

Does religiosity impact on volunteer work? Evidence from sexual scandals*

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Abstract

The evaluation of causal effects of Church attendance on volunteer work is a difficult task as Church attendance is potentially endogenous in a model of volunteer work. To overcome this identification problem, we exploit a natural experiment: scandals of sexual abuse in the Catholic Church of the United States. We find that Church attendance increases the probability of doing voluntary work. A possible mechanism through which this effect may be operating is the increase of social networks as a result of Church attendance.

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I. Introduction

More than two thirds of US inhabitants consider that religion is a fundamental part of their lives. On average, a quarter of the population attends Church every Sunday while half of the population attends at least once a month.¹ On the other hand, roughly a third of the population does volunteer work for an average of four hours a week. This amount of labor expressed in market prices is equivalent to two hundred billion US dollars annually.²

Despite the clear importance of religion and volunteer work in the life of US inhabitants, little progress has been reported in the study of the possible relationship between them. Vaillancourt (1994), Musick & Wilson (1997), Campbell (2003), Ruiter & De Graaf (2006) and Putnam & Campbell (2010) found a positive correlation between religiosity and volunteer work. This correlation does not necessarily entail a causal relationship: it is plausible that unobservable individual characteristics determine greater levels of religiosity and volunteering. For instance, a greater predisposition to participate in all kind of activities or being more altruistic may generate more Church attendance and more participation in volunteer works.

In this paper, we exploit a natural experiment in order to overcome this potential endogeneity problem: sexual abuse scandals in the US Catholic Church. The source of exogenous variation arising from these scandals allows the identification of the religiosity impact on volunteering. The main result found is a positive causal effect of Church attendance on volunteering. This finding coincides with those carried out in previous studies. However, this paper contributes to those studies by using for the first time an instrument which intends to identify a causal relationship between these variables. However, this paper together with the one of Perez Truglia and Bottan implies an improvement in terms of the identification strategy compared to the previous religion literature. This paper also contributes to the religion and volunteering literature

¹ DDB (Doyle Dane Bernbach) Needham Life Style Surveys for the period of 1977-1998.

² Independent Sector (2001).

by providing for the first time a possible mechanism by means of which Church attendance impacts on volunteering: the increase of social networks as a result of Church attendance.

In the literature on religion and civic behavior (not necessarily restricted to volunteering), Gruber & Hungerman (2008) and Putnam & Campbell (2010) were the only ones that consider and intend to address the potential endogeneity problem. Gruber & Hungerman made an attempt to identify the religiosity impact on the political participation as from the abolition of the laws that restricted activities on Sunday in some states of the USA ("Blue laws"). However, it is questionable whether this source of variation is exogenous, since those states which experienced a decrease in the religion participation of their inhabitants were possibly those that abolished them. Putnam & Campbell used panel data to study the impact of religion on different aspects of US citizens' lives, included but not limited to volunteer work. Nevertheless, there are relevant variables omitted from their model that prevent the interpretation of the correlations found in causal terms. For instance, it could happen that both events were induced by the contraction of a disease.

The organization of this paper is as follows: Section II describes the natural experiment and presents the data. Section III reports the econometric model and the results. Finally, Section IV concludes.

II. Natural experiment and data

Since the mid-1980's, the Catholic Church has received accusations of sexual abuses committed by clerics. Some US counties experienced scandals in different years while some others did not. The variability across time and space of scandals provides an instrument to identify the religiosity impact on volunteer work.³ Scandals are a good instrument of religiosity since they are directly correlated with Church

³ As an example, Figure 1 shows the geographical distribution of scandals in a period of twenty years for the Catholic Diocese of Trenton (a small diocese located at the State of New Jersey).

attendance and it is assumed that they only impact on volunteering by means of attending this institution. This last issue cannot be contrasted and constitutes our identification assumption. Instead, the relevance condition of the instrument is testable and results are shown in Table 2.

There was no database about sexual abuse scandals of Catholic clerics; therefore, we create it using the website BishopAccountability.org⁴ as the main data source. This site contains a public list of bishops, deacons, priests, seminarians, brothers and sisters of the US Roman Catholic Church who have received allegations or against whom legal actions (either civil or criminal) have been filed, due to the possession of child pornography and/or child and adult sexual abuse.⁵ BishopAccountability.org has high adhesion standards of new cases: it only includes accused clerics in the list when the accusation has been mentioned in the news, widespread TV and radio programmes and/or in a public access document filed before the Court.

In order to consider an accusation against a cleric a scandal, this study requires to satisfy two conditions: that the accusation be publicly disclosed (and publicly is understood as communicated by a widespread newspaper or television) and that the accused cleric be working in some Church, Religious Educational Institution or other ecclesiastical establishment at the moment of the allegation.⁶ After the first accusation, the scandal variables remain “active” for all observations of the county where the workplace of the accused is located. Consequently, scandal impacts more on the religiosity of those individuals who attend such religious institution (where the accused cleric was on duty at the moment of the allegation) and of those individuals attending

⁴ Database is only focused on sexual scandals of the Catholic Church, since data available in this source is just for such denomination. Two arguments explain this limitation. Firstly, sexual abuses by clerics generated a major conflict (at least proportionally) in the catholicism compared to the rest of the denominations. Secondly, the Catholic Church is the broadest simple denomination in the United States, with 22% of the population baptized Catholic (68 million of inhabitants).

⁵ Sexual abuse is not just limited to sexual penetration against the victim's will, since it also includes inducement to touch the genital organs of the abuser and any action which encourages the abused to experience improper sexual content.

⁶ This definition excludes, among others, cases such as off-duty, retired, removed from duty, and deceased clerics.

close religious institutions compared to the impact on the religiosity of the parishioners of other counties. To achieve the capture of this “local” effect, the main regressions only include the observations of areas of less than two million of inhabitants. In order to capture the treatment intensity, scandal variables are divided by the population of the county. Due to the fact that the behavior of the religiosity variable is unknown when scandals occur (if the first scandal introduces a jump in the level of religiosity and new scandals do not generate an impact, or if every new scandal introduces a new discontinuity) two scandal variables are created. If the county has experienced at least one scandal the Scandal variable takes the value of one over the adult population of that county or, otherwise, the value of zero. The Number of Scandals variable is the amount of scandals of a county over the adult population.

The other source of data used is known as DDB (Doyle Dane Bernbach) Needham Lifestyle Surveys, an extensive survey about social, political, economic and personal issues which was carried out in the United States and made available by DDB Worldwide of Chicago, Illinois.

The religiosity of the individuals of this database is measured by the attendance at religious institutions.⁷ The question examines whether individuals have attend Church or other place of worship in the last twelve months and, if positive, how often. There are seven feasible answers to this question: never, between one and four times, between five and eight, between nine and eleven, between twelve and twenty-four, between twenty-five and fifty-one, and fifty-two times annually or more. This variable is known as Church Attendance.

The questions that measure the level of volunteer work are: “How often have you done a volunteer work in the last twelve months?” and “How often have you

⁷ Attendance at religious institutions captures one of the senses in which the individual may be religious: his/her behavior. Nevertheless, there are other senses, for instance, the frequency at which the individual prays outside religious services, the belief in God, among others. These have not been included due to lack of data available. However, Putnam (2010) shows that the variables which are not included in this paper are highly correlated with the variables included.

participated in community projects in the last twelve months?”⁸ Once again, the same seven answers are feasible to both questions. The Volunteering variable considers the seven answers. Volunteering –or not- and Participation –or not- in Community Projects only permits binary answers: affirmative and negative.

The following final variables are also used: Go –or not- Bowling, Go –or not- Camping, Go –or not- to the Theatre, Go –or not- to Sporting Events, Play –or not- Tennis, and Spend Time –or not- Visiting Friends. This last variable groups “agree” and “disagree” into the following six options of the original variable: definitely disagree, generally disagree, moderately disagree, moderately agree, generally agree and definitely agree.

The second database also includes information about numerous individual characteristics, which are: Gender (a *dummy* that takes the value of one for male), Age, Age Squared, race (a set of *dummies* –White, Black, Asian/Pacific Islander and Others- that takes the value of one when the individual satisfies the respective condition), level of education (a set of *dummies* –Elementary School, Incomplete High School, Complete High School, Incomplete College, Complete College, Postgraduate Education- that takes the value of one when the individual satisfies the respective condition), employment status (a set of *dummies* –Full-Time or Self-Employed, Part-Time, Retired and Not Employed- that takes the value of one when the individual satisfies the respective condition), Income⁹ (measured by the annual household income and expressed in thousands of dollars), Income Squared (measured by the

⁸ The participation in community projects is a particular type of work carried out without monetary remuneration, characterized by requiring collective effort: it does not refer to the individual provision of a service but to the collective work of a community or group of entities.

⁹ The original variable of income has fifteen categories: income less than \$10,000; income among \$10,000 and \$14,999; \$15,000 and \$19,999; \$20,000 and \$24,999; \$25,000 and \$29,999; \$30,000 and \$34,999; \$35,000 and \$39,999; \$40,000 and \$44,999; \$45,000 and \$49,999; \$50,000 and \$59,999; \$60,000 and \$69,999; \$70,000 and \$79,999; \$80,000 and \$89,999; \$90,000 and \$99,999; and \$100,000 or more. In the Income variable, each one of these categories has been replaced by an amount of money that represents the category: the midpoint of both end points of the line. The same change has been made in the Income Squared variable. All the results of this paper remain invariable when applying the original or modified variable of income.

annual household income and expressed in thousands of dollars), marital status (a set of *dummies* –Married, Widowed, Divorced, Separated, and Never Married- that takes the value of one when the individual satisfies the respective condition) and Kid(s) at Home Under 18 (a *dummy* that takes the value of one when at least one child under the age of 18 still lives at home).

In Table 1, a statistical summary of all the previously mentioned variables is reported.

III. Econometric model and results

The main purpose of this paper is to estimate the causal effect of religiosity in volunteering. Formally, it is intended to estimate the following equation:

$$Volunteering_{i,c,t} = \beta religiosity_{i,c,t} + \alpha_c + \delta X_{i,c,t} + \mu_t + \varepsilon_{i,c,t} \quad (1)$$

where $Volunteering_{i,c,t}$ is doing volunteer work or participating in community projects – according to the applied specification- of the individual i in the county c in the year t , β is the parameter of interest, $religiosity_{i,c,t}$ is the Church attendance of the individual i in the county c in the year t , α_c are the fixed effects by county, X is a matrix of individual characteristics, μ_t is the time effect, and $\varepsilon_{i,c,t}$ is the error term.

To address this problem of possible endogeneity of religiosity in the equation of volunteer work, we estimate the model (1) using the Two Stage Least Squares (2SLS) method, where the Scandal or Number of Scandals variable is used as an instrument for the potentially endogenous variable of religiosity.

Main results

The estimates of the first stage are reported in Table 2. As a result of regressing Church Attendance on Scandal, the variable Scandal is statistically significant at the ten percent level and its corresponding coefficient is -212.437, namely, the occurrence

of one or more scandals in the county generates a decrease in Church attendance in the inhabitants of that county. If the Scandal instrument is replaced by Number of Scandals, the variable of interest is still considered statistically significant and its corresponding coefficient keeps the negative sign. This also occurs if instead of excluding the observations corresponding to areas of more than two million of inhabitants, all data of the sample is used. Finally, these results do not change substantially if the set of individual characteristics of the models are excluded as controls.

In the first stage favorite regression shown in column (2), the F-statistic of the test of the coefficient corresponding to the Scandal instrument is 11.28. These results suggest that the Scandal instrument is not weak. In other specifications, the F-statistics present values inferior to ten. This does not represent a problem for the consistency of the estimator since only one instrument is used.

Column (4) of Table (3) reports the OLS estimator for Volunteering –or not-. Church Attendance variable is statistically significant at the one percent level and its corresponding coefficient is positive and of great magnitude. These results provide evidence that is consistent with the hypothesis that the attendance at religious institutions has a positive impact on volunteering. However, greater levels of Church attendance and of volunteering could arise from an unobservable characteristic (for example, a greater predisposition to participate in activities of any nature or being more altruistic). To address this endogeneity concern, column (6) shows the estimate of model (1) using the 2SLS method. Church attendance has a positive and statistically significant effect at the ten percent level on the probability of doing volunteer work. In column (2) it is observed that the results of the reduced form are consistent with those found using the 2SLS method. Columns (1), (3), and (5) show that the coefficient values and the significance level of the variables remain invariable when the set of individual characteristics of the models are excluded as controls.

In order to test that religiosity is exogenous in the model of volunteer work, we perform a Hausman test and we cannot reject the hypothesis of exogeneity of the religiosity variable (p-value equal to one). This result suggests that, according to the instrument validity, the OLS is the correct (the most efficient) specification.

In Table 7, the existence of interaction effects between Church attendance and age and income in the estimate of the impact of Church attendance on Volunteering – or not- is studied. Statistically significant interaction effects are not found.

Robustness checks

We run a series of additional robustness checks. First, we change the instrument: we use Number of Scandals as instrument. As shown in Column (1) and (2) of Table 4, in the model that uses the Number of Scandals variable as a religiosity instrument, the signs of the coefficient of interest in the reduced form coincide with the models which use the Scandal variable as instrument. Besides, the variables of interest are statistically significant. As shown in column (3) and (4), using the 2SLS method, it is observed that Church Attendance has a positive effect on volunteering. This effect results statistically significant at the ten percent level in the model with individual characteristics as controls; however, no significant results were found in the model without controls.

Second, we include all the observations of the sample in the analysis. In Table 5, the results of the reduced form, of the OLS method, and of the 2SLS method are reported when all the observations of the sample are included. Nor the signs neither the magnitudes of the coefficients change substantially regarding the models that exclude the observations corresponding to areas of more than two million of inhabitants. In all the models of this table the variables of interest are statistically significant, except for the reduced form and the IV specification that include individual characteristics as controls.

Finally, considering that the participation in community projects is a specific type of volunteer work, Church Attendance is expected to be statistically significant in order to explain the participation in community projects and coefficient signs are expected to remain according to Volunteering – or not - models, and this effectively occurs. As shown in Colum (6) of Table 6, using the 2SLS method, the coefficient corresponding to Church Attendance is positive and this variable results statistically significant at the ten percent level. When the model is estimated with the OLS method, Church Attendance variable is statistically significant at the one percent level and its corresponding coefficient is positive and of great magnitude. The results of the reduced form are also statistically significant and their sign is consistent with previous findings. Columns (1), (3) and (5) show that all the results of this table remain practically invariable if the set of individual characteristics of the models are excluded as controls.

False experiment

In Table 8, the results of false experiments are reported. The variables statistically non-significant related to cultural, sport, and leisure activities suggest that Church attendance does not have an impact on the participation in activities of any kind, but an impact exclusively on volunteering¹⁰.

Mechanism

The main results of this paper indicate that Church attendance increases the probabilities of doing volunteer work and of participating in community projects. In this subsection, we will explore one of the potential mechanisms through which Church attendance could generate greater levels of volunteer work: the increase of social networks of individuals as a result of Church attendance.

In the religious institutions individuals meet people, and acquaintances and friends are one of the principal mechanisms of volunteer program recruitment. Individuals that

¹⁰ The database contains tens of questions about cultural, sport, and leisure activities. The questions reported were selected at random.

attend Church are more prone to meet new people than those who do not, thus increasing the probability of being invited to participate as a volunteer. A necessary condition (although not sufficient) to make this channel plausible is the promotion of social links by attendance at Church. An observational measure to this condition arises from the following question: "Do you spend a lot of time visiting friends?" As shown in Table 9, Church Attendance has a positive and statistically significant impact at the ten percent level on the variable "Do you Spend a lot of Time visiting Friends?" Consequently, it is plausible that Church attendance generates greater levels of volunteer work through the increase in social networks as a result of Church attendance.

IV. Conclusions

Using the sexual abuse scandals in the US Catholic Church as an instrument of Church attendance, we find evidence of a positive causal effect of Church attendance on volunteering. This finding coincides with those carried out in previous studies. However, this paper together with the one of Perez Truglia and Bottan implies an improvement in terms of the identification strategy compared to the previous religion literature. This paper also contributes to the religion and volunteering literature by providing for the first time a possible mechanism by means of which Church attendance impacts on volunteering: the increase of social networks as a result of Church attendance.

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Table 1. Summary statistic

	<i>Mean</i>	<i>Standard deviation</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Observations</i>
	<i>Religiosity Variable</i>				
Church Attendance	4.122	2.440	1	7	40,724
	<i>Instruments</i>				
Scandal	0.000	0.000	0	0.033	41,495
Number of Scandals	0.000	0.000	0	0.033	41,495
	<i>Individual characteristics</i>				
Gender	0.547	0.498	0	1	41,545
Age	46.182	16.065	18	93	41,497
Age Squared	2,390.843	1,594.328	324	8,649	41,497
Race:					
White	0.570	0.495	0	1	41,545
Black	0.028	0.166	0	1	41,545
Asian/Pacific Islander	0.002	0.049	0	1	41,545
Others	0.004	0.062	0	1	41,545
Marital status:					
Married	0.476	0.499	0	1	41,545
Widowed	0.044	0.206	0	1	41,545
Divorced	0.051	0.220	0	1	41,545
Separated	0.007	0.083	0	1	41,545
Never Married	0.064	0.245	0	1	41,545
Kid(s) at Home Under 18	0.572	0.495	0	1	41,545
Level of education:					
Elementary School	0.039	0.193	0	1	41,545
Incomplete High School Complete	0.085	0.278	0	1	41,545
High School	0.373	0.484	0	1	41,545
Incomplete College	0.275	0.447	0	1	41,545
Complete College	0.120	0.324	0	1	41,545
Postgraduate Education	0.101	0.302	0	1	41,545
Employment status:					
Full-time or Self-Employed	0.549	0.498	0	1	41,545
Part Time	0.089	0.284	0	1	41,545
Retired	0.146	0.353	0	1	41,545
Not Employed	0.210	0.408	0	1	41,545
Income	33.809	22.698	5	105	33,793
Income Squared	1,640.376	2,195.123	25	11,025	33,793
	<i>Final Outcomes</i>				
Volunteering –or not-	0.528	0.499	0	1	40,976
Participation –or not- in Community Projects	0.348	0.476	0	1	41,015
Go –or not- Bowling	0.286	0.452	0	1	41,008
Go –or not- Camping	0.298	0.457	0	1	41,099
Go –or not- to the Theatre	0.668	0.471	0	1	40,912
Go –or not- to Sporting Events	0.535	0.499	0	1	36,330
Play –or not- Tennis	0.106	0.308	0	1	41,042
Spend Time –or not- Visiting Friends	0.373	0.484	0	1	30,614

Table 2. First stage

	<i>Dependent variable: Church Attendance</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
Scandal	-	-			-160.527**	-
	192.732***	212.437***			[66.377]	191.458***
	[66.803]	[63.242]				[62.599]
Number of Scandals			-103.036	-138.535**		
Individual Controls	No	Yes	No	Yes	No	Yes
			[68.477]	[63.597]		
Individuals	40,677	40,677	40,677	40,677	56,944	56,944
Counties	2,756	2,756	2,756	2,756	2,830	2,830
F	8.32	11.28	2.26	4.75	5.85	9.35

Note: Robust standard errors, clustered by county are in brackets. All models include year dummies and county dummies and are estimated by OLS. Models (2), (4) and (6) include controls for gender, age, age squared, race, level of education, employment status, income, income squared, marital status and kid(s) at home under 18. **Significant at the 5% level. ***Significant at the 1% level.



Table 3. Estimated impact of Church Attendance on Volunteering –or not-

	<i>Dependent variable: Volunteering –or not-</i>					
	<i>Reduced Form</i>		<i>OLS</i>		<i>IV</i>	
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
Church Attendance	-	-	0,061*** [0,001]	0,056*** [0,001]	0,117* [0,061]	0,096* [0,052]
Scandal	-22,761* [11,691]	-20,781* [11,414]	-	-	-	-
Individual Controls	No	Yes	No	Yes	No	Yes
Individuals	40.930	40.930	40.306	40.306	39.925	39.925
Counties	2.757	2.757	2.753	2.753	2.417	2.417
Method	OLS	OLS	OLS	OLS	2SLS	2SLS

Note: Robust standard errors, clustered by county are in brackets. All models include year dummies and county dummies. Models (2), (4) and (6) include controls for gender, age, age squared, race, level of education, employment status, income, income squared, marital status and kid(s) at home under 18. In 2SLS models the instrument for Church Attendance is Scandal. *Significant at the 10%. ***Significant at the 1% level.



Table 4. Robustness check: estimated impact of Church Attendance on Volunteering –or not- using Number of Scandals as instrument

	<i>Dependent variable: Volunteering –or not- Reduced Form IV</i>			
	(1)	(2)	(3)	(4)
Church Attendance	-	-	0.208 [0.144]	0.169* [0.090]
Number of Scandals	-21.319* [10.887]	-23.311** [10.787]	-	-
Individual Controls	No	Yes	No	Yes
Individuals	40,930	40,930	39,925	39,925
Counties	2,757	2,757	2,417	2,417
Method	OLS	OLS	2SLS	2SLS

Note: Robust standard errors, clustered by county are in brackets. All models include year dummies and county dummies. Models (2) and (4) include controls for gender, age, age squared, race, level of education, employment status, income, income squared, marital status and kid(s) at home under 18. In 2SLS models the instrument for Church Attendance is Number of Scandals. *Significant at the 10%. **Significant at the 5% level.



Table 5. Robustness check: estimated impact of Church Attendance on Volunteering –or not- including all the observations of the sample

	<i>Dependent variable: Volunteering –or not-</i>					
	<i>Reduced Form</i>		<i>OLS</i>		<i>IV</i>	
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
Church Attendance	-	-	0.062*** [0.001]	0.055*** [0.001]	0.120* [0.072]	0.089 [0.057]
Scandal	-19.173* [11.590]	-17.010 [11.266]	-	-	-	-
Individual Controls	No	Yes	No	Yes	No	Yes
Individuals	57,279	57,279	56,455	56,455	56,031	56,031
Counties	2,831	2,831	2,827	2,827	2,497	2,497
Method	OLS	OLS	OLS	OLS	2SLS	2SLS

Note: Robust standard errors, clustered by county are in brackets. All models include year dummies and county dummies. Models (2), (4) and (6) include controls for gender, age, age squared, race, level of education, employment status, income, income squared, marital status and kid(s) at home under 18. In 2SLS models the instrument for Church Attendance is Scandal. *Significant at the 10%. ***Significant at the 1% level.



Table 6. Robustness check: Estimated impact of Church Attendance on Participation –or not- in Community Projects

	<i>Dependent variable: Participation –or not- in Community Projects</i>					
	<i>Reduced Form</i>		<i>OLS</i>		<i>IV</i>	
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
Church Attendance	-	-	0,045*** [0,001]	0,036*** [0,001]	0,135* [0,082]	0,124* [0,072]
Scandal	-23,622* [12,916]	-24,247* [12,558]	-	-	-	-
Individual Controls	No	Yes	No	Yes	No	Yes
Individuals	40.967	40.967	40.334	40.334	39.950	39.950
Counties	2.758	2.758	2.754	2.754	2.416	2.416
Method	OLS	OLS	OLS	OLS	2SLS	2SLS

Note: Robust standard errors, clustered by county are in brackets. All models include year dummies and county dummies. Models (2), (4) and (6) include controls for gender, age, age squared, race, level of education, employment status, income, income squared, marital status and kid(s) at home under 18. In 2SLS models the instrument for Church Attendance is Scandal. *Significant at the 10%. ***Significant at the 1% level.



Table 7. Interaction effects in impact estimation of Church Attendance on Volunteering –or not-

	<i>Dependent variable: Volunteering –or not-</i>		
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>
Church Attendance	0.753 [2.492]	0.102 [0.135]	0.364 [0.481]
Church Attendance x Age	-0.020 [0.071]	-	-0.007 [0.011]
Church Attendance x Income	-	-0.000 [0.005]	-0.001 [0.006]
Individuals	39,878	32,298	32,296
Counties	2,417	2,272	2,272

Note: Robust standard errors, clustered by county are in brackets. All models include year dummies, county dummies and controls for gender, age, age squared, race, level of education, employment status, income, income squared, marital status and kid(s) at home under 18. All models are estimated by 2SLS method and the instrument for Church Attendance is Scandal.



Table 8. False experiments

<i>Dependent variable</i>	Church Attendance	Individuals	Counties
Go –or not- Bowling	-0.048 [0.063]	40,006	2,417
Go –or not- Camping	-0.026 [0.056]	40,025	2,414
Go –or not- to the Theatre	-0.052 [0.078]	39,937	2,417
Go –or not- to Sporting Events	0.052 [0.048]	35,308	2,335
Play –or not- Tennis	-0.022 [0.040]	40,005	2,414

Note: Robust standard errors, clustered by county are in brackets. All models include year dummies, county dummies and controls for gender, age, age squared, race, level of education, employment status, income, income squared, marital status and kid(s) at home under 18. All models are estimated by 2SLS method and the instrument for Church Attendance is Scandal.



Table 9. Mechanism

	<i>Dependent variable:</i> <i>Spend Time –or not- Visiting Friends</i>	
	<i>(1)</i>	<i>(2)</i>
Church Attendance	0.213* [0.114]	0.198* [0.108]
Individual Controls	No	Yes
Individuals	29,613	29,613
Counties	2,330	2,330

Note: Robust standard errors, clustered by county are in brackets. Models include year dummies and county dummies. Model (2) include controls for gender, age, age squared, race, level of education, employment status, income, income squared, marital status and kid(s) at home under 18. All models are estimated by 2SLS method and the instrument for Church Attendance is Scandal. Both models are estimated by 2SLS method and the instrument for Church Attendance is Scandal.



Figure 1. Scandals in the Catholic Diocese of Trenton



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