcomes

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu(Father)	11.7***	0.34*	5.71**	0.062	-0.12	-0.0089	-0.10	-0.061
<i>unclustered s.e</i>	(4.35)	(0.18)	(2.57)	(0.066)	(0.092)	(0.11)	(0.092)	(0.083)
<i>clustered s.e</i>	[4.08]	[0.18]	[2.70]	[0.053]	[0.097]	[0.13]	[0.098]	[0.093]
<i>margins</i>		<0.053>			<-0.033>	<-0.0020>	<-0.028>	
Edu(Mother)	15.4***	0.51**	6.75**	-0.11	0.036	0.16	0.026	-0.027
<i>unclustered s.e</i>	(5.80)	(0.26)	(3.39)	(0.087)	(0.12)	(0.14)	(0.12)	(0.11)
<i>clustered s.e</i>	[7.08]	[0.26]	[4.17]	[0.059]	[0.12]	[0.17]	[0.12]	[0.074]
<i>margins</i>		<0.071>			<0.0097>	<0.036>	<0.0070>	
Raven(parent)	-0.16	-0.011	0.11	0.0061*	-0.021***	-0.051***	-0.021***	-0.0098**
<i>unclustered s.e</i>	(0.23)	(0.0089)	(0.14)	(0.0035)	(0.0050)	(0.0062)	(0.0050)	(0.0044)
<i>clustered s.e</i>	[0.25]	[0.0085]	[0.16]	[0.0033]	[0.0076]	[0.013]	[0.0079]	[0.0059]
<i>margins</i>		<-0.0018>			<-0.0057>	<-0.011>	<-0.0057>	
Age(Father)	0.033	-0.00094	0.057	-0.000016	-0.013	-0.014	-0.012	0.00034
<i>unclustered s.e</i>	(0.59)	(0.021)	(0.35)	(0.0091)	(0.013)	(0.015)	(0.013)	(0.011)
<i>clustered s.e</i>	[0.43]	[0.015]	[0.34]	[0.0082]	[0.018]	[0.018]	[0.019]	[0.014]
<i>margins</i>		<-0.00015>			<-0.0034>	<-0.0032>	<-0.0031>	
Age(Mother)	-0.17	-0.00088	-0.24	-0.0069	0.032**	-0.0026	0.032**	0.015
<i>unclustered s.e</i>	(0.61)	(0.022)	(0.36)	(0.0094)	(0.014)	(0.015)	(0.014)	(0.012)
<i>clustered s.e</i>	[0.46]	[0.015]	[0.23]	[0.0066]	[0.016]	[0.022]	[0.018]	[0.011]
<i>margins</i>		<-0.00014>			<0.0085>	<-0.00057>	<0.0086>	
Age(child)	-2.28	0.011	-2.06	-0.062*	0.11**	-0.098*	0.11**	0.088**
<i>unclustered s.e</i>	(2.27)	(0.090)	(1.35)	(0.035)	(0.050)	(0.057)	(0.050)	(0.044)
<i>clustered s.e</i>	[2.08]	[0.079]	[1.25]	[0.026]	[0.052]	[0.065]	[0.050]	[0.055]
<i>margins</i>		<0.0018>			<0.030>	<-0.022>	<0.031>	
Raven(child)	0.83**	0.033**	0.081	0.00052	-0.017**	-0.0084	-0.019**	-0.012
<i>unclustered s.e</i>	(0.39)	(0.015)	(0.23)	(0.0059)	(0.0080)	(0.0092)	(0.0080)	(0.0075)
<i>clustered s.e</i>	[0.78]	[0.027]	[0.26]	[0.0070]	[0.0090]	[0.0095]	[0.0091]	[0.0094]
<i>margins</i>		<0.0054>			<-0.0047>	<-0.0019>	<-0.0052>	
Family-size	-1.11	-0.054	0.060	-0.028	0.012	0.018	0.0076	-0.0034
<i>unclustered s.e</i>	(1.48)	(0.063)	(0.87)	(0.023)	(0.031)	(0.038)	(0.031)	(0.029)
<i>clustered s.e</i>	[1.37]	[0.045]	[1.08]	[0.024]	[0.032]	[0.029]	[0.033]	[0.030]
<i>margins</i>		<-0.0089>			<0.0033>	<0.0039>	<0.0021>	
HH Income	0.93	-0.33	2.28	-0.023	0.035	0.0035	0.033	0.050
<i>unclustered s.e</i>	(2.64)	(0.24)	(1.52)	(0.038)	(0.056)	(0.074)	(0.056)	(0.049)
<i>clustered s.e</i>	[1.71]	[0.29]	[1.32]	[0.036]	[0.048]	[0.071]	[0.048]	[0.041]
<i>margins</i>		<-0.054>			<0.0094>	<0.00076>	<0.0090>	
HH Income Missing	9.39	-3.04	19.8	-0.10	0.53	0.030	0.48	0.56
<i>unclustered s.e</i>	(25.6)	(2.35)	(14.7)	(0.37)	(0.54)	(0.72)	(0.55)	(0.48)
<i>clustered s.e</i>	[15.0]	[2.69]	[12.6]	[0.32]	[0.47]	[0.69]	[0.48]	[0.37]
<i>margins</i>		<-0.66>			<0.13>	<0.0068>	<0.12>	
Religiosity	53.0**	1.97**	8.73	0.78**	-2.09***	-1.56***	-2.16***	-1.46***
<i>unclustered s.e</i>	(23.6)	(0.87)	(14.1)	(0.36)	(0.52)	(0.56)	(0.52)	(0.45)
<i>clustered s.e</i>	[29.0]	[0.74]	[16.2]	[0.39]	[1.10]	[0.99]	[1.10]	[0.90]
<i>margins</i>		<0.32>			<-0.56>	<-0.34>	<-0.59>	
N	1243	599	1165	1246	1319	1165	1316	1180

Notes: Table A3.1 presents the estimated effect of religiosity (β_1) using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with unclustered standard errors (in parentheses) and standard errors clustered by school [in squared bracket]. The specification includes fixed effects for schools and includes a battery of control variables X for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. Table 1 summarizes the estimates from this table.

Table A3.2: Impact of religiosity on children's outcomes by gender

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu(Father)	12.1***	0.33*	6.02**	0.070	-0.11	-0.021	-0.090	-0.053
<i>unclustered s.e.</i>	(4.36)	(0.17)	(2.58)	(0.066)	(0.090)	(0.11)	(0.090)	(0.083)
<i>clustered s.e.</i>	[4.10]	[0.17]	[2.67]	[0.055]	[0.094]	[0.13]	[0.096]	[0.088]
Edu(Mother)	15.4***	0.49*	6.61*	-0.10	0.021	0.17	0.011	-0.065
<i>unclustered s.e.</i>	(5.81)	(0.26)	(3.41)	(0.087)	(0.12)	(0.14)	(0.12)	(0.11)
<i>clustered s.e.</i>	[6.99]	[0.25]	[4.14]	[0.059]	[0.12]	[0.16]	[0.12]	[0.075]
Raven(parent)	-0.13	-0.00082	0.12	0.0057	-0.018***	-0.048***	-0.018***	-0.010**
<i>unclustered s.e.</i>	(0.23)	(0.0087)	(0.14)	(0.0035)	(0.0048)	(0.0060)	(0.0048)	(0.0043)
<i>clustered s.e.</i>	[0.24]	[0.0077]	[0.16]	[0.0032]	[0.0078]	[0.012]	[0.0079]	[0.0057]
Age(Father)	0.027	0.00018	0.068	-0.00050	-0.013	-0.015	-0.012	0.00062
<i>unclustered s.e.</i>	(0.59)	(0.020)	(0.35)	(0.0091)	(0.013)	(0.014)	(0.013)	(0.011)
<i>clustered s.e.</i>	[0.44]	[0.014]	[0.33]	[0.0081]	[0.017]	[0.018]	[0.018]	[0.013]
Age(Mother)	-0.10	0.0017	-0.20	-0.0068	0.032**	-0.0023	0.032**	0.018
<i>unclustered s.e.</i>	(0.61)	(0.021)	(0.36)	(0.0094)	(0.013)	(0.015)	(0.013)	(0.012)
<i>clustered s.e.</i>	[0.47]	[0.014]	[0.23]	[0.0065]	[0.016]	[0.022]	[0.017]	[0.011]
Age(child)	-1.97	0.020	-1.75	-0.067*	0.10**	-0.088	0.11**	0.093**
<i>unclustered s.e.</i>	(2.27)	(0.085)	(1.35)	(0.035)	(0.048)	(0.056)	(0.048)	(0.044)
<i>clustered s.e.</i>	[2.00]	[0.074]	[1.23]	[0.026]	[0.049]	[0.062]	[0.048]	[0.054]
Raven(child)	0.79**	0.029*	0.066	-0.00023	-0.019**	-0.0059	-0.021***	-0.011
<i>unclustered s.e.</i>	(0.39)	(0.015)	(0.23)	(0.0059)	(0.0078)	(0.0090)	(0.0078)	(0.0074)
<i>clustered s.e.</i>	[0.74]	[0.024]	[0.25]	[0.0067]	[0.0087]	[0.0093]	[0.0087]	[0.0094]
Family-size	-1.18	-0.054	0.012	-0.023	0.0073	0.0099	0.0025	-0.0098
<i>unclustered s.e.</i>	(1.48)	(0.060)	(0.87)	(0.023)	(0.031)	(0.037)	(0.031)	(0.029)
<i>clustered s.e.</i>	[1.38]	[0.041]	[1.08]	[0.025]	[0.031]	[0.028]	[0.032]	[0.029]
HH Income	0.69	-0.32	2.13	-0.028	0.017	0.013	0.016	0.035
<i>unclustered s.e.</i>	(2.64)	(0.23)	(1.52)	(0.038)	(0.053)	(0.070)	(0.053)	(0.049)
<i>clustered s.e.</i>	[1.71]	[0.26]	[1.32]	[0.037]	[0.050]	[0.062]	[0.050]	[0.042]
HH Income Missing	7.70	-2.89	18.9	-0.15	0.38	0.12	0.34	0.48
<i>unclustered s.e.</i>	(25.6)	(2.23)	(14.8)	(0.37)	(0.51)	(0.68)	(0.52)	(0.48)
<i>clustered s.e.</i>	[15.0]	[2.41]	[12.6]	[0.33]	[0.49]	[0.61]	[0.49]	[0.39]
Religiosity	40.1	1.54*	-8.64	1.10**	-1.80***	-2.81***	-1.89***	-1.74***
<i>unclustered s.e.</i>	(29.8)	(0.91)	(18.1)	(0.45)	(0.63)	(0.65)	(0.63)	(0.55)
<i>clustered s.e.</i>	[33.3]	[0.49]	[19.0]	[0.51]	[1.31]	[1.09]	[1.32]	[1.01]
Female	20.1	-0.79	1.90	0.75	0.62	-4.27***	0.58	-0.040
<i>unclustered s.e.</i>	(47.7)	(1.95)	(28.1)	(0.70)	(0.96)	(1.10)	(0.96)	(0.86)
<i>clustered s.e.</i>	[69.5]	[2.58]	[34.4]	[0.73]	[2.11]	[2.12]	[2.12]	[1.72]
Female*Religiosity	28.2	1.69	36.0	-0.80	-0.69	4.67***	-0.63	-0.074
<i>unclustered s.e.</i>	(48.6)	(2.16)	(28.9)	(0.73)	(1.03)	(1.18)	(1.03)	(0.93)
<i>clustered s.e.</i>	[62.5]	[2.78]	[32.1]	[0.72]	[2.32]	[2.31]	[2.33]	[1.93]
Religiosity (Female=1)	68.276*	0.133	27.409	0.300*	-0.678***	0.370*	-0.689***	-1.809**
<i>unclustered s.e.</i>	(38.528)	(0.097)	(22.533)	(0.582)	(0.228)	(0.205)	(0.229)	(0.748)
<i>clustered s.e.</i>	[53.204]	[0.139]	[26.063]	[0.558]	[0.517]	[0.403]	[0.520]	[1.638]
<i>p-value</i>	0.076	0.172	0.224	0.607	0.003	0.070	0.003	0.016
<i>N</i>	1243	1243	1165	1246	1319	1325	1316	1180

Notes: Table A3.2 presents the estimated effect of religiosity by gender. Gender of the child is coded as 1 if *Female*, and 0 otherwise. The specification is as follows: $Y_i = \beta_0 + \beta_1 * Rel_i + \beta_2 * Female_i + \beta_3 * Rel_i * Female_i + \gamma_x * X_i + \mu_i$ and we give unclustered standard errors (in parentheses) and clustered standard errors [in squared brackets]. The specification excludes fixed effects for schools and includes a battery of control variables X for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. Table 2 summarizes the estimates from this table.

Table A3.3: Additional variables: Impact of religiosity on children's outcomes

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu(Father)	11.8***	0.33*	5.76**	0.059	-0.11	-0.0026	-0.094	-0.054
<i>unclustered s.e</i>	(4.36)	(0.18)	(2.57)	(0.066)	(0.092)	(0.11)	(0.093)	(0.082)
<i>clustered s.e</i>	[4.07]	[0.18]	[2.68]	[0.055]	[0.097]	[0.13]	[0.098]	[0.094]
Edu(Mother)	15.2***	0.50*	6.62*	-0.11	0.030	0.16	0.019	-0.029
<i>unclustered s.e</i>	(5.81)	(0.26)	(3.39)	(0.087)	(0.12)	(0.14)	(0.12)	(0.11)
<i>clustered s.e</i>	[6.99]	[0.25]	[4.15]	[0.057]	[0.12]	[0.17]	[0.12]	[0.074]
Raven(parent)	-0.17	-0.012	0.093	0.0068*	-0.023***	-0.051***	-0.022***	-0.011**
<i>unclustered s.e</i>	(0.23)	(0.0091)	(0.14)	(0.0035)	(0.0050)	(0.0062)	(0.0050)	(0.0044)
<i>clustered s.e</i>	[0.24]	[0.0068]	[0.16]	[0.0034]	[0.0079]	[0.012]	[0.0082]	[0.0061]
Age(Father)	0.0074	-0.0013	0.041	0.00075	-0.014	-0.014	-0.013	0.00012
<i>unclustered s.e</i>	(0.59)	(0.021)	(0.35)	(0.0090)	(0.013)	(0.015)	(0.013)	(0.011)
<i>clustered s.e</i>	[0.44]	[0.015]	[0.34]	[0.0079]	[0.017]	[0.018]	[0.018]	[0.014]
Age(Mother)	-0.16	-0.0010	-0.23	-0.0082	0.033**	-0.00089	0.033**	0.017
<i>unclustered s.e</i>	(0.61)	(0.022)	(0.36)	(0.0094)	(0.014)	(0.015)	(0.014)	(0.012)
<i>clustered s.e</i>	[0.45]	[0.014]	[0.23]	[0.0094]	[0.016]	[0.022]	[0.018]	[0.010]
Age(child)	-2.29	0.0085	-2.05	-0.064*	0.11**	-0.097*	0.12**	0.091**
<i>unclustered s.e</i>	(2.27)	(0.090)	(1.35)	(0.035)	(0.050)	(0.057)	(0.050)	(0.044)
<i>clustered s.e</i>	[2.06]	[0.081]	[1.24]	[0.026]	[0.052]	[0.065]	[0.051]	[0.056]
Raven(child)	0.84**	0.034**	0.093	-0.000060	-0.016**	-0.0082	-0.018**	-0.011
<i>unclustered s.e</i>	(0.39)	(0.016)	(0.23)	(0.0059)	(0.0080)	(0.0092)	(0.0080)	(0.0075)
<i>clustered s.e</i>	[0.78]	[0.027]	[0.26]	[0.0072]	[0.0088]	[0.0093]	[0.0089]	[0.0094]
Family-size	-1.00	-0.051	0.12	-0.030	0.014	0.017	0.0089	-0.0033
<i>unclustered s.e</i>	(1.49)	(0.063)	(0.87)	(0.023)	(0.032)	(0.038)	(0.032)	(0.029)
<i>clustered s.e</i>	[1.38]	[0.050]	[1.08]	[0.024]	[0.032]	[0.028]	[0.033]	[0.031]
HH Income	0.96	-0.34	2.30	-0.024	0.039	-0.0087	0.037	0.052
<i>unclustered s.e</i>	(2.64)	(0.25)	(1.52)	(0.038)	(0.055)	(0.074)	(0.055)	(0.049)
<i>clustered s.e</i>	[1.69]	[0.20]	[1.30]	[0.036]	[0.050]	[0.071]	[0.051]	[0.040]
HH Income Missing	9.67	-3.13	19.8	-0.081	0.53	-0.13	0.48	0.55
<i>unclustered s.e</i>	(25.6)	(2.39)	(14.7)	(0.37)	(0.54)	(0.71)	(0.54)	(0.48)
<i>clustered s.e</i>	[14.6]	[2.82]	[12.3]	[0.31]	[0.50]	[0.69]	[0.51]	[0.38]
Scared	0.73	0.031	0.12	0.037	-0.030	-0.062	-0.033	-0.061
<i>unclustered s.e</i>	(2.06)	(0.081)	(1.22)	(0.031)	(0.044)	(0.047)	(0.044)	(0.039)
<i>clustered s.e</i>	[1.70]	[0.074]	[1.28]	[0.037]	[0.075]	[0.061]	[0.077]	[0.061]
Walk	-8.50	-0.17	-5.87	0.41***	-0.72***	-0.32	-0.72***	-0.33**
<i>unclustered s.e</i>	(8.47)	(0.37)	(4.97)	(0.13)	(0.21)	(0.20)	(0.21)	(0.16)
<i>clustered s.e</i>	[9.71]	[0.50]	[5.51]	[0.24]	[0.22]	[0.28]	[0.22]	[0.15]
Religiosity	54.2**	2.02**	9.74	0.65*	-1.95***	-1.46***	-2.02***	-1.34***
<i>unclustered s.e</i>	(23.7)	(0.87)	(14.2)	(0.36)	(0.52)	(0.56)	(0.53)	(0.45)
<i>clustered s.e</i>	[28.8]	[0.75]	[16.0]	[0.35]	[1.07]	[0.98]	[1.07]	[0.90]
N	1243	599	1165	1246	1319	1165	1316	1180

Notes: Table A3.3 presents the estimated effect of religiosity (β_1) using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with unclustered standard errors (in parentheses) and standard errors clustered by school [in squared bracket]. The specification includes fixed effects for schools and includes a battery of control variables X for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). In addition to the usual control variables, this specification also includes $Walk$ and $Scared$. Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. Table 3 summarizes the estimates from this table.

Table A3.4: Additional variables: Impact of religiosity on children's outcomes

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu(Father)	9.64**	0.31	5.37*	0.042	-0.16	-0.11	-0.14	-0.11
<i>unclustered s.e</i>	(4.63)	(0.21)	(2.82)	(0.062)	(0.10)	(0.13)	(0.10)	(0.090)
<i>clustered s.e</i>	[3.90]	[0.14]	[3.09]	[0.060]	[0.099]	[0.15]	[0.10]	[0.094]
Edu(Mother)	16.6***	0.93***	5.01	-0.16*	-0.050	0.19	-0.061	-0.060
<i>unclustered s.e</i>	(6.39)	(0.36)	(3.85)	(0.085)	(0.14)	(0.17)	(0.14)	(0.12)
<i>clustered s.e</i>	[8.97]	[0.54]	[4.84]	[0.059]	[0.15]	[0.21]	[0.14]	[0.093]
Raven(parent)	-0.21	-0.013	0.073	0.0029	-0.023***	-0.051***	-0.022***	-0.011**
<i>unclustered s.e</i>	(0.25)	(0.010)	(0.15)	(0.0033)	(0.0057)	(0.0072)	(0.0057)	(0.0048)
<i>clustered s.e</i>	[0.32]	[0.011]	[0.20]	[0.0032]	[0.0089]	[0.014]	[0.0092]	[0.0067]
Age(Father)	0.30	0.022	0.062	-0.0027	-0.016	-0.014	-0.015	0.00015
<i>unclustered s.e</i>	(0.69)	(0.032)	(0.42)	(0.0094)	(0.016)	(0.018)	(0.016)	(0.014)
<i>clustered s.e</i>	[0.45]	[0.025]	[0.39]	[0.0099]	[0.019]	[0.027]	[0.020]	[0.014]
Age(Mother)	-0.24	-0.0013	-0.32	-0.0044	0.028*	0.0044	0.029*	0.011
<i>unclustered s.e</i>	(0.71)	(0.033)	(0.43)	(0.0097)	(0.016)	(0.019)	(0.016)	(0.014)
<i>clustered s.e</i>	[0.51]	[0.027]	[0.29]	[0.0083]	[0.019]	[0.033]	[0.020]	[0.012]
Age(child)	-2.83	0.0041	-2.17	-0.080**	0.14**	-0.11	0.14**	0.096**
<i>unclustered s.e</i>	(2.45)	(0.11)	(1.49)	(0.033)	(0.056)	(0.067)	(0.056)	(0.048)
<i>clustered s.e</i>	[2.34]	[0.096]	[1.41]	[0.028]	[0.059]	[0.063]	[0.057]	[0.061]
Raven(child)	0.58	0.029	-0.022	0.0093	-0.013	-0.014	-0.015*	-0.0081
<i>unclustered s.e</i>	(0.42)	(0.018)	(0.26)	(0.0057)	(0.0089)	(0.011)	(0.0089)	(0.0082)
<i>clustered s.e</i>	[0.73]	[0.028]	[0.26]	[0.0054]	[0.0099]	[0.0083]	[0.010]	[0.010]
Family-size	-0.77	-0.036	-0.18	-0.022	0.016	0.036	0.011	0.012
<i>unclustered s.e</i>	(1.57)	(0.073)	(0.95)	(0.021)	(0.034)	(0.043)	(0.034)	(0.031)
<i>clustered s.e</i>	[1.55]	[0.058]	[1.20]	[0.019]	[0.038]	[0.028]	[0.039]	[0.035]
HH Income	0.71	-0.45	2.36	-0.013	0.040	0.033	0.036	0.057
<i>unclustered s.e</i>	(2.67)	(0.32)	(1.59)	(0.034)	(0.058)	(0.080)	(0.058)	(0.051)
<i>clustered s.e</i>	[1.62]	[0.27]	[1.27]	[0.033]	[0.048]	[0.085]	[0.049]	[0.043]
HH Income Missing	9.71	-4.11	21.4	-0.022	0.57	0.045	0.50	0.59
<i>unclustered s.e</i>	(26.0)	(3.06)	(15.4)	(0.33)	(0.57)	(0.78)	(0.57)	(0.49)
<i>clustered s.e</i>	[14.0]	[2/55]	[12.0]	[0.30]	[0.48]	[0.83]	[0.49]	[0.39]
Discounting	-0.63	-1.17*	14.5	0.0036	1.07***	-0.28	1.10***	0.68**
<i>unclustered s.e</i>	(15.5)	(0.70)	(9.39)	(0.21)	(0.34)	(0.42)	(0.34)	(0.30)
<i>clustered s.e</i>	[14.9]	[0.71]	[7.90]	[0.20]	[0.53]	[0.46]	[0.51]	[0.39]
Risk Loving	2.29	0.17*	-0.47	-0.016	-0.045	0.10*	-0.047	-0.034
<i>unclustered s.e</i>	(2.04)	(0.096)	(1.24)	(0.027)	(0.045)	(0.055)	(0.045)	(0.039)
<i>clustered s.e</i>	[2.21]	[0.084]	[1.34]	[0.027]	[0.038]	[0.073]	[0.040]	[0.028]
Altruism	4.68	0.42**	-2.15	-0.018	-0.22**	-0.34***	-0.19*	-0.16
<i>unclustered s.e</i>	(4.98)	(0.21)	(3.06)	(0.067)	(0.11)	(0.13)	(0.11)	(0.096)
<i>clustered s.e</i>	[4.48]	[0.21]	[1.94]	[0.053]	[0.13]	[0.14]	[0.14]	[0.11]
Religiosity	55.9**	2.38**	5.53	0.33	-2.26***	-1.70***	-2.35***	-1.79***
<i>unclustered s.e</i>	(25.5)	(1.03)	(15.7)	(0.34)	(0.58)	(0.65)	(0.58)	(0.50)
<i>clustered s.e</i>	[33.6]	[1.00]	[17.5]	[0.25]	[1.27]	[1.11]	[1.28]	[1.04]
N	1030	472	970	1034	1096	934	1094	983

Notes: Table A3.4 presents the estimated effect of religiosity (β_1) using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with unclustered standard errors (in parentheses) and standard errors clustered by school [in squared bracket]. The specification includes fixed effects for schools and includes a battery of control variables X for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). In addition to the usual control variables, this specification also includes *Discounting*, *Risk Loving* and *Altruism*. Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. Table 3 summarizes the estimates from this table.

Table A3.5: Additional Variables: Impact of religiosity on children's outcomes

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu(Father)	10.5**	0.31*	4.99*	0.080	-0.11	-0.0076	-0.10	-0.052
<i>unclustered s.e</i>	(4.52)	(0.18)	(2.65)	(0.069)	(0.096)	(0.11)	(0.096)	(0.083)
<i>clustered s.e</i>	[3.85]	[0.17]	[2.77]	[0.053]	[0.099]	[0.14]	[0.099]	[0.090]
Edu(Mother)	15.3**	0.48*	6.99**	-0.12	0.092	0.13	0.10	0.016
<i>unclustered s.e</i>	(6.10)	(0.27)	(3.55)	(0.092)	(0.13)	(0.15)	(0.13)	(0.11)
<i>clustered s.e</i>	[7.32]	[0.26]	[4.32]	[0.060]	[0.13]	[0.18]	[0.14]	[0.075]
Raven(parent)	-0.17	-0.011	0.11	0.0068*	-0.021***	-0.051***	-0.021***	-0.011**
<i>unclustered s.e</i>	(0.24)	(0.0090)	(0.14)	(0.0036)	(0.0051)	(0.0064)	(0.0051)	(0.0044)
<i>clustered s.e</i>	[0.26]	[0.0087]	[0.16]	[0.0034]	[0.0079]	[0.012]	[0.0081]	[0.0062]
Age(Father)	0.11	0.0027	0.0073	0.0000070	-0.011	-0.0080	-0.011	-0.000025
<i>unclustered s.e</i>	(0.63)	(0.023)	(0.37)	(0.0097)	(0.014)	(0.015)	(0.014)	(0.012)
<i>clustered s.e</i>	[0.45]	[0.016]	[0.33]	[0.0087]	[0.019]	[0.021]	[0.020]	[0.013]
Age(Mother)	-0.37	-0.0089	-0.21	-0.0062	0.034**	-0.0054	0.034**	0.016
<i>unclustered s.e</i>	(0.66)	(0.025)	(0.39)	(0.010)	(0.015)	(0.016)	(0.015)	(0.012)
<i>clustered s.e</i>	[0.47]	[0.017]	[0.25]	[0.0068]	[0.019]	[0.025]	[0.020]	[0.011]
Age(child)	-1.79	0.012	-1.78	-0.057	0.086*	-0.089	0.091*	0.062
<i>unclustered s.e</i>	(2.34)	(0.091)	(1.39)	(0.036)	(0.052)	(0.059)	(0.052)	(0.044)
<i>clustered s.e</i>	[2.03]	[0.075]	[1.22]	[0.027]	[0.051]	[0.068]	[0.049]	[0.051]
Raven(child)	0.92**	0.035**	0.090	0.0010	-0.013	-0.0058	-0.014*	-0.0069
<i>unclustered s.e</i>	(0.40)	(0.016)	(0.24)	(0.0062)	(0.0084)	(0.0096)	(0.0084)	(0.0076)
<i>clustered s.e</i>	[0.83]	[0.028]	[0.27]	[0.0076]	[0.010]	[0.0087]	[0.010]	[0.011]
Family-size	-0.81	-0.046	0.20	-0.023	0.0064	0.014	-0.00073	-0.015
<i>unclustered s.e</i>	(1.53)	(0.064)	(0.89)	(0.024)	(0.032)	(0.039)	(0.032)	(0.029)
<i>clustered s.e</i>	[1.42]	[0.044]	[1.14]	[0.025]	[0.032]	[0.030]	[0.033]	[0.027]
HH Income	1.20	-0.30	2.40	-0.024	0.030	0.0048	0.028	0.045
<i>unclustered s.e</i>	(2.67)	(0.24)	(1.53)	(0.039)	(0.056)	(0.076)	(0.056)	(0.049)
<i>clustered s.e</i>	[1.69]	[0.28]	[1.35]	[0.036]	[0.049]	[0.069]	[0.049]	[0.042]
HH Income Missing	9.43	-2.87	20.5	-0.096	0.67	0.11	0.63	0.62
<i>unclustered s.e</i>	(26.0)	(2.34)	(14.9)	(0.38)	(0.55)	(0.74)	(0.55)	(0.47)
<i>clustered s.e</i>	[15.1]	[2.67]	[12.9]	[0.32]	[0.50]	[0.68]	[0.50]	[0.39]
Skilled Trade	-0.26	0.07	-2.16	-0.11	0.10	-0.44***	0.075	0.17**
<i>unclustered s.e</i>	(4.52)	(0.17)	(2.68)	(0.069)	(0.096)	(0.11)	(0.095)	(0.084)
<i>clustered s.e</i>	[4.57]	[0.17]	[2.74]	[0.076]	[0.16]	[0.17]	[0.15]	[0.13]
Religiosity	55.2**	1.99**	9.94	0.66*	-2.81***	-2.13***	-2.88***	-1.77***
<i>unclustered s.e</i>	(25.0)	(0.89)	(14.9)	(0.38)	(0.59)	(0.59)	(0.59)	(0.47)
<i>clustered s.e</i>	[32.2]	[0.84]	[18.0]	[0.37]	[1.06]	[1.01]	[1.06]	[0.81]
N	1197	572	1120	1201	1268	1114	1265	1134

Notes: Table A3.5 presents estimated effect of religiosity (β_1) using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with unclustered standard errors (in parentheses) and standard errors clustered by school [in squared bracket]. The specification includes fixed effects for schools and includes a battery of control variables X for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). In addition to the usual control variables, this specification also includes *Skilled Trade*. Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. Table 3 summarizes the estimates from this table.

Table A3.6: Robustness: Alternative specifications for schooling outcomes

	Unconditional Marks					Pass(Y/N)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster
Edu(Father)	11.7*** (4.35)	11.7*** (4.08)		12.2*** (4.36)	12.2*** (4.11)	0.34* (0.18)	0.34* (0.18)		0.34* (0.17)	0.34* (0.17)
Edu(Mother)	15.4*** (5.80)	15.4** (7.08)		15.3*** (5.81)	15.3** (7.01)	0.51* (0.26)	0.51** (0.26)		0.49* (0.26)	0.49* (0.25)
Raven(parent)	-0.16 (0.23)	-0.16 (0.25)	-0.11 (0.23)	-0.14 (0.23)	-0.14 (0.24)	-0.011 (0.0089)	-0.011 (0.0085)	-0.013 (0.0086)	-0.0094 (0.0085)	-0.0094 (0.0078)
Age(Father)	0.033 (0.59)	0.033 (0.43)	0.029 (0.59)	0.035 (0.59)	0.035 (0.44)	-0.00094 (0.021)	-0.00094 (0.015)	0.0028 (0.020)	-0.00056 (0.020)	-0.00056 (0.014)
Age(Mother)	-0.17 (0.61)	-0.17 (0.46)	-0.23 (0.62)	-0.11 (0.61)	-0.11 (0.47)	-0.00088 (0.022)	-0.00088 (0.015)	-0.0018 (0.021)	0.0020 (0.021)	0.0020 (0.014)
Age(child)	-2.28 (2.27)	-2.28 (2.08)	-2.82 (2.28)	-2.00 (2.27)	-2.00 (1.99)	0.011 (0.090)	0.011 (0.079)	-0.0093 (0.087)	0.019 (0.085)	0.019 (0.074)
Female	207.6*** (12.7)	207.6*** (2.59)		45.8*** (17.6)	45.8** (18.6)	0.96*** (0.37)	0.96*** (0.16)		0.71 (0.45)	0.71 (0.48)
Raven(child)	0.83** (0.39)	0.83 (0.78)	0.89** (0.39)	0.79** (0.39)	0.79 (0.73)	0.033** (0.015)	0.033 (0.027)	0.033** (0.015)	0.028* (0.015)	0.028 (0.024)
Family-size	-1.11 (1.48)	-1.11 (1.37)	-1.45 (1.48)	-1.15 (1.48)	-1.15 (1.35)	-0.054 (0.063)	-0.054 (0.045)	-0.081 (0.061)	-0.050 (0.060)	-0.050 (0.039)
HH Income	0.93 (2.64)	0.93 (1.71)		0.64 (2.64)	0.64 (1.69)	-0.33 (0.24)	-0.33 (0.29)		-0.33 (0.23)	-0.33 (0.25)
HH Income Missing	9.39 (25.6)	9.39 (15.0)		7.07 (25.6)	7.07 (14.9)	-3.04 (2.35)	-3.04 (2.69)		-2.99 (2.21)	-2.99 (2.37)
Religiosity	53.0** (23.6)	53.0* (29.0)	53.5** (23.7)	50.5** (23.6)	50.5* (29.0)	1.97** (0.87)	1.97*** (0.74)	1.75** (0.85)	1.84** (0.82)	1.84*** (0.67)
N	1243	1243	1243	1243	1243	599	599	599	1243	1243

	Conditional Marks					Presence				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster
Edu(Father)	5.71** (2.57)	5.71** (2.70)		6.17** (2.58)	6.17** (2.63)	0.062 (0.066)	0.062 (0.053)		0.067 (0.066)	0.067 (0.055)
Edu(Mother)	6.75** (3.39)	6.75 (4.17)		6.48* (3.42)	6.48 (4.12)	-0.11 (0.087)	-0.11* (0.059)		-0.10 (0.087)	-0.10* (0.058)
Raven(parent)	0.11 (0.14)	0.11 (0.16)	0.15 (0.13)	0.11 (0.14)	0.11 (0.15)	0.0061* (0.0035)	0.0061* (0.0033)	0.0054 (0.0035)	0.0059* (0.0035)	0.0059* (0.0032)
Age(Father)	0.057 (0.35)	0.057 (0.34)	0.025 (0.35)	0.084 (0.35)	0.084 (0.33)	-0.000016 (0.0091)	-0.000016 (0.0082)	0.0014 (0.0090)	-0.00061 (0.0090)	-0.00061 (0.0081)
Age(Mother)	-0.24 (0.36)	-0.24 (0.23)	-0.26 (0.36)	-0.22 (0.36)	-0.22 (0.24)	-0.0069 (0.0094)	-0.0069 (0.0066)	-0.0069 (0.0094)	-0.0066 (0.0094)	-0.0066 (0.0065)
Age(child)	-2.06 (1.35)	-2.06* (1.25)	-2.30* (1.35)	-1.81 (1.35)	-1.81 (1.22)	-0.062* (0.035)	-0.062** (0.026)	-0.064* (0.035)	-0.065* (0.034)	-0.065** (0.026)
Raven(child)	0.081 (0.23)	0.081 (0.26)	0.10 (0.23)	0.067 (0.23)	0.067 (0.25)	0.00052 (0.0059)	0.00052 (0.0070)	0.00039 (0.0059)	-0.00015 (0.0059)	-0.00015 (0.0067)
Family-size	0.060 (0.87)	0.060 (1.08)	0.027 (0.87)	0.041 (0.88)	0.041 (1.07)	-0.028 (0.023)	-0.028 (0.024)	-0.028 (0.023)	-0.024 (0.023)	-0.024 (0.025)
HH Income	2.28 (1.52)	2.28* (1.32)		2.09 (1.53)	2.09 (1.31)	-0.023 (0.038)	-0.023 (0.036)		-0.027 (0.038)	-0.027 (0.036)
HH Income Missing	19.8 (14.7)	19.8 (12.6)		18.3 (14.8)	18.3 (12.6)	-0.10 (0.37)	-0.10 (0.32)		-0.14 (0.37)	-0.14 (0.32)
Religiosity	8.73 (14.1)	8.73 (16.2)	10.1 (14.1)	5.37 (14.2)	5.37 (15.9)	0.78** (0.36)	0.78** (0.39)	0.73** (0.36)	0.80** (0.36)	0.80** (0.39)
Female				34.7*** (9.74)	34.7*** (12.2)				0.020 (0.21)	0.020 (0.19)
N	1165	1165	1165	1165	1165	1246	1246	1246	1246	1246

Notes: Table A3.6 presents the estimated effect of religiosity (β_1) on schooling outcomes using alternative specifications. The baseline equation 5 is $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$, where X includes a battery of control variables for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). The alternative specifications present the estimates for the fixed effects model with standard errors clustered by school, fixed effects model with reduced X variables, random effects model and finally random effects model with standard errors clustered by school. Significance levels are denoted by ***1%, **5%, *10%. Tables 5 summarizes the estimates from this table.

Table A3.7: Robustness: Alternative specifications for work outcomes

	All Work(Y/N)					Economic Activity(Y/N)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster
Edu(Father)	-0.12 (0.092)	-0.12 (0.097)		-0.11 (0.090)	-0.11 (0.093)	-0.0089 (0.11)	-0.0089 (0.13)		-0.011 (0.11)	-0.011 (0.13)
Edu(Mother)	0.036 (0.12)	0.036 (0.12)		0.025 (0.12)	0.025 (0.12)	0.16 (0.14)	0.16 (0.17)		0.15 (0.14)	0.15 (0.16)
Raven(parent)	-0.021*** (0.0050)	-0.021*** (0.0076)	-0.022*** (0.0049)	-0.018*** (0.0048)	-0.018** (0.0076)	-0.051*** (0.0062)	-0.051*** (0.013)	-0.051*** (0.0061)	-0.049*** (0.0060)	-0.049*** (0.012)
Age(Father)	-0.013 (0.013)	-0.013 (0.018)	-0.010 (0.013)	-0.013 (0.013)	-0.013 (0.017)	-0.014 (0.015)	-0.014 (0.018)	-0.015 (0.015)	-0.014 (0.014)	-0.014 (0.018)
Age(Mother)	0.032** (0.014)	0.032* (0.016)	0.031** (0.014)	0.033** (0.013)	0.033** (0.016)	-0.0026 (0.015)	-0.0026 (0.022)	-0.0029 (0.015)	-0.0034 (0.015)	-0.0034 (0.021)
Age(child)	0.11** (0.050)	0.11** (0.052)	0.11** (0.050)	0.10** (0.048)	0.10** (0.049)	-0.098* (0.048)	-0.098 (0.057)	-0.096* (0.065)	-0.088 (0.055)	-0.088 (0.062)
Raven(child)	-0.017** (0.0080)	-0.017* (0.0090)	-0.018** (0.0080)	-0.019** (0.0078)	-0.019** (0.0087)	-0.0084 (0.0092)	-0.0084 (0.0095)	-0.0081 (0.0092)	-0.0053 (0.0090)	-0.0053 (0.0091)
Family-size	0.012 (0.031)	0.012 (0.032)	0.011 (0.031)	0.0062 (0.031)	0.0062 (0.032)	0.018 (0.038)	0.018 (0.029)	0.015 (0.037)	0.019 (0.037)	0.019 (0.027)
HH Income	0.035 (0.056)	0.035 (0.048)		0.018 (0.053)	0.018 (0.050)	0.0035 (0.074)	0.0035 (0.071)		0.0033 (0.068)	0.0033 (0.064)
HH Income Missing	0.53 (0.54)	0.53 (0.47)		0.39 (0.51)	0.39 (0.49)	0.030 (0.72)	0.030 (0.69)		-0.0061 (0.66)	-0.0061 (0.63)
Religiosity	-2.09*** (0.52)	-2.09** (1.10)	-2.24*** (0.51)	-2.05*** (0.50)	-2.05* (1.08)	-1.56*** (0.56)	-1.56 (0.99)	-1.56*** (0.56)	-1.38** (0.54)	-1.38 (0.95)
Female				-0.0079 (0.18)	-0.0079 (0.18)				-0.040 (0.24)	-0.040 (0.23)
N	1319	1319	1319	1319	1319	1165	1165	1165	1325	1325
	Household Chores(Y/N)					Work Hours				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster	Baseline-FE	FE-Cluster	FE-Less Controls	RE	RE-Cluster
Edu(Father)	-0.10 (0.092)	-0.10 (0.098)		-0.093 (0.090)	-0.093 (0.094)	-0.061 (0.083)	-0.061 (0.093)		-0.053 (0.082)	-0.053 (0.086)
Edu(Mother)	0.026 (0.12)	0.026 (0.12)		0.015 (0.12)	0.015 (0.12)	-0.027 (0.11)	-0.027 (0.074)		-0.066 (0.11)	-0.066 (0.078)
Raven(parent)	-0.021*** (0.0050)	-0.021*** (0.0079)	-0.022*** (0.0049)	-0.018*** (0.0048)	-0.018** (0.0078)	-0.0098** (0.0044)	-0.0098* (0.0059)	-0.011** (0.0043)	-0.010** (0.0043)	-0.010* (0.0056)
Age(Father)	-0.012 (0.013)	-0.012 (0.019)	-0.0097 (0.013)	-0.012 (0.013)	-0.012 (0.018)	0.00034 (0.011)	0.00034 (0.014)	0.0015 (0.011)	0.00062 (0.011)	0.00062 (0.013)
Age(Mother)	0.032** (0.014)	0.032* (0.018)	0.031** (0.014)	0.033** (0.013)	0.033* (0.017)	0.015 (0.012)	0.015 (0.011)	0.015 (0.012)	0.018 (0.012)	0.018 (0.011)
Age(child)	0.11** (0.050)	0.11** (0.050)	0.11** (0.050)	0.11** (0.048)	0.11** (0.048)	0.088** (0.044)	0.088 (0.055)	0.088** (0.044)	0.093** (0.044)	0.093* (0.053)
Raven(child)	-0.019** (0.0080)	-0.019** (0.0091)	-0.020** (0.0080)	-0.021*** (0.0078)	-0.021** (0.0088)	-0.012 (0.0075)	-0.012 (0.0094)	-0.012 (0.0075)	-0.011 (0.0074)	-0.011 (0.0094)
Family-size	0.0076 (0.031)	0.0076 (0.033)	0.0068 (0.031)	0.0015 (0.031)	0.0015 (0.032)	-0.0034 (0.029)	-0.0034 (0.030)	-0.0010 (0.029)	-0.010 (0.029)	-0.010 (0.030)
HH Income	0.033 (0.056)	0.033 (0.048)		0.017 (0.053)	0.017 (0.050)	0.050 (0.049)	0.050 (0.041)		0.035 (0.049)	0.035 (0.042)
HH Income Missing	0.48 (0.55)	0.48 (0.48)		0.35 (0.52)	0.35 (0.49)	0.56 (0.48)	0.56 (0.37)		0.48 (0.48)	0.48 (0.39)
Religiosity	-2.16*** (0.52)	-2.16** (1.10)	-2.29*** (0.52)	-2.12*** (0.51)	-2.12** (1.08)	-1.46*** (0.45)	-1.46 (0.90)	-1.50*** (0.45)	-1.77*** (0.44)	-1.77** (0.87)
Female				0.0040 (0.18)	0.0040 (0.18)				-0.11 (0.15)	-0.11 (0.20)
N	1316	1316	1316	1316	1316	1180	1180	1180	1180	1180

Notes: Table A3.7 presents the estimated effect of religiosity (β_1) on work outcomes using alternative specifications. The baseline equation 5 is $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$, where X includes a battery of control variables for the parents ($Edu(Father)$, $Edu(Mother)$, $Age(Father)$, $Age(Mother)$, $Raven(Parent)$) and the child ($Age(Child)$, $Raven(Child)$). The alternative specifications present the estimates for the fixed effects RE model with standard errors clustered by school, fixed effects model with reduced X variables, random effects model and finally random effects model with standard errors clustered by school. Significance levels are denoted by ***1%, **5%, *10%. Tables 5 summarizes the estimates from this table.

Table A3.8: Impact of intrinsic religiosity (IR) on children's outcomes

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu(Father)	11.8***	0.38**	5.65**	0.064	-0.13	-0.00069	-0.11	-0.062
<i>unclustered s.e</i>	(4.35)	(0.18)	(2.56)	(0.066)	(0.093)	(0.11)	(0.093)	(0.082)
<i>clustered s.e</i>	[4.13]	[0.18]	[2.68]	[0.054]	[0.088]	[0.14]	[0.089]	[0.087]
Edu(Mother)	15.3***	0.54**	6.75**	-0.11	0.044	0.16	0.035	-0.025
<i>unclustered s.e</i>	(5.80)	(0.27)	(3.39)	(0.087)	(0.12)	(0.14)	(0.12)	(0.11)
<i>clustered s.e</i>	[7.15]	[0.25]	[4.18]	[0.058]	[0.12]	[0.17]	[0.11]	[0.070]
Raven(parent)	-0.14	-0.011	0.11	0.0061*	-0.022***	-0.051***	-0.022***	-0.011**
<i>unclustered s.e</i>	(0.23)	(0.0089)	(0.14)	(0.0035)	(0.0050)	(0.0062)	(0.0050)	(0.0043)
<i>clustered s.e</i>	[0.24]	[0.0083]	[0.16]	[0.0033]	[0.0078]	[0.013]	[0.0080]	[0.0058]
Age(Father)	0.0011	-0.0028	0.064	-0.00068	-0.012	-0.014	-0.011	-0.00063
<i>unclustered s.e</i>	(0.59)	(0.021)	(0.35)	(0.0091)	(0.013)	(0.015)	(0.013)	(0.011)
<i>clustered s.e</i>	[0.44]	[0.015]	[0.34]	[0.0082]	[0.017]	[0.019]	[0.018]	[0.013]
Age(Mother)	-0.16	0.00025	-0.25	-0.0065	0.032**	-0.0019	0.033**	0.018
<i>unclustered s.e</i>	(0.61)	(0.021)	(0.36)	(0.0094)	(0.014)	(0.015)	(0.014)	(0.012)
<i>clustered s.e</i>	[0.47]	[0.015]	[0.24]	[0.0065]	[0.016]	[0.023]	[0.018]	[0.010]
Age(child)	-2.38	-0.00027	-2.09	-0.063*	0.11**	-0.098*	0.12**	0.093**
<i>unclustered s.e</i>	(2.27)	(0.090)	(1.35)	(0.035)	(0.050)	(0.057)	(0.050)	(0.044)
<i>clustered s.e</i>	[2.11]	[0.085]	[1.24]	[0.026]	[0.050]	[0.063]	[0.049]	[0.054]
Raven(child)	0.78**	0.032**	0.066	0.00012	-0.017**	-0.0063	-0.018**	-0.011
<i>unclustered s.e</i>	(0.39)	(0.015)	(0.23)	(0.0059)	(0.0081)	(0.0092)	(0.0081)	(0.0074)
<i>clustered s.e</i>	[0.78]	[0.028]	[0.26]	[0.0072]	[0.0090]	[0.0096]	[0.0090]	[0.0094]
Family-size	-1.20	-0.063	0.018	-0.029	0.016	0.024	0.011	-0.00094
<i>unclustered s.e</i>	(1.48)	(0.063)	(0.87)	(0.023)	(0.031)	(0.038)	(0.031)	(0.029)
<i>clustered s.e</i>	[1.39]	[0.050]	[1.08]	[0.025]	[0.032]	[0.029]	[0.032]	[0.030]
HH Income	0.69	-0.34	2.20	-0.025	0.047	-0.0036	0.045	0.062
<i>unclustered s.e</i>	(2.64)	(0.24)	(1.52)	(0.038)	(0.057)	(0.073)	(0.057)	(0.049)
<i>clustered s.e</i>	[1.71]	[0.29]	[1.33]	[0.037]	[0.047]	[0.071]	[0.048]	[0.039]
HH Income Missing	6.67	-3.12	19.0	-0.13	0.65	-0.029	0.60	0.68
<i>unclustered s.e</i>	(25.6)	(2.37)	(14.7)	(0.37)	(0.55)	(0.71)	(0.55)	(0.47)
<i>clustered s.e</i>	[15.1]	[2.69]	[12.6]	[0.33]	[0.48]	[0.69]	[0.48]	[0.37]
Intrinsic	12.5**	0.49**	4.21	0.14*	-0.74***	-0.47***	-0.75***	-0.53***
<i>unclustered s.e</i>	(5.33)	(0.20)	(3.17)	(0.082)	(0.12)	(0.13)	(0.12)	(0.10)
<i>clustered s.e</i>	[6.17]	[0.21]	[3.35]	[0.077]	[0.21]	[0.25]	[0.21]	[0.15]
N	1243	599	1165	1246	1319	1165	1316	1180

Notes: Table A3.8 presents the estimated effects using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with clustered (by school) standard errors and where *Rel* is the measure of intrinsic religiosity (*IR*). The specification includes fixed effects for schools and includes a battery of control variables *X* for the parents (*Edu(Father)*, *Edu(Mother)*, *Age(Father)*, *Age(Mother)*, *Raven(Parent)*) and the child (*Age(Child)*, *Raven(Child)*). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. Table 6 summarizes the estimates from this table.

Table A3.9: Impact of nonorganized religious activities (NORA) on children's outcomes (clustered)

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu(Father)	11.8***	0.31*	5.77**	0.062	-0.13	-0.0073	-0.11	-0.066
<i>unclustered s.e</i>	(4.36)	(0.18)	(2.57)	(0.066)	(0.092)	(0.11)	(0.092)	(0.083)
<i>clustered s.e</i>	[4.00]	[0.18]	[2.73]	[0.054]	[0.100]	[0.13]	[0.10]	[0.095]
Edu(Mother)	15.3***	0.49*	6.70**	-0.11	0.040	0.16	0.030	-0.021
<i>unclustered s.e</i>	(5.80)	(0.26)	(3.39)	(0.087)	(0.12)	(0.14)	(0.12)	(0.11)
<i>clustered s.e</i>	[7.06]	[0.25]	[4.20]	[b0.059]	(0.12)	[0.17]	[0.11]	[0.075]
Raven(parent)	-0.16	-0.010	0.10	0.0060*	-0.021***	-0.050***	-0.020***	-0.0092**
<i>unclustered s.e</i>	(0.23)	(0.0089)	(0.14)	(0.0035)	(0.0050)	(0.0061)	(0.0049)	(0.0044)
<i>clustered s.e</i>	(0.25)	[0.0087]	[0.16]	[0.0033]	[0.0079]	[0.013]	[0.0081]	[0.0059]
Age(Father)	0.0015	-0.0023	0.043	-0.00043	-0.0092	-0.014	-0.0080	0.0036
<i>unclustered s.e</i>	(0.59)	(0.021)	(0.35)	(0.0091)	(0.013)	(0.015)	(0.013)	(0.011)
<i>clustered s.e</i>	(0.44)	[0.014]	[0.34]	[0.0082]	[0.017]	[0.019]	[0.018]	[0.013]
Age(Mother)	-0.14	0.00045	-0.23	-0.0066	0.029**	-0.0032	0.029**	0.013
<i>unclustered s.e</i>	(0.61)	(0.022)	(0.36)	(0.0094)	(0.014)	(0.015)	(0.014)	(0.012)
<i>clustered s.e</i>	(0.46)	[0.014]	[0.23]	[0.0065]	[0.016]	[0.023]	[0.017]	[0.0100]
Age(child)	-2.18	0.011	-2.05	-0.061*	0.11**	-0.098*	0.11**	0.083*
<i>unclustered s.e</i>	(2.27)	(0.090)	(1.35)	(0.035)	(0.049)	(0.057)	(0.049)	(0.044)
<i>clustered s.e</i>	[2.04]	[0.079]	[b1.25]	[0.026]	[0.051]	[0.067]	[0.050]	[0.055]
Raven(child)	0.87**	0.036**	0.081	0.0010	-0.017**	-0.0096	-0.019**	-0.012
<i>unclustered s.e</i>	(0.39)	(0.015)	(0.23)	(0.0059)	(0.0080)	(0.0092)	(0.0080)	(0.0075)
<i>clustered s.e</i>	(0.79)	[0.027]	[0.26]	[0.0070]	[0.0092]	[0.0095]	[0.0092]	[0.0095]
Family-size	-1.07	-0.050	0.070	-0.027	0.011	0.016	0.0057	-0.0059
<i>unclustered s.e</i>	(1.48)	(0.063)	(0.87)	(0.023)	(0.031)	(0.038)	(0.031)	(0.029)
<i>clustered s.e</i>	(1.36)	[0.045]	[1.08]	[0.024]	[0.032]	[0.029]	[0.032]	[0.030]
HH Income	1.07	-0.29	2.28	-0.021	0.029	0.0089	0.027	0.048
<i>unclustered s.e</i>	(2.64)	(0.24)	(1.52)	(0.038)	(0.055)	(0.074)	(0.056)	(0.049)
<i>clustered s.e</i>	[1.70]	[0.27]	[1.32]	[0.036]	[0.049]	[0.070]	[0.049]	[0.042]
HH Income Missing	10.5	-2.68	19.7	-0.086	0.53	0.080	0.48	0.57
<i>unclustered s.e</i>	(25.6)	(2.30)	(14.7)	(0.37)	(0.54)	(0.72)	(0.54)	(0.48)
<i>clustered s.e</i>	[15.1]	[2.50]	[12.6]	[0.33]	[0.48]	[0.68]	[0.48]	[0.38]
NORA	4.65**	0.17**	0.18	0.069**	-0.059	-0.14**	-0.059	-0.011
<i>unclustered s.e</i>	(2.35)	(0.085)	(1.41)	(0.035)	(0.050)	(0.056)	(0.050)	(0.044)
<i>clustered s.e</i>	[3.42]	[0.12]	[1.21]	[0.039]	[0.089]	[0.094]	[0.089]	[0.090]
N	1243	599	1165	1246	1319	1165	1316	1180

Notes: Table A3.9 presents the estimated effects using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with clustered (by school) standard errors and where *Rel* is the measure of nonorganized religiosity (*NORA*). The specification includes fixed effects for schools and includes a battery of control variables *X* for the parents (*Edu(Father)*, *Edu(Mother)*, *Age(Father)*, *Age(Mother)*, *Raven(Parent)*) and the child (*Age(Child)*, *Raven(Child)*). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. Table 6 summarizes the estimates from this table.

Table A3.10: Impact of organized religious activities (ORA) on children's outcomes

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu(Father)	12.0***	0.32*	5.80**	0.064	-0.13	-0.0047	-0.11	-0.066
<i>unclustered s.e</i>	(4.36)	(0.18)	(2.56)	(0.066)	(0.091)	(0.11)	(0.091)	(0.083)
<i>clustered s.e</i>	[4.04]	[0.17]	[2.73]	[0.054]	[0.100]	[0.14]	[0.10]	[0.095]
Edu(Mother)	15.2***	0.49*	6.65*	-0.11	0.038	0.16	0.027	-0.022
<i>unclustered s.e</i>	(5.81)	(0.26)	(3.39)	(0.088)	(0.12)	(0.14)	(0.12)	(0.11)
<i>clustered s.e</i>	[0.25]	[0.26]	[0.15]	[0.0032]	[0.0078]	[0.013]	[0.0080]	[0.0059]
Raven(parent)	-0.18	-0.012	0.10	0.0058*	-0.020***	-0.049***	-0.020***	-0.0092**
<i>unclustered s.e</i>	(0.23)	(0.0088)	(0.14)	(0.0035)	(0.0049)	(0.0061)	(0.0049)	(0.0044)
<i>clustered s.e</i>	[0.25]	[0.0088]	[0.15]	[0.0032]	[0.0078]	[0.013]	[0.0080]	[0.0059]
Age(Father)	-0.058	-0.0056	0.034	-0.0011	-0.0087	-0.0100	-0.0076	0.0033
<i>unclustered s.e</i>	(0.59)	(0.021)	(0.35)	(0.0091)	(0.013)	(0.015)	(0.013)	(0.011)
<i>clustered s.e</i>	[0.44]	[0.014]	[0.34]	[0.0082]	[0.018]	[0.020]	[0.018]	[0.013]
Age(Mother)	-0.083	0.0029	-0.22	-0.0059	0.029**	-0.0076	0.029**	0.013
<i>unclustered s.e</i>	(0.61)	(0.022)	(0.36)	(0.0094)	(0.014)	(0.015)	(0.014)	(0.012)
<i>clustered s.e</i>	[0.47]	[0.014]	[0.23]	[0.0066]	[0.016]	[0.024]	[0.017]	[0.0098]
Age(child)	-2.26	0.0093	-2.05	-0.062*	0.11**	-0.10*	0.11**	0.084*
<i>unclustered s.e</i>	(2.28)	(0.091)	(1.35)	(0.035)	(0.049)	(0.057)	(0.049)	(0.044)
<i>clustered s.e</i>	[2.06]	[0.075]	[1.24]	[0.026]	[0.051]	[0.067]	[0.049]	[0.055]
Raven(child)	0.83**	0.035**	0.078	0.00044	-0.017**	-0.0066	-0.019**	-0.011
<i>unclustered s.e</i>	(0.39)	(0.015)	(0.23)	(0.0059)	(0.0079)	(0.0091)	(0.0080)	(0.0075)
<i>clustered s.e</i>	[0.78]	[0.027]	[0.26]	[0.0071]	[0.0092]	[0.010]	[0.0093]	[0.0094]
margins Family-size	-1.05	-0.048	0.067	-0.027	0.011	0.016	0.0058	-0.0058
<i>unclustered s.e</i>	(1.48)	(0.062)	(0.87)	(0.023)	(0.031)	(0.038)	(0.031)	(0.029)
<i>clustered s.e</i>	[1.38]	[0.046]	[1.08]	[0.024]	[0.031]	[0.028]	[0.032]	[0.030]
HH Income	0.97	-0.29	2.26	-0.021	0.029	0.0051	0.027	0.048
<i>unclustered s.e</i>	(2.65)	(0.24)	(1.52)	(0.038)	(0.055)	(0.074)	(0.056)	(0.049)
<i>clustered s.e</i>	[1.63]	[0.28]	[1.31]	[0.036]	[0.049]	[0.069]	[0.050]	[0.042]
HH Income Missing	8.83	-2.63	19.4	-0.093	0.53	0.053	0.48	0.56
<i>unclustered s.e</i>	(25.7)	(2.35)	(14.7)	(0.37)	(0.54)	(0.72)	(0.54)	(0.48)
<i>clustered s.e</i>	[14.3]	[2.63]	[12.5]	[0.33]	[0.48]	[0.67]	[0.48]	[0.38]
ORA	0.94	0.033	-0.39	0.035	-0.036	0.021	-0.044	-0.032
<i>unclustered s.e</i>	(2.11)	(0.084)	(1.25)	(0.032)	(0.044)	(0.052)	(0.044)	(0.041)
<i>clustered s.e</i>	[2.65]	[0.10]	[1.32]	[0.020]	[0.075]	[0.081]	[0.076]	[0.078]
N	1243	599	1165	1246	1319	1165	1316	1180

Notes: Table A3.10 presents the estimated effects using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with clustered (by school) standard errors and where *Rel* is the measure of organized religiosity (ORA). The specification includes fixed effects for schools and includes a battery of control variables *X* for the parents (*Edu(Father)*, *Edu(Mother)*, *Age(Father)*, *Age(Mother)*, *Raven(Parent)*) and the child (*Age(Child)*, *Raven(Child)*). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates. Table 6 summarizes the estimates from this table.

Table A3.11: Robustness: Omitted variables bias

Omitted Variable Bias (Intrinsic Religiosity)									
Unconditional Marks		Pass(Y/N)		Conditional Marks		Presence			
	β	Switch		β	Switch		β	Switch	
OLS	12.47			0.031			4.21		
Bias-Adjusted	11.70	No		0.028	No		3.97	No	
All Work(Y/N)		Economic Activity(Y/N)		Household Chores(Y/N)		Work Hours			
	β	Switch		β	Switch		β	Switch	
OLS	-0.56			-0.10			-0.20		
Bias-Adjusted	-0.22	No		-0.12	No		-0.22	No	
Omitted Variable Bias (Organized Religious Activities)									
Unconditional Marks		Pass(Y/N)		Conditional Marks		Presence			
	β	Switch		β	Switch		β	Switch	
OLS	0.94			0.0055			-0.39		
Bias-Adjusted	0.92	No		0.0060	No		-0.44	No	
All Work(Y/N)		Economic Activity(Y/N)		Household Chores(Y/N)		Work Hours			
	β	Switch		β	Switch		β	Switch	
OLS	0.14			0.0059			-0.015		
Bias-Adjusted	-0.0081	Yes		0.0054	No		-0.0098	No	
Omitted Variable Bias (Non-organized Religious Activities)									
Unconditional Marks		Pass(Y/N)		Conditional Marks		Presence			
	β	Switch		β	Switch		β	Switch	
OLS	4.65			0.018			0.18		
Bias-Adjusted	4.78	No		0.019	No		0.095	No	
All Work(Y/N)		Economic Activity(Y/N)		Household Chores(Y/N)		Work Hours			
	β	Switch		β	Switch		β	Switch	
OLS	0.091			-0.029			-0.021		
Bias-Adjusted	-0.019	Yes		-0.033	No		-0.019	No	

Notes: Table A3.11 presents the stability of the coefficient of religiosity (β) using Oster (2019)'s method with the degree of selection on unobserved variables relative to that on observed variables (denoted by δ). The OLS β corresponds to $\delta = 0$ and the \tilde{R} is the associated R-squared value from this uncontrolled specification. The bias-adjusted β corresponds to $\delta = 1$ and $R_{max} = 1.3\tilde{R}$ as proposed by Oster (2019). The baseline estimates are not exclusively driven by unobserved variables if the bound between the estimated coefficient β 's safely excludes 0, which is denoted by a Yes/No switch.

Table A3.12: Distribution by religiosity

Religiosity Types	No. of Observations	Frequency
<i>Non Religious</i>	240	37.27
<i>High IR</i>	56	8.70
<i>High ORA</i>	252	39.13
<i>High NORA</i>	96	14.91
Total	644	100.00

Notes: Table A3.12 presents the distribution of parents by religiosity types. We consider 4 types of parents. Type 1: Parents who have low IR, ORA and NORA; Type 2: Parents who have a high IR but low ORA and NORA; Type 3: Parents who have high ORA but low IR and NORA; and Type 4: Parents who have high NORA but low IR and ORA. We can categorize 45% of the sample (644 out of 1,408) into these four categories.

Table A3.13: Mechanism

	Total Work Hours Per Day	Total Work Hours On Friday	Economic Activity Hours Per Day	Economic Activity Hours on Friday	Household Work Hours Per Day	Household Work Hours On Friday	Aspiration for University Education
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
High IR	1.39 (0.88)	1.99* (1.04)	0.54 (0.48)	1.27* (0.66)	0.82 (0.53)	0.53 (0.56)	0.16** (0.066)
High ORA	-0.75* (0.39)	-1.31*** (0.49)	-0.32 (0.31)	-0.71* (0.41)	-0.61** (0.25)	-0.74*** (0.24)	-0.033 (0.048)
High NORA	-0.64 (0.60)	-1.08 (0.79)	-0.60 (0.41)	-1.11** (0.53)	-0.18 (0.35)	-0.13 (0.42)	0.067 (0.062)
Edu(Father)	0.11 (0.38)	0.48 (0.51)	0.37 (0.30)	0.54 (0.39)	-0.10 (0.25)	0.14 (0.28)	0.00015 (0.044)
Edu(Mother)	0.19 (0.57)	0.23 (0.72)	0.19 (0.40)	0.46 (0.52)	-0.11 (0.38)	-0.28 (0.38)	-0.025 (0.062)
Raven(parent)	-0.058*** (0.019)	-0.037 (0.025)	-0.044*** (0.016)	-0.026 (0.019)	-0.0054 (0.013)	0.00029 (0.012)	-0.0079*** (0.0022)
Age(Father)	0.087 (0.058)	0.074 (0.072)	-0.016 (0.039)	-0.0043 (0.050)	0.069* (0.036)	0.050 (0.036)	0.0042 (0.0057)
Age(Mother)	-0.15** (0.063)	-0.15* (0.077)	-0.045 (0.040)	-0.053 (0.051)	-0.070* (0.038)	-0.057 (0.038)	-0.0011 (0.0056)
Age(child)	-0.065 (0.18)	0.15 (0.24)	-0.063 (0.13)	0.060 (0.19)	-0.063 (0.12)	-0.020 (0.12)	0.030 (0.023)
Raven(child)	0.047 (0.036)	0.034 (0.044)	0.017 (0.025)	0.040 (0.032)	0.017 (0.023)	-0.012 (0.023)	0.0030 (0.0040)
Family-size	0.19 (0.13)	0.14 (0.17)	0.061 (0.099)	0.074 (0.13)	0.092 (0.085)	0.039 (0.089)	-0.015 (0.015)
HH Income	0.22 (0.21)	0.018 (0.23)	0.090 (0.16)	-0.10 (0.19)	0.20* (0.10)	0.16* (0.085)	-0.064*** (0.021)
HH Income Missing	1.56 (2.03)	1.48 (2.22)	-0.44 (1.53)	-0.60 (1.84)	2.60*** (1.00)	2.35*** (0.88)	-0.62*** (0.20)
IR vs. NORA							
<i>diff</i>	2.135**	3.308***	0.857*	1.988***	1.431***	1.265**	0.197***
<i>p-value</i>	[0.014]	[0.001]	[0.070]	[0.002]	[0.007]	[0.022]	[0.003]
IR vs. ORA							
<i>diff</i>	2.031**	3.071***	1.139**	2.381***	0.994*	0.658	0.097
<i>p-value</i>	[0.037]	[0.009]	[0.035]	[0.001]	[0.088]	[0.298]	[0.217]
NORA vs. ORA							
<i>diff</i>	-0.103	-0.238	0.282	0.392	-0.437	-0.606	-0.100*
<i>p-value</i>	[0.856]	[0.749]	[0.461]	[0.434]	[0.182]	[0.108]	[0.099]
N	479	478	510	510	552	550	589

Notes: Table A3.13 presents the estimates of *Rel Type* on parent's time allocation and higher education aspiration for their child. We estimate specification 7: $Y_i = \beta_0 + \beta_1 * Rel\ Type_i + \gamma_x * X_i + \mu_i$, where *Rel Type* is 0 for the "less-religious" type and is the omitted group; 1 for "high-IR" type; 2 for "high-NORA" type; and 3 for "high-ORA" type. The specification includes a battery of control variables X for the parents (*Edu(Father)*, *Edu(Mother)*, *Age(Father)*, *Age(Mother)*, *Raven(Parent)*) and the child (*Age(Child)*, *Raven(Child)*). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%. The lower panel provides the p values for the test statistics comparing the estimates for each type of religiosity with each other. Table 7 summarizes the estimates from this table.

Table A3.14: Mechanism

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High IR	8.63 (15.8)	0.013 (0.044)	5.05 (9.26)	0.11 (0.13)	-0.13** (0.065)	-0.076 (0.053)	-0.14** (0.066)	-0.27 (0.26)
High ORA	5.27 (9.98)	0.035 (0.028)	-5.81 (5.67)	0.085 (0.13)	-0.048 (0.035)	-0.17*** (0.032)	-0.048 (0.035)	-0.076 (0.14)
High NORA	-6.57 (12.5)	0.022 (0.036)	-14.1** (6.81)	-0.16 (0.32)	0.084** (0.037)	-0.078* (0.045)	0.071* (0.038)	0.17 (0.14)
Edu(Father)	12.2 (9.12)	0.0055 (0.025)	11.1** (5.41)	0.21* (0.12)	-0.055 (0.035)	0.085*** (0.030)	-0.053 (0.036)	-0.13 (0.12)
Edu(Mother)	21.3** (10.4)	0.048* (0.027)	6.39 (6.90)	-0.019 (0.16)	-0.049 (0.049)	-0.025 (0.039)	-0.048 (0.049)	-0.44*** (0.15)
Raven(parent)	0.17 (0.44)	-0.00014 (0.0012)	0.23 (0.27)	0.0075 (0.0073)	0.00033 (0.0015)	-0.0025* (0.0014)	0.00040 (0.0015)	-0.0033 (0.0054)
Age(Father)	-1.08 (1.13)	-0.0042 (0.0031)	0.22 (0.64)	-0.0012 (0.012)	-0.0023 (0.0037)	0.0042 (0.0036)	-0.0021 (0.0037)	0.0028 (0.014)
Age(Mother)	1.69* (1.02)	0.0050* (0.0026)	0.16 (0.62)	-0.0076 (0.012)	0.0031 (0.0035)	-0.0093** (0.0037)	0.0029 (0.0036)	0.0029 (0.014)
Age(child)	0.78 (4.51)	-0.0016 (0.013)	1.32 (2.45)	-0.058 (0.057)	0.015 (0.016)	-0.033** (0.014)	0.015 (0.016)	0.097 (0.080)
Raven(child)	-0.37 (0.73)	0.00094 (0.0019)	-0.70 (0.47)	-0.018 (0.015)	-0.0057* (0.0031)	0.00062 (0.0026)	-0.0064** (0.0031)	-0.0037 (0.011)
Family-size	-2.13 (2.94)	-0.0060 (0.0076)	-0.35 (1.91)	0.028 (0.053)	0.0099 (0.012)	0.00090 (0.0095)	0.0073 (0.013)	0.034 (0.045)
HH Income	-9.64* (5.25)	-0.017 (0.012)	-4.59 (2.82)	-0.017 (0.092)	0.054** (0.027)	0.035** (0.017)	0.054** (0.027)	0.18*** (0.069)
HH Income Missing	-77.4 (50.7)	-0.13 (0.12)	-36.5 (27.5)	0.16 (0.86)	0.47* (0.26)	0.22 (0.17)	0.47* (0.26)	1.82*** (0.67)
IR vs. NORA								
<i>diff</i>	3.358	-0.022	10.862	0.027	-0.086	0.094*	-0.090	-0.192
<i>p-value</i>	[0.826]	[0.591]	[0.236]	[0.825]	[0.190]	[0.058]	[0.178]	[0.460]
IR vs. ORA								
<i>diff</i>	15.202	-0.010	19.118*	0.275	-0.218***	0.001	-0.210***	-0.438*
<i>p-value</i>	[0.379]	[0.841]	[0.058]	[0.419]	[0.001]	[0.982]	[0.002]	[0.096]
NORA vs. ORA								
<i>diff</i>	11.844	0.013	8.256	0.248	-0.131***	-0.092**	-0.120***	-0.246*
<i>p-value</i>	[0.302]	[0.694]	[0.207]	[0.416]	[0.000]	[0.015]	[0.002]	[0.076]
N	562	562	519	574	600	601	598	536

Notes: Table A3.14 presents the estimates of *Rel Type* on children's outcomes. We estimate specification 7: $Y_i = \beta_0 + \beta_1 * Rel\ Type_i + \gamma_x * X_i + \mu_i$, where *Rel Type* is 0 for the "nonreligious" type and is the omitted group; 1 for "high-IR" type; 2 for "high-NORA" type; and 3 for "high-ORA" type. The specification includes a battery of control variables X for the parents (*Edu(Father)*, *Edu(Mother)*, *Age(Father)*, *Age(Mother)*, *Raven(Parent)*) and the child (*Age(Child)*, *Raven(Child)*). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%. The lower panel provides the p values for the test statistics comparing the estimates for each type of religiosity with each other. Table 8 summarizes the estimates from this table.

Table A3.15: Robustness: Omitted variables bias

Omitted Variable Bias (High IR)													
Total Work Hours Per Day		Total Work Hours on Friday		Economic Activity Hours Per Day		Economic Activity Hours on Friday		Household Work Hours Per Day		Household Work Hours on Friday		Aspiration for University Education	
β	Switch	β	Switch	β	Switch	β	Switch	β	Switch	β	Switch	β	Switch
OLS	1.39	1.99	0.54	1.27	0.82	0.53	0.16	0.53	0.53	0.53	0.16	0.16	0.16
Bias-Adjusted	0.35	0.54	0.11	0.42	0.12	-0.08	0.09	-0.08	0.09	-0.08	0.09	0.09	0.09
Omitted Variable Bias (High ORA)													
Total Work Hours Per Day		Total Work Hours on Friday		Economic Activity Hours Per Day		Economic Activity Hours on Friday		Household Work Hours Per Day		Household Work Hours on Friday		Aspiration for University Education	
β	Switch	β	Switch	β	Switch	β	Switch	β	Switch	β	Switch	β	Switch
OLS	-0.75	-1.31	-0.32	-0.71	-0.61	-0.74	-0.03	-0.61	-0.61	-0.74	-0.03	-0.03	-0.03
Bias-Adjusted	-0.70	-0.66	-0.87	-1.03	0.09	0.01	0.08	0.09	0.01	0.01	0.08	0.08	0.08
Omitted Variable Bias (High NORA)													
Total Work Hours Per Day		Total Work Hours on Friday		Economic Activity Hours Per Day		Economic Activity Hours on Friday		Household Work Hours Per Day		Household Work Hours on Friday		Aspiration for University Education	
β	Switch	β	Switch	β	Switch	β	Switch	β	Switch	β	Switch	β	Switch
OLS	-0.64	-1.08	-0.60	-1.11	-0.18	-0.13	0.07	-0.18	-0.18	-0.13	0.07	0.07	0.07
Bias-Adjusted	-0.50	-1.46	-0.52	-1.43	-0.32	-0.54	0.15	-0.32	-0.54	-0.54	0.15	0.15	0.15

Notes: Table A3.15 presents the stability of the coefficients of High IR, High ORA and High NORA (corresponding to the coefficients provided in Table A3.14). To do so, we use Oster (2019)'s method with the degree of selection on unobserved variables relative to that on observed variables (denoted by δ). The OLS β corresponds to $\delta = 0$ and the \tilde{R} is the associated R-squared value from this uncontrolled specification. The Bias-Adjusted β corresponds to $\delta = 1$ and $R_{max} = 1.3\tilde{R}$ as proposed by Oster (2019). The baseline estimates are not exclusively driven by unobserved variables if the bound between the estimated coefficient β 's safely excludes 0, which is denoted by a Yes/No switch.

Table A3.16: Robustness: Omitted variables bias

Omitted Variable Bias (High IR)												
Unconditional Marks		Pass (Y/N)	Conditional Marks		Presence	All Work (Y/N)		Economic Activity (Y/N)		Household Chores (Y/N)		Work Hours
β	Switch	β	β	Switch	β	β	Switch	β	Switch	β	Switch	β
OLS	8.63	0.013	5.05	Switch	0.11	-0.13	Switch	-0.08	Switch	-1.38	Switch	-0.27
Bias-Adjusted	10.87	0.040	-2.76	Yes	0.16	-0.15	No	-0.19	No	-0.16	No	-0.34
Omitted Variable Bias (High ORA)												
Unconditional Marks		Pass (Y/N)	Conditional Marks		Presence	All Work (Y/N)		Economic Activity (Y/N)		Household Chores (Y/N)		Work Hours
β	Switch	β	β	Switch	β	β	Switch	β	Switch	β	Switch	β
OLS	5.27	0.035	-5.81	Switch	0.085	-0.047	Switch	-0.17	Switch	-0.048	Switch	-0.076
Bias-Adjusted	3.24	0.057	-12.75	Yes	0.094	-0.64	No	-0.29	No	-0.077	No	0.032
Omitted Variable Bias (High NORA)												
Unconditional Marks		Pass (Y/N)	Conditional Marks		Presence	All Work (Y/N)		Economic Activity (Y/N)		Household Chores (Y/N)		Work Hours
β	Switch	β	β	Switch	β	β	Switch	β	Switch	β	Switch	β
OLS	-6.57	0.022	-14.07	Switch	-0.16	0.084	Switch	-0.078	Switch	0.071	Switch	0.17
Bias-Adjusted	-2.27	0.054	-22.02	Yes	-0.070	-0.016	Yes	-0.20	No	-0.025	Yes	0.13

Notes: Table A3.16 presents the stability of the coefficients of High IR, High ORA and High NORA (corresponding to the coefficients provided in Table A3.14). To do so, we use Oster (2019)'s method with the degree of selection on unobserved variables relative to that on observed variables (denoted by δ). The OLS β corresponds to $\delta = 0$ and the \tilde{R} is the associated R-squared value from this uncontrolled specification. The bias-adjusted β corresponds to $\delta = 1$ and $R_{max} = 1.3\tilde{R}$ as proposed by Oster (2019). The baseline estimates are not exclusively driven by unobserved variables if the bound between the estimated coefficient β 's safely excludes 0, which is denoted by a Yes/No switch.

B Appendix: For Online Publication

Summary statistics

Table B1 includes the distribution of schools by level and gender.

Table B1: School sample

Gender	Total Schools			Our Sample		
	level			level		
	High	Middle	Total	High	Middle	Total
Female	11	10	21	11	4	15
Male	8	16	24	5	12	17
Total	19	26	45	16	16	32

Note: This table provides the distribution of schools by school level and gender.

Behavioral games: Instructions

In this section, we present the behavioral games we use in the field to elicit parents' altruism, time discounting and risk aversion. For both the time preference and risk aversion experiments, at the end of the entire survey, one scenario is selected at random, and participants are paid based on the decision they make for that scenario. The income from the modified dictator game is paid or the gifts are given to the child at the same time.

Altruism

Please choose one of the two options below:

Table B2: Altruism

Child Consumption Good (PKR 50) Mobile Credit (PKR 35)

You will be asked to play two different types of games in this section [Game 1 (Risk Aversion) and 2 (Time Discounting)]. The two games are independent and give a payoff. For each game, we will explain the payoff structure that will be applied to determine your payoff, but you will know only at the end of the visit what payoff you received from Game 1 and Game 2. No game will give you a negative payoff.

To determine what payments you receive from Game 1 and Game 2, we will ask you to take a slip out of a hat containing slips numbered from 1 to 10 at the end of the survey. The number on the slip will represent the decision and the corresponding payment method you will receive. You should try to answer the questions as best as you can. There are no right or wrong answers. Do you understand the instructions? Please ask questions if there is something you do not understand.

Time discounting

Pick one option (A or B) for each of the 10 decisions below. Each decision asks you to pick (A) some amount of PKR today vs. (B) another amount 2 weeks from now. You can give only one answer per decision.

For the payment, you will be asked to draw a slip from a hat containing slips numbered from 1 to 10. The number on the slip will determine which decision [from 1 to 10] will be used for your payment, and your answer for that decision will determine your payoff. For example, if you draw slip number 7, Decision 7 is selected for payment. Decision 7 is as follows:

Decision (7): (A) PKR 65 guaranteed today or (B) PKR 100 guaranteed in 2 weeks

If for that decision you chose (B), then you will be paid PKR 100 as a mobile credit, which you will receive two weeks from now. However, if you chose option (A) for Decision 7, then the mobile credit will be transferred by the end of today. Do you understand the game and the payment method?

Please ask questions if there is something you do not understand.

Table B3: Time discounting

Decision	Option A	TODAY	Option B	2 WEEKS
1	<input type="radio"/>	(A) PKR 95 guaranteed today	<input type="radio"/>	(B) PKR 100 guaranteed in 2 weeks
2	<input type="radio"/>	(A) PKR 90 guaranteed today	<input type="radio"/>	(B) PKR 100 guaranteed in 2 weeks
3	<input type="radio"/>	(A) PKR 85 guaranteed today	<input type="radio"/>	(B) PKR 100 guaranteed in 2 weeks
4	<input type="radio"/>	(A) PKR 80 guaranteed today	<input type="radio"/>	(B) PKR 100 guaranteed in 2 weeks
5	<input type="radio"/>	(A) PKR 75 guaranteed today	<input type="radio"/>	(B) PKR 100 guaranteed in 2 weeks
6	<input type="radio"/>	(A) PKR 70 guaranteed today	<input type="radio"/>	(B) PKR 100 guaranteed in 2 weeks
7	<input type="radio"/>	(A) PKR 65 guaranteed today	<input type="radio"/>	(B) PKR 100 guaranteed in 2 weeks
8	<input type="radio"/>	(A) PKR 60 guaranteed today	<input type="radio"/>	(B) PKR 100 guaranteed in 2 weeks
9	<input type="radio"/>	(A) PKR 55 guaranteed today	<input type="radio"/>	(B) PKR 100 guaranteed in 2 weeks
10	<input type="radio"/>	(A) PKR 50 guaranteed today	<input type="radio"/>	(B) PKR 100 guaranteed in 2 weeks

Risk aversion

Tomorrow there are two cricket matches in two different venues. One cricket match has team A batting, while the other match has team B batting. You are asked to decide to attend one of the two matches (match with team A or match with team B). Both matches are free to enter, and you will receive 1 PKR per 10 runs made by the team for the match you decide to attend. You cannot attend both matches, as they are in different locations. You know that team A and team B have different performances in terms of batting if they play with a tape ball versus a hard ball. Team A receives 200 runs with a tape ball but only 160 runs with a hard ball. Team B, on the other hand, receives 385 runs with the tape ball but 10 runs with the hard ball. Both matches tomorrow will use the same type of ball, but the chance that each type (tape or hard) is used is not known. Below you will make 10 choices to watch either team A or team B under different chances for the

type of ball used. If you select to watch team A, then you will receive 20 PKR if a tape ball is used and 16 PKR if a hard ball is used. On the other hand, if you select to watch team B and a tape ball is used, then you will receive 38.5 PKR, while if a hard ball is used, then you will receive only 1 PKR. Therefore, for your return, team B performs very well with a tape ball but extremely bad with a hard ball, while team A performs consistently with the two types of balls but marginally better with the tape ball. See the payoff table to understand the game:

Table B4

If	Tape	Hard
Watch Team A	20 PKR	16 PKR
Watch Team B	38.5 PKR	1 PKR

Please select (A) or (B) for each of the 10 decisions below. For payment, you will be asked to select a slip from a hat containing numbers from 1 to 10 at the end of the survey, The slip you chose will determine which decision will be used for your payment. For example, if you pick a slip with number 7, then Decision 7 will be selected. Decision 7 is as follows: Decision 7 70% chance of using a tape ball or 30% chance of using a hard ball

Then, the final payment will be determined based on the probability attached to Decision 7 for a tape ball (70%) and hard ball (30%) and your selected option (A) or (B). Imagine that there are 100 balls in a basket and you cannot see the type of balls. Decision 7 states that of the 100 balls, there are 70 TAPE balls and 30 HARD balls. If you chose to watch TEAM (A) and then you pick out a ball without looking and it is a TAPE ball (which has a higher chance of happening) then you will receive 20 PKR, but if you chose to watch TEAM (B) then you will receive 38.5 PKR. What will you receive when a HARD ball is selected and you chose to watch Team A?

Do you understand the payment method? Please ask questions if there is something you do not understand about the game. Again, the payment will be made through mobile credit today.

Table B5: Risk aversion

Decision	Watch A	Tape Ball Chances	Watch B	Hard Ball Chances
1	<input type="radio"/>	10% chance of using a tape ball	<input type="radio"/>	90% chance of using a hard ball
2	<input type="radio"/>	20% chance of using a tape ball	<input type="radio"/>	80% chance of using a hard ball
3	<input type="radio"/>	30% chance of using a tape ball	<input type="radio"/>	70% chance of using a hard ball
4	<input type="radio"/>	40% chance of using a tape ball	<input type="radio"/>	60% chance of using a hard ball
5	<input type="radio"/>	50% chance of using a tape ball	<input type="radio"/>	50% chance of using a hard ball
6	<input type="radio"/>	60% chance of using a tape ball	<input type="radio"/>	40% chance of using a hard ball
7	<input type="radio"/>	70% chance of using a tape ball	<input type="radio"/>	30% chance of using a hard ball
8	<input type="radio"/>	80% chance of using a tape ball	<input type="radio"/>	20% chance of using a hard ball
9	<input type="radio"/>	90% chance of using a tape ball	<input type="radio"/>	10% chance of using a hard ball
10	<input type="radio"/>	100% chance of using a tape ball	<input type="radio"/>	0% chance of using a hard ball

Institutional background

A few distinct features define the public school system in Pakistan. Despite the international perception of the prevalence of religious schools in Pakistan—“madrassahs” (religious schools)—public schools define the landscape of Pakistan’s education system.²⁵ All children in the transition phase from class 5 (primary school) to 6 (middle school) in these schools are required to take a centrally set exam. In public schools, the academic year runs from April to March, while in private schools, it runs from September to June. Therefore, the central exam occurs in March. The majority of these schools are segregated by gender, and most children in these schools pursue primary and middle education at the same public school. All these features guide our access to parent–child pairs by sampling schools, as described in the paper.

Protocol

Since this study involves human subjects (parents and children), the project was reviewed and approved by an institutional review board (IRB). The protocol numbers are: HRPP-015-2018 and HRPP-2020-98. Moreover, we paid special attention to various concerns that could impact the quality of the survey data. First, we hired and trained 25 enumerators from January to March 2018. The enumerators were provided with digitized surveys on iPads. The digitization of the surveys allowed us to add additional checks to minimize mistakes or incoherent answers. Where possible, we added conditional statements and restricted the survey from proceeding to the next question if, for example, an answer was missing or numerals were added by mistake. In addition, digitization enabled direct codification of the data, which further helped us to prevent potential human errors (especially those associated with paper-based surveys).

The enumerators were trained to ensure that they could navigate the digital survey and were encouraged to ask questions if there was any confusion during training. Issues pertaining to enumerators’ self-filling surveys were minimized by employing enumerators who have conducted surveys in the past and highlighting the fact that their future employment for other projects could be influenced by their performance. We also required each enumerator to record (using voice recorders) their interactions with subjects, and in each locality, an assigned manager conducted random spot checks.

To minimize potential issues that could arise because of subjects speaking about the survey with any other potential subjects (in our sample), we covered all the households in a neighborhood (within walking distance) within one day. Given that the respondent could be a woman, we recruited both men and women as enumerators so that the respondent would be at ease and to

²⁵In particular, [Andrabi et al. \(2005\)](#) show that enrollment in religious schools is less than 1% in the entire country, and no supporting evidence exists for a dramatic increase in the religious school system in recent years.

substantially reduce nonresponse.

Finally, the most important protocol in conducting surveys with children is compliance with the additional requirements of the IRB. We fully complied with those protocols by requiring a parent's consent to survey the child. Parents were also asked to be present during the Raven's test and when the child was asked additional questions. However, we provided special instructions to the enumerator and parents to minimize interference by the parent during the child survey. We also recorded these interactions.

The survey for parents took no more than an hour (30 minutes for the 60-question Raven's test and the rest for the remaining survey), and the child survey took no more than 40 minutes (30 minutes for the 45-question colored Raven's test and 10 minutes for the remaining questions). Parents were paid on average \$4.5 worth of mobile credit, while children were compensated with stickers and pencils worth \$1. The payment came in the form of a phone credit designed to be transferred directly to the parent's phone number. In Pakistan, a phone credit is a valuable gift since credit can be transferred to other people at no cost. Moreover, almost every person in Pakistan owns and regularly uses the phone service.²⁶ The payment for parents was similar to the hourly wage (\$0.8 per hour) of a laborer in Pakistan.²⁷ For children, the wage calculation is challenging because many children are employed either in unpaid jobs or within their households, making it difficult to quantify their value addition or value from their engagement in economic activity. However, we tried to select gifts that were age appropriate and appealing to children.

Alternative religiosity indices

Principal Component Analysis We consider the principal component analysis (PCA) to construct a composite index for the religiosity variable *Rel*. This analysis is a dimensionality-reduction method that allows us to transform the five-item questionnaire on religiosity into a composite index that still contains most of the information from the questionnaire. We view this as an alternative measure of religiosity.

We start by standardizing our initial questions so that each question contributes equally to our analysis. We then compute a 5-by-5 matrix of covariances or the relationship between all the questions on religiosity. Using these covariances, we compute the eigenvalues to determine the first principal component of the data or the linear combination of initial questions. We restrict our regression analysis to the first principal component because it has the maximum variance or captures the most information from the data. The predicted value of the first principal component

²⁶From a survey perspective, this feature also provides the advantage of avoiding potential issues of theft due to enumerators carrying large sums of cash on the road.

²⁷Based on the GDP per capita estimate for Pakistan in 2018, the average pay in Pakistan was roughly \$1,641 per year, which translates to \approx \$6 per day.

is our alternative measure of religiosity. Note that the principal component analysis is less interpretable, and therefore, in our regression analysis, we only compare the significance and sign of the estimated effects. We present these results in Table B6, which show remarkable consistency with the baseline results shown in Table 1.

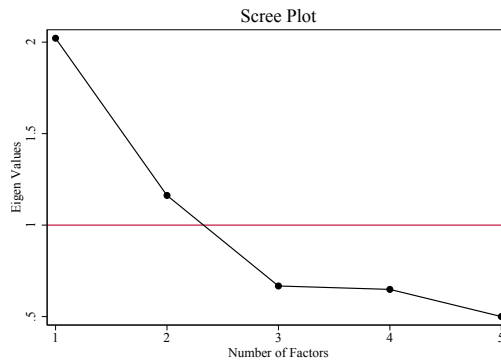
Table B6: Principal component analysis

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Religiosity PC1	3.61**	0.13**	0.83	0.048**	-0.16***	-0.12***	-0.17***	-0.11***
<i>unclustered s.e</i>	(1.45)	(0.053)	(0.87)	(0.022)	(0.033)	(0.034)	(0.033)	(0.027)
<i>clustered s.e</i>	[1.70]	[0.046]	[0.99]	[0.024]	[0.064]	[0.065]	[0.063]	[0.049]
N	1243	599	1165	1246	1319	1165	1316	1180

Notes: Table B6 presents the estimated effects using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with unclustered standard errors (in parentheses) and clustered standard errors by schools [in squared brackets]. *Rel* is constructed using the principal component analysis. The specification includes fixed effects for schools and includes a battery of control variables *X* for the parents (*Edu(Father)*, *Edu(Mother)*, *Age(Father)*, *Age(Mother)*, *Raven(Parent)*) and the child (*Age(Child)*, *Raven(Child)*). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates.

Factor Analysis We consider factor analysis to construct measures of religiosity where factor analysis reproduces the correlation between our proxies of religion IR1, IR2, IR3, ORA, and NORA by describing them as a linear combination of a group of common factors and a unique factor. Based on this analysis, we obtain two eigenvalues exceeding 1 (Kaiser rule of thumb) as shown in the scree plot in Figure B1.

Figure B1: Scree plot



Notes: In Figure B1 we plot the factors and the associated eigenvalues to determine the number of factors to retain in an exploratory factor analysis.

Rotated factor loading and uniqueness are provided in Table B7. Factor loading takes up the expected signs; we find a positive correlation between each of the variables. The strongest linkages for factor 1 are with IR1, IR2, and IR3, while the strongest linkages for factor 2 are with ORA and NORA. These variables neatly fall into two interpretable categories: intrinsic religiosity (relating to belief) and extrinsic religiosity (relating to religious activities).

Table B7: Factor loading and unique variance

	Factor1	Factor2	Uniqueness
IR1	0.78	0.020	0.39
IR2	0.75	0.066	0.43
IR3	0.69	0.24	0.47
ORA	0.0076	0.88	0.22
NORA	0.22	0.80	0.30

Notes: In Table B7 we provide the weights and the correlations between each variable and factor known as the factor loading. We also provide the uniqueness which is the variance that is “unique” to the variable and not shared with other variables.

We include both these factors in our regression analysis as measures of the religiosity index and find that our results for factor 1 are in line with the results from the baseline regression. Factor 2, on the other hand, shows no significant or meaningful association with our dependent variables. This aligns with our theoretical insights that religiosity in the form of belief positively impacts human capital development, but religiosity in the form of time-consuming activities does not. Our results for the first factor show remarkable consistency with the baseline results shown in Table 1.

Table B9: Impact of Religiosity

	Unconditional Marks	Pass (Y/N)	Conditional Marks	Presence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Religiosity FA1	4.57** (2.01)	0.18** (0.076)	1.66 (1.20)	0.044 (0.031)	-0.27*** (0.047)	-0.18*** (0.048)	-0.28*** (0.047)	-0.19*** (0.038)
Religiosity FA2	2.34 (2.22)	0.066 (0.091)	-0.40 (1.32)	0.055* (0.033)	-0.019 (0.047)	-0.033 (0.052)	-0.021 (0.047)	0.0022 (0.042)
N	1243	599	1165	1246	1319	1165	1316	1180
	Unconditional Marks	Pass (Y/N)	Conditional Marks	Absence	All Work (Y/N)	Economic Activity (Y/N)	Household Chores (Y/N)	Work Hours
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Religiosity FA1	4.57* (2.38)	0.18* (0.098)	1.66 (1.29)	0.044* (0.027)	-0.27*** (0.071)	-0.18* (0.094)	-0.28*** (0.071)	-0.19*** (0.049)
Religiosity FA2	2.34 (2.97)	0.066 (0.12)	-0.40 (1.41)	0.055* (0.029)	-0.019 (0.081)	-0.033 (0.081)	-0.021 (0.082)	0.0022 (0.087)
N	1243	599	1165	1246	1319	1165	1316	1180

Notes: Table B8 presents the estimated effects using equation 5: $Y_{is} = \beta_0 + \beta_1 * Rel_{is} + \gamma_x * X_{is} + \alpha_s + \mu_{is}$ with unclustered standard errors in parentheses and clustered standard errors in squared brackets. *Rel* is constructed using the factor analysis with two factors: *Religiosity FA1* and *Religiosity FA2*. The specification includes fixed effects for schools and includes a battery of control variables *X* for the parents (*Edu(Father)*, *Edu(Mother)*, *Age(Father)*, *Age(Mother)*, *Raven(Parent)*) and the child (*Age(Child)*, *Raven(Child)*). Significance levels from unclustered standard error are denoted by ***1%, **5%, *10%, and significance of less than 10% from clustered standard errors is denoted by bold estimates.