

The Effects of County Population Diversity on Contributions, Membership, and Adherents in the Presbyterian Religion and on Adherence in Mainline Protestant Religions

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Abstract

In this research we use data from the Presbyterian Church (U.S.A.), 2005-2007 to study the effects of race and ethnic diversity in the county on religious membership and religious giving in Presbyterian congregations. We also use data from the Religious Congregations Membership Study 2000 to study the effects of race and ethnic diversity in the county on religious adherence in the Presbyterian Church (U.S.A.) and in other mainline Protestant denominations. We have found that the percent of the county population non white is positively and significantly related to contributions per member by Presbyterians and to membership in the Presbyterian Church (U.S.A.) at the congregation level and at the county level in multivariate statistical models. We have also found these results to hold at the county level for religious adherence in mainline Protestant denominations. These results are at odds with the view that increases in population diversity at the county level may lead to a decline in religious participation.

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1.0 Introduction

In this research we use data from the Presbyterian Church (U.S.A.), 2005-2007 to study the effects of race and ethnic diversity in the county on religious membership and religious giving in Presbyterian congregations. We also use data from the Religious Congregations Membership Study 2000 to study the effects of race and ethnic diversity in the county on religious adherence in the Presbyterian religion and in other mainline Protestant denominations.

Our research is motivated in part by the work of Putnam (2000, 2007), who concludes that trust in others and civic engagement are inversely related to ethnic diversity in the community. He terms the social isolation that results from community population diversity, “hunkering down.” In his analysis of the Social Capital Community Benchmark Survey data,¹ Putnam (2007) finds that racial and ethnic heterogeneity in the census tract is associated with less trust in people of other races, less trust in people of own race, less trust in neighbors, lower confidence in local government and the local news media, lower confidence in own political influence, lower voter registration, lower likelihood of working on a community project, lower numbers of close friends, lower

perceived quality of life, and more time spent watching television. These conclusions generally hold in a multivariate context using a Herfindahl index of ethnic homogeneity for the census tract and holding constant respondent's age, education, gender, ethnicity, income, and region, as well as census tract variables for community characteristics. He does find that religious activity and other organizational activity is uncorrelated with census tract diversity in the multivariate context. He speculates this may be due to regional differences in religiosity. He also finds that there is more interest and knowledge about politics and more participation in protest marches and social reform groups as census tract diversity increases. The latter result is consistent with conflict theory, which holds that diversity leads to increases in "in group" commitments (e.g., ethnic solidarity, ethnocentrism) and declines in "out group" commitments. As summarized by Putnam, conflict theory posits "the more we are brought into physical proximity with people of another race or ethnic background, the more we stick to 'our own' and the less we trust the 'other.'²

Putnam (2007) cites many empirical studies that show declines in engagement, commitment, or trust with increases in heterogeneity of the group. These include studies of workgroup heterogeneity and productivity in the United States and Europe; cross country studies of population heterogeneity and trust; local area studies of heterogeneity and trust in the United States, Australia, Sweden, Canada, and Britain; experimental game settings; heterogeneity and default rates in micro credit cooperatives in Peru; and age and hometown heterogeneity and civil war desertion rates. Putnam cautions,

however, that studies that show a reduced commitment to the group with increases in group heterogeneity rarely consider whether commitments to other groups change.

Conflict theory was one motivation for Uslaner's (2002) study of the effect of religious commitment on religious and secular volunteering. He expected fundamentalist Protestants to resist secular volunteering to avoid association with non-fundamentalists ("sinners") and to withdraw into their own communities. However, his analysis of religious and secular volunteering in the United States and Canada showed that secular volunteering in the United States was more strongly associated with fundamentalist values and with self identification as a member of a fundamentalist religion than with other classifications. (Not surprisingly, religious fundamentalism had an even stronger relationship to religious volunteering than other classifications.)

In this research we use data from the Presbyterian Church (U.S.A.), 2005-2007 and data from the Religious Congregations Membership Study 2000 (Jones et al., 2002) to study the effects of race and ethnic diversity in the county on religious membership or adherence among Presbyterians and other major Protestant denominations and on religious giving among Presbyterians. We find that increases in county population heterogeneity are associated with increases in church membership at the congregation level and at the county level and with increases in church giving at the congregation level. These findings are not consistent with hunkering down and are not inconsistent with conflict theory. We begin by reporting results from regression models of contributions per church member, members per church, and per capita members per

county using the Presbyterian Church (U.S.A.) data. The Presbyterian Church (U.S.A.), with 3.1 million adherents, is the sixth-largest Christian denomination in the United States.³ We use the acronym PC(USA) to abbreviate Presbyterian Church (U.S.A.) in the remainder of this paper.

2.0 Empirical Results

Congregational statistics are reported annually to the national office of the PC(USA). Data collected include the total number of members, average attendance at Sunday worship, and annual contributions, or money received from pledges, loose offerings, and special offerings, and the race and ethnic composition of the congregation. To take the 2006 annual survey as an example, 10,903 of the 11,631 PC(USA) congregations provided data to the national office. Of these, 9,059 reported nonzero values for contributions, members, and attendance. 8,577 had more than nine members and more than \$99 in contributions. To analyze contributions per church member and members per church congregation, we match the micro level PC(USA) congregation data with county level data from the American Community Survey for each of the three years in the 2005-2007 period. Counties with more than 65,000 population are included in the American Community Survey and these counties contained 5,621 of the 8,577 Presbyterian congregations described above. Membership in congregations meeting the above criteria averaged 294 and annual contributions per church member averaged \$1,033 in the three surveys, 2005-2007.

In Table 1 regression results are presented for models of contributions per member of the congregation using the PC(USA) surveys, 2005-2007. Contributions per member of a Presbyterian congregation are assumed to be determined by the heterogeneity of the population in the county of the congregation as measured by percent of the county nonwhite and these additional county level variables: median household income, percent of those 25 years and older with a four year college degree, percent of those over 15 years of age in poverty, and a Herfindahl religious diversity index.⁴ In addition, average attendance for Sunday worship as a percent of the membership and region and year identifiers are included as independent variables. The income and education variables are assumed to reflect those of the congregants and are expected to be positively associated with giving (Stark (2008), Brown and Farris (2007), Brown (2005), Iannaccone (1997,1998)). Religious diversity in the county may lead to greater competition for members and more energetic fund-raising at the congregation level (Stark (2008), North and Staha (2004), Voas, Olson and Crockett (2002), Finke and Stark (1998)). Higher attendance rates are assumed to reflect greater religious commitment or religiosity and should be positively related to giving (Stark (2008), Brown and Farris (2007)). The regional variables are the 15 synods (regions) for the continental United States used for administrative purposes by the PC(USA).⁵ In regression 1 contributions per member are determined by the percent of the county population that is nonwhite, median household income, college graduation percent, poverty percent, attendance percent, the religious competition index, and two dummy variables for the 2005 and 2006 survey years. In regression 2, 14 regional identifiers are added to this model. In regression 3 the attendance (religiosity) variable is dropped to allow for the possibility it

is a proxy for the contributions variable. The results show a statistically significant and positive relationship between charitable contributions per member and the percent of the county population nonwhite. A one percentage point increase in the percent of the county nonwhite increases annual contributions per member by about five dollars.⁶ The elasticity at the means for contributions per member with respect to nonwhite county population is approximately .15. These results do not support hunkering down. The more diverse the population of a community (county), the greater the financial contributions to an in group, a Presbyterian congregation.

In Table 2 regression results are presented for models of congregation membership using the PC(USA) data. The dependent variable is the number of members in an individual congregation and the independent variables are those used in the models of Table 1 (except for the attendance variable). In regressions 3-4, models 1-2 are repeated but with the sample confined to PC(USA) congregations that are more than 99% white. This reduces the number of observations from over 15,000 to just over 6,000. The results show a statistically significant and positive relationship between membership at the congregation level and percent of the county population nonwhite. The magnitude of this relationship increases when the sample is confined to congregations that are more than 99% white. The non-white population effect on membership is approximately 2 in the first two regressions and approximately 6 in the last two. That is, a one percentage point increase in the nonwhite county population will result in an increase in membership at the congregation level by about 2 in the first two regressions and by about 6 in the last two.⁷ Average congregation membership is 294 in the full sample and 284 in the limited

sample. The elasticity of membership levels to percent of the county population nonwhite is about .2, assuming a nonwhite coefficient of 2, and about .6 assuming a nonwhite coefficient of 6. These results are also not consistent with hunkering down. The more diverse the population of a community (county), the greater the membership in an in group, a Presbyterian congregation. And this effect is larger the more white the church congregation and presumably the new members. White or nearly all white congregations receive a greater increase in members with an increase in county diversity than congregations with more diverse memberships.

In Table 3 membership models are estimated using the PC(USA) data but the dependent variable is the church level membership data aggregated up to the county level per 10,000 white population of the county. There are just over 2000 observations in this working sample covering the three years of PC(USA) data matched to the American Community Survey data. If we think of cross-section regression results as indicative of long-term equilibrium, a weakness of the Table 2 results is that they do not allow for an increase in the number of churches or congregations with increases in the number of Presbyterian members in the county. This problem is overcome by considering Presbyterian membership at the county level. In addition, population characteristics of the county are included in the models of table 3. These are percent of that county population age 65 or older, population density, and percent of religious adherents in the county that are Catholic. The age variable should be positively associated with church membership and Catholic Church adherence should be inversely related to adherence to Protestant denominations (North and Staha (2004)). The Table 3 regression results show

positive and statistically significant effects of the percent of the population nonwhite on PC(USA) membership rates. Taking a nonwhite population coefficient of 2, the elasticity of members percent with respect to nonwhite population percent is .6.

In Table 4 we estimate regression models similar to those in table 3 for Presbyterian adherents and mainline adherents⁸ at the county level per 10,000 white population for the year 2000. The adherents data are from Religious Congregations Membership Study 2000 (Jones et al., 2002). The data were collected from surveys of the administrative bodies of 149 religious denominations in the United States. Adherents are defined as the number of members plus their children plus the number of other regular participants. Membership data cannot be used when combining data from different denominations because of different membership criteria. For most Protestant denominations the number of members is about two thirds the number of adherents. Census 2000 data are used for county median household income, percent of the county population 25 and over with a four year college degree, percent of the county population 15 years and older in poverty, and percent of the county population 65 years of age and older. In 2001, approximately 90% of mainland adherents were white.⁹ Results are presented for all counties that contained a Presbyterian congregation in the year 2000. The percent of the county that is nonwhite is positively and significantly related to Presbyterian and mainline adherents percentages. The elasticities of percent Presbyterian adherents and percent mainline adherents with respect to percent of the county population nonwhite in regressions 2 and 3 are .4 and .4. Results for other independent variables in the membership or adherents regressions in tables 2, 3, 4 follow

the literature. Education levels and religious diversity¹⁰ are positively and significantly related to membership or adherents. Median household income is negatively related, with statistical significance hit and miss.

3.0 Conclusion

In this research we have used data from the Presbyterian Church (U.S.A.), 2005-2007 and data from the Religious Congregations Membership Study 2000 to study the effects of race and ethnic diversity in the community on religious membership, religious adherence, and religious giving. We have found that the percent of the county population non white is positively and significantly related to contributions per member by Presbyterians and to membership in the Presbyterian Church (U.S.A.) at the congregation level and at the county level in multivariate statistical models. We have also found these results to hold at the county level for religious adherence in mainline Protestant denominations. These results are at odds with the view that increases in population diversity at the county level may lead to a decline in religious participation.

¹ The survey consists of the responses of over 30,000 individuals in 41 different communities across the United States in the year 2000.

² Putnam (2007), p.142.

³ The top five Christian denominations are: Catholics, 62 million adherents; Southern Baptists, 20 million adherents; Methodists, 10.4 million adherents, Lutherans, 5.1 million adherents; and Mormons, 4.2 million adherents (Jones et al., 2002). Adherents are the number of members plus their children plus the number of other regular participants.

⁴ This index is from the Religious Congregations Membership Study 2000 data and is based on religious adherents at the county level for the year 2000 in these denominations: mainline Protestant, Catholic, Orthodox Christian, evangelical, and other. Higher values of the index mean less religious diversity in the county.

⁵ The synods are identified at <http://www.pcusa.org/links/>

⁶ If percent of the county population Hispanic and percent of the county population black replaces percent of the county population nonwhite in regression three, the coefficients and t statistics for these two variables are 3.6, 8.5 and 6.6, 17.8.

⁷ If percent of the county population Hispanic and percent of the county population black replaces percent of the county population nonwhite in regression 4, the coefficients and t statistics for these two variables are 9.0, 5.8 and 4.5, 5.8.

⁸ Christian Church (Disciples of Christ), Episcopal Church, Evangelical Lutheran Church in America, International Council of Community Churches, Presbyterian Church (U.S.A.), Reformed Church in America, United Church of Christ, United Methodist Church

⁹ Authors calculations from 2008 ARIS report, table 10.

http://b27.cc.trincoll.edu/weblogs/AmericanReligionSurvey-ARIS/reports/p3a_race.html

¹⁰ The regression coefficients have negative signs in tables 2, 3, 4 but recall that higher values of the Herfindahl religious diversity index mean less religious diversity in the county (see note 4).

Table 1
Regression Results for Contributions per Member,
Presbyterian Church Congregations, United States, 2005 – 2007

	1	2	3
Nwpct	7.178 29.3	5.401 18.45	5.375 16.58
Medinc	.691 1.19	1.402 2.24	.974 1.41
Colgrdpct	6.501 13.57	7.595 16.05	7.27 13.97
Povpct	-3.944 -2.58	-2.735 -1.76	-2.23 -1.38
Religionindex	-0.017 -4.68	0.01 2.28	0.006 1.42
Attendpct	8.861 29.9	8.051 27.25	
Constant	228.465 4.78	428.028 7.54	1102.055 20.28
R square	0.30	0.34	0.21
observations	15294	15294	15294
synod fixed effects	no	yes	yes

t statistics are reported under the parameter estimate

Variable definitions, means, and (standard deviations) are: Contributions per member, \$1,035 (\$488); Nwpct is the percent of the county population that is Black, Asian, Hispanic or Other, 30 (19.2); Medinc is the median household income(thousands), \$50.7 (\$13); Colgrdpct is the percent of adults over 25 with a 4 year college degree, 29.4 (10); Povpct is the percent of the population over 15 in poverty, 12.6 (4.8); Religion index is the Herfidahl index calculated with the percent of adherents in Catholic, Mainline

Protestant, Evangelical Protestant, Orthodox and other religions, 4199 (985); Attendpct is the average Sunday attendance as a percentage of membership, 59.7 (22.8).

The contribution, membership and attendance data are from *Ten Year Trends* provided by Research Services, Presbyterian Church (U.S.A.). The adherents data are from *Religious Congregations & Membership 2000* (Jones et al., 2002). Other county level variables are from the American Community Survey: 2005, 2006, and 2007.

Table 2
Regression Results for Members of
Presbyterian Church Congregations, United States, 2005 – 2007

	1	2	3	4
Nwpct	2.586 11.71	1.719 7.04	7.543 12.87	5.525 8.43
Medinc	-4.600 -8.51	-2.390 -4.28	-8.570 -8.93	-5.940 -6.14
Colgrdpct	6.914 12.93	6.792 12.95	9.439 10.49	9.114 10.14
Povpct	-12.623 -10.28	-9.299 -7.34	-22.833 -11.29	-18.053 -8.94
Religionindex	-0.029 -8.83	-0.018 -4.46	-0.029 -5.11	-0.029 -3.64
Constant	535.563 14.96	327.631 7.65	708.932 11.42	457.695 6.66
R square	0.04	0.05	0.08	0.10
observations	15295	15295	6064	6064
synod fixed effects	no	yes	no	yes

t statistics are reported under the parameter estimate

Variable definitions, means, and (standard deviations) are: Congregation members, 299.3 (425.6); Nwpct is the percent of the county population that is Black, Asian, Hispanic or Other, 30 (19.2); Medinc is the median household income(thousands), \$50.7 (\$13); Colgrdpct is the percent of adults over 25 with a 4 year college degree, 29.4 (10); Povpct is the percent of the population over 15 in poverty, 12.6 (4.8); Religion index is the

Herfidahl index calculated with the percent of adherents in Catholic, Mainline Protestant, Evangelical Protestant, Orthodox and other religions, 4199 (985);

The membership data are from *Ten Year Trends* provided by Research Services, Presbyterian Church (U.S.A.). The adherents data are from *Religious Congregations & Membership 2000* (Jones et al., 2002). Other county level variables are from the American Community Survey: 2005, 2006, and 2007.

Table 3
Table3
Regression Results for Presbyterian Church Membership by County
United States, 2005 – 2007

	1	2
Nwpct	1.498 9.82	1.936 11.05
Medinc	-0.002 -4.58	-.002 -5.57
Colgrdpct	3.361 12.23	3.404 13.12
Povpct	-1.700 -1.94	-1.084 -1.37
Religonindex	-0.008 -6.59	-0.006 -4.53
Catholicpct	-0.835 -9.13	-0.986 -8.75
Popdensity	-0.002 -5.23	-0.004 -5.37
Popo64pct	4.898 6.98	0.031 4.44
Constant	100.622 3.32	100.844 3.38
R square	0.18	0.36

observations	1993	1993
synod fixed effects	no	yes

t statistics are reported under the parameter estimate

Variable definitions, means, and (standard deviations) are: Church Membership is the total Presbyterian church members per 10,000 white population in county, 109.8 (91.3); Nwpct is the percent of the county population that is Black, Asian, Hispanic or Other, 26.2 (17.5); Medinc is the median household income(thousands), \$49.6 (\$12.5); Colgrdpct is the percent of adults over 25 with a 4 year college degree, 27.1 (9.97); Povpct is the percent of the population over 15 in poverty, 12.7 (5.1); Religion index is the Herfidahl index calculated with the percent of adherents in Catholic, Mainline Protestant, Evangelical Protestant, Orthodox and other religions, 4305 (1165); Catholicpct is the percent of Catholic adherents of total religious adherents in the county, 36.7 (22.7); Popdensity is the population divided by the square miles of land in county, 921 (3586); Popo64pct is the percent of the population that is over 64 years old, 12.1 (3.4).

The membership data are from *Ten Year Trends* provided by Research Services, Presbyterian Church (U.S.A.). The adherents data are from *Religious Congregations & Membership 2000* (Jones et al., 2002). Other county level variables are from the American Community Survey: 2005, 2006, and 2007.

Table 4
 Regression Results for Presbyterian Church Adherents and Mainline Protestant Church
 Adherents by County, United States, 2000

Dependent variable	Presbyterian Adherents	Presbyterian Adherents	Mainline Adherents
	1	2	3
Nwpct	3.373	4.785	34.998
	3.95	3.63	12.38
Medinc	-0.001	-0.001	-0.001
	-0.68	-0.26	-0.17
Colgrdpct	4.806	4.785	21.279
	4.48	4.00	2.88
Povpct	-0.107	1.383	6.951
	-0.03	0.32	0.23
Religionindex	-0.033	-0.017	-0.170
	-8.29	-2.75	-9.04
Catholicpct	-1.098	-1.374	-18.076
	-2.94	-2.22	-11.93
Popo64pct	10.296	9.616	86.740
	6.51	5.52	10.92

Constant	134.749 1.20	126.999 0.91	23.027 0.03
R square	0.10	0.17	0.45
observations	2270	2270	2270
synod fixed effects	no	yes	yes

t statistics are reported under the parameter estimate

Variable definitions, means, and (standard deviations) are: Presbyterian Adherents is the total Presbyterian church adherents per 10,000 white population in county, 199.6 (252.2); Mainline Adherents is the total Mainline protestant church adherents per 10,000 white population in county, 1769.4 (1381.9); Nwpct is the percent of the county population that is Black, Asian, Hispanic or Other, 18.4 (18.0); Medinc is the median household income(thousands), \$36.5 (\$9.1); Colgrdpct is the percent of adults over 25 with a 4 year college degree, 17.7 (8.3); Povpct is the percent of the population over 15 in poverty, 13.5, (6.1); Religion index is the Herfidahl index calculated with the percent of adherents in Catholic, Mainline Protestant, Evangelical Protestant, Orthodox and other religions, 4757, (1398); Catholicpct is the percent of Catholic adherents of total religious adherents in the county, 25.7 (22.2); Popdensity is the population divided by the square miles of land in county, 313.7 (1968.8); Popo64pct is the percent of the population that is over 64 years old, 14.5 (4.0)..

The adherents data are from Religious Congregations & Membership 2000 (Jones et al., 2002). Other county level variables are from the U. S. Census, 2000.

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