

Mom and Dad Took Me to Church

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PRELIMINARY DRAFT: PLEASE DO NOT CITE OR CIRCULATE

Abstract: We look at data from the two waves of the Baylor Survey taken in the spring of 2005 and the fall of 2006, and from the NLSY79 Child/Young Adult Survey to see the effects of parental and personal religious attendance on educational outcomes. Preliminary results from the Baylor Surveys show that parents are a lot more likely to go to church than people with no children; and better-educated people generally had parents who attended church services twice a month or more. We then look at the Child/Young Adult Survey of the NLSY79, and find that, controlling for mother and family effects, educational outcomes are increasing in religious attendance, but this effect weakens for higher levels of mother's education.

Introduction

Everyone knows a person like this: grew up going to church (or synagogue, temple, or mosque) with their parents, stopped going when they went off to college, started feeling a little guilty about not going in their 20's, but really got serious again about going to church when the first kid arrived. Once a baby enters the picture, any lingering skepticism about religion often loses out to the desire to provide religious instruction for the children. A 2006 *Washington Post* article summarized it nicely: "(A)t some point, a number of parents seem to flock to religion. . . . Such parents may seek the sense of community or emotional security they hope religion will

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provide their kids; they may want a sense of purpose or tradition; and they may be looking for ethical or spiritual influences to mold their children's lives.” (Weiner 2006)

Of course, it’s one thing to know some people like this, and quite another to demonstrate a trend or a pattern. The question remains – is there a positive effect of religious attendance on educational outcomes? Or is religious attendance merely indicative of a family with other attributes that contribute to improved educational outcomes for their children?

Dehejia *et al.* (2007) use data from the National Survey of Families and Households, and show that church attendance during adolescence helps to mitigate a number of the harmful long-term effects of a disadvantaged childhood and leads to better educational outcomes across the board. Loury (2007) uses NLSY79 data and shows that higher religious attendance leads to improved educational outcomes, with average religious adherence rates in one's own denomination and overall adherence rates for the county in which the respondent resides as instruments for religious attendance. However, since families may base their location decisions on religion among other factors, with more religious individuals choosing to live in more religious counties & vice versa, the direction of causality is not clear. These counties may also systematically differ in their educational outcomes.

This study proceeds in two stages. We look at data from the two waves of the Baylor Survey taken in the spring of 2005 and the fall of 2006 to obtain preliminary results on the effects of parental religious attendance on educational outcomes. We find that people with children do have higher attendance rates than those who do not, and that mother's religious attendance in childhood has a strongly positive impact on educational outcomes, especially for women.

We then use the NLSY79 Child/Young Adult Survey to see if these results hold for a larger population sample. This is a rich dataset with information the children of the women in the main NLSY79 dataset, about half of whom were over 21 by the 2006 wave of the survey. Combining this with data on their mothers from the NLSY79 allows us to look at entire families, as all the children born to each woman were surveyed. We can therefore match individuals not only with their mothers, but also with their siblings. This allows us to use a simple but powerful method of controlling for family effects to examine the effects of religious attendance on educational outcomes. We use mother fixed effects, in a manner similar to Ashenfelter and Rouse (1998), who used family fixed effects to measure the effects of schooling on income in a sample of identical twins. This gives us a measure of individual behavior and attributes on educational outcomes, while holding constant all family effects.

Estimation

Preliminary probit results from the Baylor Survey show that having children dramatically increases the likelihood that a person will attend religious services at least twice a month, and overall increases the attendance frequency (as measured by percentile of attendance). This is true even if we restrict the sample to married people, and even after controlling for religious belief (as measured by an index of belief in God, the Devil, Heaven, and Hell) – results are in Table 1. At a minimum, parents are a lot more likely to go to church than people with no children.

The immediate effects of parents' taking kids to church can be quite dramatic — Bartkowski *et al* (2008) found that children from more religious families, and from families with higher rates of religious attendance, are better behaved and more well-adjusted at home and at

school. This is true so long as there is no significant conflict over religion in the family.

Table 1: Parents' religious attendance and education, Baylor Survey

	Attend more than twice a month: probit		Attendance percentile: OLS	
	Married women	Married men	Married women	Married men
Age of respondent	-0.02	-0.09	-0.11	-0.08
	-0.03	(0.034)**	(0.034)***	(0.038)**
Age squared	0.0003	0.001	0.001	0.001
	(0.0002)	(0.0003)***	(0.0003)***	(0.0003)**
Years of schooling	0.11	0.14	0.1	0.14
	(0.030)***	(0.030)***	(0.038)***	(0.036)***
Has children: yes/no	0.79	0.34	0.9	0.59
	(0.214)***	(0.204)*	(0.197)***	(0.198)***
Household income (in '000s)	0.0001	0.002	0.001	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Belief index	0.03	0.03	0.02	0.02
	(0.003)***	(0.003)***	(0.002)***	(0.002)***
Constant	-4.19	-3.55	-0.36	-1.41
	(0.964)***	(1.179)***	-1.02	-1.11
Observations	842	766	831	757

Does this churchgoing behavior have any lasting beneficial impact in adulthood, over and above the benefits in childhood? The Baylor Surveys say that it does. We see in Table 2 that better-educated people generally had parents who attended church services twice a month or more. Among people with at least some graduate-level education, two-thirds had mothers who were frequent church attenders, compared to just under half of people with only a high school diploma. The difference is just as large when looking at frequent attendance by both parents, and even larger when looking at fathers' attendance.

Table 2: Parents' religious attendance and education, Baylor Survey

Education level	Mother attended often	Father attended often	Both parents attended often
Less than High School Graduate	49%	40%	38%
High School Graduate	49%	35%	34%
Some College	56%	37%	36%
Trade/Technical Training	59%	49%	46%
College Graduate	65%	48%	45%
Postgraduate Work or Degree	66%	56%	51%

“Often” is defined as attending religious services two times a month or more.

Of course, the jobs that people do depend substantially on the amount of education they have. Since parental religious attendance affects educational outcomes, it should also affect people’s occupational choices. The Fall 2006 wave of the Baylor Survey asked about each respondent’s job, including a general occupational classification. There were 24 different classifications, and we calculated the average educational attainment for each of the 24 groups. We then sorted the occupations from highest to lowest average education level, and split the groups into three categories of eight occupation groups — high-education, mid-range education, and low-education.¹ Table 3 shows the relationship between religious attendance and choice of occupation. We see that the highest levels of parental religious attendance occur in the high- and low-education groups, so that the effect of parents’ education on educational level of occupations is U-shaped. The low-education occupations largely consist of traditional blue-collar occupations

¹ The High-Education occupations are Business, Science/architecture/engineering/computers, Community/social service, Legal, Education, Arts/design/entertainment/sports/media, and Health care practitioner/technician. The Mid-Range Education occupations are Health care support, Protective service, Personal care/service, Sales, Office/administrative support, Farming/fishing/forestry, Installation/repair, and Law enforcement. The Low-Education occupations are Food preparation and serving, Building/grounds cleaning/maintenance, Construction/extraction, Transportation/material moving, Military, Manufacturing, and Homemaker.

and homemakers, while the largest group in the mid-range category are office and administrative workers.

Table 3: Religious Attendance and Choice of Occupation

	High-education occupations	Mid-range education occupations	Low-education occupations
Average years of schooling	15.4	13.4	12.7
Percent completing college	57.1%	15.0%	8.0%
Percent whose mothers attended services at least twice a month	61.7%	61.7%	61.0%
Percent whose fathers attended services at least twice a month	47.6%	41.7%	46.8%
Percent with both parents attending services at least twice a month	45.5%	39.8%	44.8%
Percent with children and currently attend at least twice a month	52.4%	48.0%	38.2%
Percent with no children and who currently attend at least twice a month	26.0%	26.4%	32.3%

From the table, it is clear that the father's attendance has a bigger impact on the type of occupation chosen than does the mother's attendance, and the effect of *both* parents attending is similar to the father's attendance. Overall, the data show that children of parents who attend church often are more likely to get a better education, and that at least some of those end up in higher-end jobs.

Even more intriguing, it seems that families are aware of these benefits, whether consciously or at a purely intuitive level. The last two rows of Table 2 imply that people in high- and mid-range-education occupations dramatically increase their religious attendance when they have children. In contrast, the strongest predictor of how often people working in low-education

occupations attend church is their level of belief (in heaven, hell, God, and the devil). Low-education workers with high levels of belief attend church, those with low levels of belief do not, and having children makes little difference. For people in high-education occupations, both belief and being a parent matter – but to match the attendance increase from having a child, it takes a sizable increase in the strength of a high-education person’s belief in heaven, hell, God, and the devil.

Having seen that parents’ church attendance has effects on a child’s educational attainment and job choice, we next asked whether the education effects were the same for men and women. The Baylor Survey shows that they are not. Mothers’ religious attendance has a much bigger impact on women’s education than on men’s, as shown by the regression results in in Tables 4 and 5. Fathers' attendance has almost identical effects; the results are not reported here for brevity's sake. For men, there is no consistent relationship between either parent’s church attendance and the amount of education ultimately achieved. For women, there is a strongly positive relationship.

Table 4: OLS, dependent variable is years of schooling

	Pooled	Men only	Women only	Men only	Women only
Mother attended more than monthly	0.44 (0.158)***	0.2 -0.25	0.59 (0.206)***	0.53 (0.274)*	0.73 (0.224)***
Age of respondent	-0.01 (0.005)**	-0.01 -0.01	-0.02 (0.006)***	-0.002 -0.01	-0.01 (0.006)*
Number of siblings	-0.1 (0.043)**	-0.17 (0.060)***	-0.06 -0.06	-0.14 (0.067)**	-0.07 -0.06
Female	-0.13 -0.16				
Black Protestant				-1.03	0.1

				(0.621)*	-0.74
Evangelical Protestant				-0.5	-1.18
				-0.35	(0.306)***
Mainline Protestant				0.04	-0.54
				-0.43	-0.36
Catholic				0.02	-0.83
				-0.43	(0.357)**
Jewish				2.21	-0.58
				(0.592)***	-0.64
Born in east region				-0.3	-0.03
				-0.45	-0.36
Born in midwest region				-0.54	-0.2
				-0.4	-0.32
Born in south region				0.19	-0.05
				-0.38	-0.35
Constant	14.68	14.69	14.56	14.51	15.03
	(0.303)***	(0.458)***	(0.342)***	(0.500)***	(0.405)***
Observations	959	425	534	379	460
R-squared	0.03	0.02	0.04	0.07	0.08

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5: Probit, dependent variable is college completion

	Pooled	Men only	Women only	Men only	Women only
Mother attended more than monthly	0.23	0.14	0.29	0.34	0.42
	(0.098)**	-0.15	(0.134)**	(0.173)*	(0.153)***
Age of respondent	-0.01	-0.004	-0.01	-0.004	-0.01
	(0.003)*	(0.004)	(0.004)*	-0.01	0
Number of siblings	-0.04	-0.09	-0.01	-0.06	-0.01
	-0.03	(0.039)**	-0.04	-0.04	-0.04
Female	-0.1				
	-0.1				
Black Protestant				-0.38	-0.63
				-0.24	(0.219)***

Evangelical Protestant				0.18	-0.16
				-0.24	-0.23
Mainline Protestant				0.14	-0.34
				-0.23	-0.24
Catholic				1.32	-0.32
				(0.387)***	-0.52
Jewish				-0.01	0.002
				-0.26	-0.23
Born in east region				-0.12	-0.18
				-0.23	-0.21
Born in midwest region				0.16	-0.06
				-0.24	-0.24
Born in south region					0.02
					-0.43
Constant	-0.23	-0.15	-0.39	-0.34	-0.23
	-0.19	-0.27	(0.235)*	-0.33	-0.3
Observations	959	425	534	375	460

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

There are a number of reasons why we might see this starkly different impact of parental religious attendance on boys compared to girls. Perhaps girls are more inclined to benefit from the community that a church, synagogue, mosque or temple provides. Perhaps church participation helps “keep them out of trouble.” Or perhaps boys are so strongly impacted by other factors that determine their educational attainment that parents’ religious attendance does not make a difference.

We then turn to the NLSY79 Child/Young Adult survey. First, we attempt to replicate the results from the Baylor Survey using NLSY79 data, in table 6.

Table 6: OLS, dependent variable is years of schooling (NLSY79 data)

	(1)	(2)	(3)
	Pooled	Men Only	Women Only
Mother attended more than monthly in 1982	0.408 (0.088)***	0.421 (0.129)***	0.373 (0.119)***
Age	0.025 (0.015)*	0.031 (0.022)	0.021 (0.021)
Born in north-east region	0.184 (0.158)	0.298 (0.213)	0.034 (0.232)
Born in north-central region	0.340 (0.132)**	0.268 (0.198)	0.402 (0.176)**
Born in south region	-0.216 (0.121)*	-0.352 (0.172)**	-0.084 (0.169)
Number of siblings	-0.266 (0.031)***	-0.199 (0.044)***	-0.329 (0.043)***
Catholic	0.183 (0.135)	0.210 (0.192)	0.144 (0.188)
Jewish	2.547 (0.776)***	---	2.689 (0.815)***
Female	0.468 (0.085)***		
Constant	12.240 (0.401)***	12.017 (0.568)***	12.909 (0.559)***
Observations	3609	1763	1841
R-squared	0.06	0.04	0.07

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

The effect of religious attendance on schooling does not differ by gender, unlike in the Baylor surveys; however, the main idea – that parental religious attendance favorably impacts educational outcomes – holds true. The NLSY79 also does not provide enough information to

classify Protestant groups into Black Protestant, Evangelical Protestant, and Mainline Protestant. Age does not have a meaningful impact – since we only look at those over 21, the age range is fairly narrow. The oldest respondents were born in 1971, and the average respondent among those over 21 is 25.5 years old. The standard deviation of ages in this subsample is only 2.7. (See Figure 1)

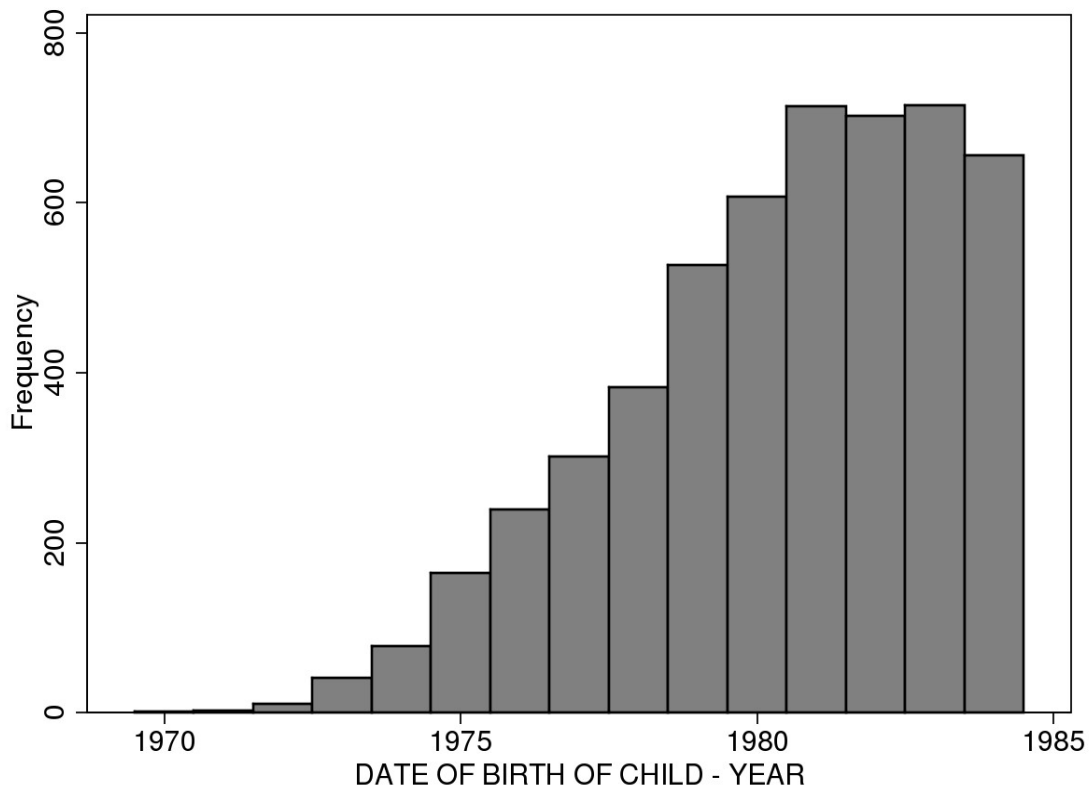


Figure 1: Age distribution of those over 21 in NLSY79 Young Adult sample

On the other hand, the NLSY79 provides a lot more data on other individual attributes that affect educational attainment, including the ability to track families and siblings, and parental educational outcomes. Unlike Ashenfelter and Rouse (1998), we do not assume that ability is homogeneous between siblings. In fact, we use childhood scores on the PIAT math and

reading tests as a proxy for individual-level ability. A disadvantage of this procedure is that it only provides us with estimates for those with siblings. Since only children constitute 10.6% of the NLSY79 Child/Young Adult sample, this is not a major concern; however, families with only one child may be systematically different from those with more than one child.

We model educational attainment as a function of individual-specific attributes and family-specific attributes, as follows for individual i from family j :

$$S_{ij} = \beta_0 A_i + \beta_1 X_{ij} + \beta_2 F_j + \xi_j + \varepsilon_{ij} \quad (1)$$

where S_{ij} = schooling attained by individual i from family j

A_i = individual-specific innate ability

X_{ij} = individual-specific observable characteristics

F_j = family-specific observable characteristics

ξ_j = family-specific unobservables

ε_{ij} = individual-specific unobservables

If there are family-specific unobservables that are correlated both with levels of schooling and an individual-specific characteristic or behavior like religious attendance, then the OLS estimates of β_1 will be biased. For example, if families who prioritize education also tend to be religious, the coefficient on religious attendance will be upward-biased if there are unobservables that drive family religiosity. Using mother fixed effects eliminates the bias from ξ_j , but at the cost of not being able to estimate the effects of family characteristics on schooling levels. There may still be some bias from individual-specific unobservables that affect both religious attendance and schooling, if any, but this bias is less than in (1). Religious behavior is driven in major part

by the family – see figure 2 and table 7.

Column 3 contains mother fixed effects, and therefore measures within-sibling effects. We see that once we control for family effects, the only factors affecting attendance are gender and birth order, with women and elder siblings more likely to attend.

Table 7: Logit, dependent variable is weekly religious attendance

	(1)	(2)	(3)
	Logit	Logit	Logit with mother fixed effects
Age	0.019 (0.034)		
Female	0.411 (0.162)**	0.489 (0.142)***	0.847 (0.266)***
Reside in urban area	-0.303 (0.174)*	-0.262 (0.153)*	-0.353 (0.308)
PIAT Math percentile score: 1992	-0.0004 (0.004)	-0.001 (0.003)	-0.003 (0.007)
PIAT Reading percentile score: 1992	0.005 (0.004)	0.004 (0.003)	0.003 (0.006)
Mother's level of schooling	0.015 (0.036)	0.023 (0.030)	
Mother attended weekly in 1982	0.667 (0.173)***	0.697 (0.149)***	
Family income in year born	0.002 (0.007)		
Black	0.408 (0.201)**	0.438 (0.169)***	
Hispanic	0.268 (0.230)	0.187 (0.199)	
Born in north-east region	-0.357 (0.325)	-0.353 (0.280)	-15.607 (1,003.899)
Born in north-central region	0.126	0.037	-0.352

	(0.263)	(0.229)	(1.193)
Born in south region	0.418	0.347	-0.516
	(0.239)*	(0.208)*	(1.039)
Number of siblings	0.099	0.158	
	(0.056)*	(0.054)***	
Birth order		-0.193	-0.369
		(0.089)**	(0.125)***
Constant	-3.365	-2.713	
	(0.975)***	(0.488)***	
Observations	2263	2712	331

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

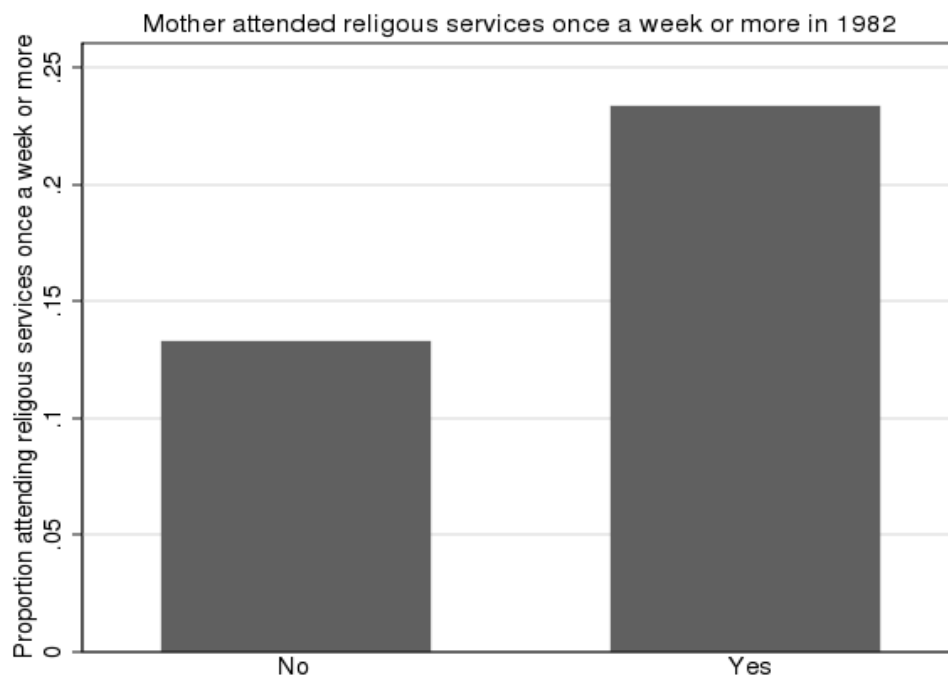


Figure 2: Weekly attendance by mother's attendance in 1982

Next, we run OLS regressions with the years of schooling completed as a dependent variable. Since the effect of religious attendance on schooling need not be homogeneous across

different families, we interact mother's schooling level with religious attendance. We also use mother's religious attendance in 1982 as an instrument for religious attendance in a 2SLS estimation. This is a valid instrument according to the critical values listed by Stock and Yogo (2005). The F-statistic on the excluded instrument is 20.9, while the critical value for the actual significance of the instrumented variable to be less than 10% if its reported significance is 5% is 16.38.¹ Results are in table 8.

Table 8: OLS and 2SLS, dependent variable is years of schooling

	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	2SLS
Attend religious services weekly in 2006	0.604 (0.137)***	1.645 (0.559)***	1.715 (0.599)***	2.511 (1.072)**
Weekly attendance*Mother's level of schooling		-0.084 (0.043)**	-0.087 (0.037)**	
Weekly attendance*Female			-0.486 (0.244)**	
Weekly attendance*Birth order			-0.197 (0.151)	
Weekly attendance*Number of siblings			0.308 (0.097)***	
Female	0.362 (0.098)***	0.363 (0.098)***	0.464 (0.093)***	0.279 (0.115)**
Birth order	-0.208 (0.059)***	-0.209 (0.059)***	-0.166 (0.059)***	-0.152 (0.066)**
PIAT Math percentile score: 1992	0.015 (0.002)***	0.015 (0.002)***	0.015 (0.002)***	0.016 (0.002)***
PIAT Reading percentile score: 1992	0.014 (0.002)***	0.014 (0.002)***	0.013 (0.002)***	0.012 (0.002)***
Mother's level of schooling	0.127	0.144	0.146	0.123

1 This critical value is only exceeded if we leave income in the year the respondent was born out of the regression. If that is included as a regressor, the F-statistic is 14.26.

	(0.021)***	(0.023)***	(0.020)***	(0.019)***
Family income in year born	0.014	0.014	---	---
	(0.005)***	(0.005)***		
Number of siblings	-0.032	-0.031	-0.132	-0.121
	(0.041)	(0.041)	(0.039)***	(0.047)**
Black	-0.040	-0.042	-0.087	-0.197
	(0.099)	(0.099)	(0.089)	(0.114)*
Hispanic	-0.104	-0.107	-0.107	-0.141
	(0.128)	(0.128)	(0.113)	(0.121)
Born in north-east region	0.010	0.002	0.114	0.186
	(0.180)	(0.179)	(0.158)	(0.173)
Born in north-central region	0.177	0.179	0.221	0.187
	(0.151)	(0.151)	(0.135)	(0.145)
Born in south region	-0.020	-0.020	0.010	-0.104
	(0.137)	(0.137)	(0.123)	(0.143)
Constant	9.664	9.465	9.759	9.913
	(0.308)***	(0.332)***	(0.298)***	(0.291)***
Observations	2384	2384	2871	2212
R-squared	0.29	0.29	0.27	

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

We see that the effect of religious attendance is positive and significant. In fact, once we instrument for religious attendance, the estimate rises, leading us to believe there may be measurement error. This is not surprising – Hadaway et al. (1998) find that people consistently over-report their religious attendance due its perception as being socially desirable, and that self-reported rates of attendance are between 20 and 40 percent lower than actual rates. Woodberry (1998) finds that surveys over-report religious attendance since regular attenders tend to be less mobile and therefore less likely to drop out of a survey sample. He estimates the difference between self-reported and actual attendance rates as being between 10 and 15 percent. With such

wide-ranging estimates of reporting bias, it is difficult to adjust for.

Next, we report the results of the fixed-effects regressions, in table 9. As in the OLS estimations, we see that religious attendance has a positive effect on educational outcomes, and that this effect is greater for children of women with lower levels of education. As with the OLS estimations, the positive effect of religious attendance vanishes for children of mothers with 18 years of schooling or higher.

Table 9: Fixed effects, dependent variable is years of schooling

	(1)	(2)	(3)	(4)
Attend religious services weekly in 2006	0.539 (0.216)**	1.802 (0.708)**		
Attend religious services more than twice a month in 2006			0.594 (0.171)***	1.267 (0.668)*
Weekly attendance*Mother's level of schooling		-0.105 (0.057)*		
Twice-monthly attendance*Mother's level of schooling				-0.054 (0.056)
Female	0.546 (0.141)***	0.559 (0.147)***	0.508 (0.139)***	0.516 (0.145)***
Birth order	-0.320 (0.069)***	-0.323 (0.071)***	-0.327 (0.068)***	-0.330 (0.071)***
PIAT Math percentile score: 1992	0.011 (0.004)***	0.010 (0.004)***	0.011 (0.004)***	0.011 (0.004)***
PIAT Reading percentile score: 1992	0.005 (0.003)	0.005 (0.003)	0.005 (0.003)	0.005 (0.003)
Constant	12.310 (0.230)***	12.336 (0.238)***	12.260 (0.230)***	12.280 (0.236)***
Observations	2400	2104	2400	2104
Number of mothers	1560	1309	1560	1309
R-squared	0.11	0.12	0.12	0.12

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Columns 3 and 4 use attendance twice a month or more instead of weekly attendance, since Hadaway et al. (1998) report that those calling themselves weekly attenders are the most likely to over-report their attendance. The results are qualitatively similar to using weekly attendance, but the interaction effect with mother's education is weakened.

We have attempted to control for within-sibling ability differences with the PIAT test scores. However, there may yet be unobserved factors that drive both religious attendance and education. Under those circumstances, Neumark (1999) shows that fixed-effects estimation exacerbates the ability bias. This and the adjustment for measurement error remain areas requiring further research. However, the overall findings appear robust. Glaeser and Sacerdote (2008) hypothesize that religious attendance may help teach social skills and build social networks, or teach habits required for educational success, like being able to sit still and listen. If that is the case, our findings bear this out.

Alternatively, those with better social skills, or who are more stable or disciplined, may be more likely to also attend religious services, especially those from lower-income or educational backgrounds. The 2SLS estimation attempts to control for this, but may be confounded by measurement error. We also estimated 2SLS with fixed effects, using birth order as an instrument for religious attendance. The point estimate on weekly attendance was much higher – 9.47 and significant at the 1% level – but the instrument is weak, with an F-statistic of 7.55. Still, it clearly demonstrates both the presence of measurement error, and the overall robustness of the sign and significance of the estimate, if not its exact point value.

Table 10: 2SLS with fixed effects, dependent variable is years of schooling

Attend religious services weekly in 2006	9.474 (3.615)***
Female	-0.255 (0.371)
PIAT Math percentile score: 1992	0.013 (0.007)*
PIAT Reading percentile score: 1992	0.002 (0.007)

Observations	1469
Number of mothers	629

References

- Ashenfelter, Orley and Rouse, Cecilia. 1998. "Income, Schooling, and Ability: Evidence from A New Sample of Identical Twins." *Quarterly Journal of Economics* 113:1, 253-284
- Bartkowski, John P., Xu, Xiaohe, and Levin, Martin L. 2008. "Religion and child development: Evidence from the Early Childhood Longitudinal Study." *Social Science Research* 37(1): 18-36.
- Dehejia, Rajeev H., DeLeire Thomas, Luttmer, Erzo F. P. and Mitchell, Joshua. "The Role of Religious and Social Organizations in the Lives of Disadvantaged Youth" (September 2007). NBER Working Paper No. W13369.
- Glaeser, Edward L. and Sacerdote, Bruce I. 2008. "Education and Religion." *Journal of Human Capital* 2:2, 188-215
- Hadaway, C Kirk, Marler, Penny Long and Chaves, Mark. 1998. "Overreporting church attendance in America: Evidence that demands the same verdict." *American Sociological Review*, 63(1), 122-130.
- Loury, Linda D. 2004. "Does Church Attendance Really Increase Schooling?" *Journal for the Scientific Study of Religion* 43(1): 119-127.
- Murray, Michael P. 2006. "Avoiding Invalid Instruments and Coping with Weak Instruments," *Journal of Economic Perspectives* Vol. 20(4), pages 111-132, Fall.

David Neumark. 1999. "Biases in twin estimates of the return to schooling," *Economics of Education Review* Volume 18, Issue 2, Pages 143-148.

Stock, James H. and Motohiro Yogo. 2005. "Testing for Weak Instruments in IV Regression," in *Identification and Inference for Econometric Models: A Festschrift in Honor of Thomas Rothenberg*. Donald W. K. Andrews and James H. Stock, eds. Cambridge University Press, pp.80–108.

Weiner, Stacy. "A Leap of Faith." *Washington Post*, May 9, 2006.

Woodberry, Robert D. 1998. "When surveys lie and people tell the truth: How surveys oversample church attenders." *American Sociological Review*, 63(1),119-122.