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Civic Engagement in Low Income and Minority Neighborhoods, and the Role of Public Investment

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Abstract

This study uses principal component analysis to measure civic engagement in the low-income and minority neighborhood of Fair Park in South Dallas, and seeks to identify the implications of the influx of public investment in the Fair Park neighborhood on civic engagement.

Keywords

civic engagement; poverty; volunteerism; public investment

Cover Page Footnote

I sincerely thank my thesis adviser, Dr. James Murdoch, for his constant guidance and encouragement; Dr. Tammy Leonard for involving me with the "Neighborhood Change Research Initiative" project; and Dr. Edward Harpham for giving invaluable inputs as my Second Reader.

I. Introduction

Civic engagement, which refers to active participation in activities oriented toward collective action, care and development of others, is an important driver of social capital and an indicator of a healthy democracy (Christiano, 1996). Normatively, civic engagement can help to overcome apathy and alienation in a democratic society, as well as increase transparency and accountability of government-funded development projects. High levels of positively-motivated civic engagement can, in turn, lead to higher levels of trust and an improved quality of life. Spiritually, constructive civic engagement can be said to have a healing effect in neighborhoods exposed to poverty, violence or social marginalization by fostering a sense of well-being and improved mental health (Ginwright, 2011).

However, there is a lack of general consensus among academicians on how to measure civic engagement. Also, while people of low-income and limited resources may be civically engaged, their limited resources and those of their communities curtail their ability to be more engaged (McBride, Sherraden & Pritzker, 2006). This study aims to construct an econometric model to measure civic engagement in the low-income and minority neighborhood of Fair Park in South Dallas, and to identify the implications of the influx of public investment in the Fair Park neighborhood on civic engagement.

II. Background & Previous Literature

McBride (2003) defines civic engagement as an activity that occurs within two spheres of action: social and political. *Social engagement* is characterized by behaviors such as acting as a member of, volunteering for, and donating various types of resources to an individual, group, association, or organization, as well as acts of care for neighbors that do not occur through an organization or as a result of friendship; *political engagement* refers to behaviors that influence legislative, electoral, or judicial processes and public decision-making (Bolland and McCallum, 2002; Silverman, 1986).

Though there have been a few studies on possible models to measure civic engagement, such as Marcini, Bowen, Martin and Ware's "Community Connections Index" that surveyed 769 Virginia residents in 2003 and used a principal components analysis procedure, these focus only on the social component and do not take into account the political dimension of civic engagement. In 2008, the U.S. Bureau of the Census introduced the "Current Population Survey: Civic Engagement Supplement" that asks respondents 18

years or older questions on volunteering, attendance in group meetings, and political actions such as voting and registering to vote to obtain an indication about the civic health of the states. The "Current Population Survey: Volunteer Supplement" indicates that the national average on volunteering has declined since 2005 (Kirby, Kawashima-Ginsberg and Godsay, 2011, Figure 12). In Texas, volunteer rates have declined in recent years, and are below the national averages (Figure 13). Voter turnout rates in Texas are also below the national average and the Lone Star state ranked 46th among all the states during the 2008 presidential elections in terms of voter turnout (Kirby and Kawashima-Ginsberg, 2009, Figure 14).

The Corporation for National and Community Service and the National Conference on Citizenship found that the states with greater civic participation have experienced lower unemployment between 2006 and 2010 (CNCS and NCoC, 2011). The study observed that more than sixty percent of the variation in unemployment could be explained by the 5 measures of civic engagement-volunteering, attending public meetings, working together with neighbors on issues, voting and registering to vote. There were strong correlations between high civic engagement and lower unemployment, although it would be presumptuous to attribute this to a causal relationship. The results also indicated that while civic engagement declined nationally during the 2006-10 period, the states that recorded more civic engagement in 2006 retained their relatively higher participation records in 2008 and 2010. However, it is difficult to identify a direct cause-and-effect relationship between civic engagement and employment due to the possibility of unobserved variables distorting the results.

III. The Study Area

This study focuses on the Fair Park neighborhood of South Dallas, specifically in areas with zip codes 75210, 75211, 75213, 75214, 75215, 75222 and 75223. The census tracts pertaining to the Fair Park neighborhood are 23, 25, 26, 27.01, 27.02 and 28. The 2000 U.S. Bureau of the Census reported that this area had a population of 26,971 residents, with about 88 percent African-Americans and 10 percent Hispanics. In the period 2001-10, this area received a large influx of public investment through a series of capital development improvements and programming initiatives that aimed at stimulating the vitality of the local economy, preserving the area's historic legacy, and improving the Park's connectivity with the rest of Dallas. Another motivation for the investment was to change the area's land-use pattern, which had been dominated by alcohol-related uses (35.8 percent). A report published by J-Quad and Stanlard (2001) found significant incidence of crime and code violations within the study area, some of

which could be directly attributed to the heavy concentration of liquor stores in the neighborhood. The report also expressed concerns about the low levels of educational attainment, high prevalence of poverty and high unemployment rate in the Fair Park community. In 2003, the "Fair Park Comprehensive Development Plan" funded by the City of Dallas, the State Fair of Texas, Dallas Summer Musicals and WRR Classical identified civic participation as integral to the success of the development projects in Fair Park. To promote involvement of the local residents, the project teams organized workshops, public meetings and questionnaire surveys on opinions about different aspects of Fair Park. The overall voter turnout rate in the Dallas County in the 2010 General Elections was 37.43 percent, with 428,655 ballots cast out of 1,145,107 registered voters from 737 precincts. Historically, South Dallas has on average a more moderate turnout rate than its North Dallas counterpart.

IV. Study Design

The data for this study was obtained from the Phase II Brief and Detailed Household Surveys in the Fair Park Area conducted through the Neighborhood Change Research Initiative led by Dr. James Murdoch in 2010 as a part of National Science Foundation funded project "Agents of Change: Publicly-driven Investment, Neighborhood Change and Household Behavior," as well as from the American Community Surveys 2005-2009 conducted by the U.S. Bureau of the Census. The variables used to measure civic engagement were self-reported answers to questions pertaining to (Appendix A, Table I)-

i. Voting and registration to vote (*svote*)

ii. Frequency of participation in community group meetings (*smtg*)

iii. Time donated to religious services (*sreligion*)

iv. Time donated to non-church not-for-profit activities (*snonproftime*)

v. Willingness to help neighbors (*nhelp*)

vi. Willingness to trust neighbors (*ntrustppl*)

vii. Willingness to take prompt and active action to solve community problems (*nfire*)

viii. Community bonding through sharing similar values (*nsamevalues*)

ix. Willingness to proactively support entrepreneurship efforts within

the community (*nborrow*)

The variable on monthly amount donated to churches was omitted as 73.94 percent of the respondents reported contributing an amount of 0 (369 out of 499). As the study area is focused on a low-income community, a measure that tries to evaluate civic participation in terms of monetary donations would not be appropriate.

We can put forth the hypothesis that many of the aforementioned variables (such as trust, willingness to help and to take active action) should be correlated with each other. There is a need to identify these correlations and to find the variables that could be combined to form factors. It would be appropriate to use a rotated principal component analysis (PCA) approach to obtain a set of uncorrelated variables or "principal components" that can explain civic engagement. In this case, no assumptions were made about any latent factors that can exert causal influence on the observed variables. The internal consistency of the model was tested using the Cronbach's alpha.

Let us consider the initial model,

$$CE = f(F_1, F_2, F_3,...,F_n)$$

where

CE = a score on civic engagement as a function of $F_1,..., F_n$
$F_1,...,F_n$ = principal components influencing the score on civic engagement. The principal components are uncorrelated with each other.
n = number of principal components

If we assume that each of these principal components is equally important in affecting civic engagement, then we get a linear combination such as:

$$CE = F_1 + F_2 + F_3 +...+ F_n$$

Now, the standard PCA model is given by:

$$X = WDF'$$

where

X : data matrix
W: unitary matrix with n × p orthogonal columns

D : p × p diagonal matrix with non-zero, non-negative components along the diagonal
F' : transpose of F, a p × p orthogonal matrix

The principal component vectors are given by the columns of F'.

V. Data Description

Participants (N= 500) were randomly selected from the Fair Park neighborhood and completed the brief and detailed household surveys. The summary statistics for the main variables are shown in Table II in Appendix A. The mean age of the sample population was 46.42 years (Figure 1), with 89.2 percent being African-Americans and 7.21 percent being Hispanics. Around two-thirds of the sample was females (Figure 2). Nearly half the respondents (46.8 percent) had a before-tax annual household income of less than $10,000, with the unemployment rate among the respondents at 55.6 percent. In terms of political engagement, 45.2 percent of the respondents were either not registered to vote or were registered but did not vote in most elections (Figure 3). In terms of social engagement, the most important activity for the residents is regularly visiting the church and attending religious services (Figure 5). Other forms of social engagement appear to be minimal as more than half the respondents had never participated in informal or formal community group meetings in the past year, and had not contributed time towards any non-church not-for-profit activities (Figure 4 and Figure 6). Respondents also felt that while neighbors were quite willing to help each other (44.5 percent- Figure 7), they were much less willing to trust (Figure 8). With regard to proactively supporting entrepreneurship activities within the community, 58.8 percent felt that it would be hard even for a well-known neighbor to raise money for his business through local borrowing (Figure 10).

VI. Results

Out of the 500 initial observations, 316 were retained in the actual analysis after accounting for the missing values. To determine the adequacy of the sample for PCA analysis, a Kaiser-Meyer-Olkin (KMO) test was performed that yielded a value of 0.5622. The rather small KMO value indicated that we would need to retain relatively more components to obtain a satisfactory representation.

The PCA method was used to identify the “principal components” from the set of 9 indicators of civic engagement described in the study design. Each principal component is a weighted average of the underlying indicators. First, the

number of factors to be retained from these 9 variables had to be decided. Table III gives the covariance matrix from which the factors were extracted. After performing the principal component analysis, the resulting Eigenvalues were plotted on a screeplot (Figure 11). The Eigenvalues indicate the total variance explained by each factor. Here, we observe that Factor 1, Factor 2, Factor 3 and Factor 4 have Eigenvalues greater than 1, so these 4 factors were retained for further analysis. Then we perform verimax rotation (orthogonal), which gives a pattern matrix (Table V). The pattern matrix in shows the relevance of each variable in the factor- Factor 1, which explains the largest amount of the variation in the data, is defined by the variables: "*ntrustpple"* and "*nhelp*;" Factor 2 is defined mainly by "*smtg*" and "*snonproftime*;" Factor 3 is primarily defined by *"nsamevalues"* and *"nborrow*;" and finally Factor 4 by *"svoter"* and "*nfire*." From the values of the proportions in the rotated results, we see the Factor 1 explains 18.77% of the total variation, Factor 2 explains 17.03%, Factor 3 explains 13.97% and Factor 4 explains 12.50% of the variation. Taken together, these four factors describe 62% of the overall variation. "Uniqueness" refers to the variance that is unique to the variable and is not shared with other variables. In this case, *"sreligion"* is the only variable with a relatively higher degree of uniqueness.

To obtain the scoring for each of the principal components, we predict their values to obtain the regression results in Table VI. The correlation matrix in Table VII confirms that these four components are uncorrelated with each other, and Table VIII shows the correlations between variables and varimax rotated common factors.

The Cronbach's alpha is used for assessing the internal reliability of the model (Table IX). The "Scale reliability coefficient" of 0.4117 shown in the table represents the Cronbach's alpha. This value is quite low, as an alpha above 0.80 would have been desirable. Now, it may be possible that a variable used in the analysis is having a negative effect on the alpha, and in such as case, the variable should not be retained. To test this, we need to find how individual variables are related to the alpha (Table X). From the last column, which shows what the Cronbach's alpha would be if the corresponding variable were to be deleted from the analysis, we see that none of the variables individually exert a large influence on the value of alpha. This would be an argument in favor of retaining all the variables in the analysis.

VII. Discussion

To make public investment effective with regard to civic engagement, we

need to target those factors which explain the largest amount of variation in the analysis. In the case of Fair Park, following this method would imply implementing policies that impact the variables *"ntrustppl"* and *"nhelp."* However, "trust" tends to be extremely sticky and changes very slowly, if at all, over an individual's lifetime (Huffington Post, 2011). Thus, for short-term results on civic engagement through public investment, it would beneficial to target the variables that explain the second largest variation in the data i.e. "*smtg"* and "s*nonproftime*." This can be done by providing incentives to people to participate in group meetings, involving residents in lower-level decision-making by giving them leadership roles or allowing them to take part in the administration of development programs, and setting up volunteer opportunities aimed at transforming the neighborhood through tangible measures. If people find that they are able to make some difference in their neighborhood or improve the quality of life through their own actions, then they will be more willing to participate in meetings and non-profit activities.

Previous studies reveal that greater civic engagement, such as more trust and better voter turnouts, is generally correlated with a higher level of educational attainment. If one attends a high school or college, they have better access to knowledge about important issues through their classes or club meetings, and are therefore more likely to engage in volunteer efforts (Figure 15). Flanagan and Levine (2010) state that the "inequalities in political participation among young Americans are rooted in the differing education and political involvement of their parents. The parents of high socioeconomic status pass on to their children such advantages as political awareness, access to community and educational resources, and, ultimately, the child's own educational attainment." In a low socio-economic neighborhood like Fair Park, families are financially constrained in their capability to send their children to institutions of higher education. This calls for public investment focused on improving the quality of local high schools, and providing incentives to children to encourage them to graduate from high school or to pursue further education. Such incentives could take the form of investing in the creation of state organizations modeled on the AmeriCorps Volunteers in Service to America program to help low-income communities out of poverty, or improving the employability of graduates by providing improved career guidance. Research on the AmeriCorps experience has shown that national service programs may serve as a new institution for redressing the class divide in civic participation (Finlay, Wray-Lake & Flanagan, 2011).

VIII. Conclusion

The data from Fair Park give an indication of the parameters that need strategic attention if we seek to increase the engagement of residents in poor and minority communities. The successful implementation of policy measures addressing this issue will require cognizance of the hardship situations that these families may be facing, such as stress from working long hours at low wages, tight work schedules, demands of taking care of children when they are unable to afford child care, etc. We must also be cautious in drawing conclusive opinions on civic engagement from the results of this study due the self-reported nature of the surveys, which is susceptible to a social desirability bias. Also, this model for the measure of civic engagement ignores "civic knowledge" i.e. how informed residents are regarding current political affairs or important issues facing the local community. The brief and detailed household surveys did not incorporate such a component, and the evaluation of this aspect was neglected in the analysis. Further studies should focus on including variables that positively impact the scale reliability coefficient for a more comprehensive measure of civic engagement.

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Appendix A

Tables

I. Variables Description

Variable Name	Description
svoter	Are you a registered voter? 1= Yes, but I don't vote in most elections; 2= Yes, I vote in some elections; 3= Yes, I always vote; 4= No, I am not a registered voter
smtg	In the past year, how often have you participated in community group meetings (formal/ informal) to discuss community problems or issues? 1= Never; 2= Less than 1/ month; 3= 1/ month; 4= More than 1/ month but < 1/ week; 5 = 1/ week; 6= More than 1/ week.
sreligion	Apart from weddings and funerals, about how often do you attend religious services? 1= more than once a week; 2= Once a week;3= At least once a month;4= Less than once a month;5= major religious holidays; 6= Never
snonproftime	Number of hours donated each month to non-church non-profit activities; 1= None; 2= Some but < 1 hour; 3= 1-5 hours; 4= 5-10 hours; 5= more than 10 hours
ntrustppl	People in this neighborhood can be trusted; 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree
nhelp	People in my neighborhood are willing to help each other; 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree
nsamevalues	People in this neighborhood do not share the same values; 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree
nfire	Suppose that because of budget cuts the fire station closest to your home was going to be closed down by the city. How likely is it that neighborhood residents would organize to try to do something to keep the fire station open; 1= Very Likely; 2= Likely; 3= Neutral; 3= Unlikely; 5= Very Unlikely
nborrow	If a well-known neighbor was short of cash to start a business in the area, how likely is it that he or she would be able to borrow money from people in this neighborhood? 1= Very Likely; 2= Likely; 3= Neutral; 3= Unlikely; 5= Very Unlikely

dgen	Gender of the respondent; 0= Male; 1 = Female
dage	Age of the respondent

II. Variables Summary

Variable	Obs	Mean	Std. Dev.	Min	Max
id	500	250.5	144.4818	1	500
svoter	492	2.457317	1.08132	1	4
smtg	493	2.026369	1.455755	1	6
sreligion	490	3.004082	1.699267	1	6
snonproftime	339	1.39233	.8918103	1	5
ntrustppl	486	2.909465	1.099219	1	5
nhelp	487	3.283368	1.167896	1	5
nsamevalues	488	3.25	1.098347	1	5
nfire	494	2.657895	1.396304	1	5
nborrow	494	3.629555	1.252347	1	5
dgen	488	.6168033	.4866645	0	1
dage	484	46.42975	14.67471	20	94

III. Covariance Matrix

	svoter	smtg	sreligion	snonproftime	ntrustppl	nhelp	nsamevalues	nfire	nborrow
svoter	1.13967								
smtg	-.049076	2.02052							
sreligion	-.031987	-.457183	2.97199						
snonproftime	.011412	.492907	-.307052	.800482					
ntrustppl	.093982	.084579	-.007916	.083705	1.25573				
nhelp	.037131	.091903	.049869	.076552	.72389	1.32329			
nsamevalues	-.00228	.034408	-.083303	-.088728	-.050141	.035041	1.19344		
nfire	.12821	.038035	.131003	-.033595	-.230922	-.329958	.106791	2.00285	
nborrow	.041079	.086608	-.039502	.004139	-.242907	-.211975	.274131	.5217	1.6186

IV. Principal Component Analysis

(obs=316)

Factor analysis/correlation Number of obs = 316
Method: principal-component factors Retained factors = 4
Rotation: (unrotated) Number of params = 30

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.83309	0.31631	0.2037	0.2037
Factor2	1.51678	0.29980	0.1685	0.3722
Factor3	1.21699	0.17910	0.1352	0.5074
Factor4	1.03789	0.09926	0.1153	0.6227
Factor5	0.93863	0.17769	0.1043	0.7270
Factor6	0.76094	0.08009	0.0845	0.8116
Factor7	0.68086	0.09201	0.0757	0.8872
Factor8	0.58885	0.16288	0.0654	0.9527
Factor9	0.42597	.	0.0473	1.0000

V. Varimax Rotated (orthogonal)factor loadings

Rotated factor loadings (pattern matrix) and unique variances					
Variable	**Factor1**	**Factor2**	**Factor3**	**Factor4**	**Uniqueness**
svoter	0.1648	-0.0106	-0.1335	**0.7936**	0.3252
smtg	0.0472	**0.7687**	0.0903	-0.0203	0.3982
sreligion	0.0423	-0.5610	-0.0799	0.1451	0.6560
snonproftime	0.0662	**0.7823**	-0.1431	0.0670	0.3586
ntrustppl	**0.8495**	0.0512	-0.0537	0.0813	0.2662
nhelp	**0.8678**	0.0268	0.0452	-0.0375	0.2428
nsamevalues	0.1101	-0.0616	**0.8307**	-0.1437	0.2734

nfire	-0.3202	0.0077	0.3235	**0.5827**	0.4532
nborrow	-0.2545	0.0894	**0.6360**	0.3178	0.4217

VI. Regression Analysis

Scoring coefficients (method = regression; based on varimax rotated factors)

Variable	Factor1	Factor2	Factor3	Factor4
svoter	0.12384	-0.00973	-0.16523	0.73708
smtg	0.00659	0.50041	0.07123	-0.02246
sreligion	0.04651	-0.36771	-0.06780	0.13897
snonproftime	-0.00118	0.51165	-0.12676	0.07848
ntrustppl	0.51393	0.00120	0.03085	0.11713
nhelp	0.53024	-0.01705	0.12494	0.00155
nsamevalues	0.14402	-0.05517	0.70720	-0.20022
nfire	-0.13728	0.01507	0.18183	0.48309
nborrow	-0.08196	0.06154	0.46802	0.21852

VII. Correlation matrix of factors

Correlation matrix of the varimax rotated common factors

Factors	Factor1	Factor2	Factor3	Factor4
Factor1	1			
Factor2	0	1		
Factor3	0	0	1	
Factor4	0	0	0	1

VIII. Correlations between variables and verimax rotated factors

Variable	Factor1	Factor2	Factor3	Factor4
svoter	0.1648	-0.0106	-0.1335	0.7936
smtg	0.0472	0.7687	0.0903	-0.0203
sreligion	0.0423	-0.5610	-0.0799	0.1451
snonproftime	0.0662	0.7823	-0.1431	0.0670
ntrustppl	0.8495	0.0512	-0.0537	0.0813
nhelp	0.8678	0.0268	0.0452	-0.0375
nsamevalues	0.1101	-0.0616	0.8307	-0.1437
nfire	-0.3202	0.0077	0.3235	0.5827
nborrow	-0.2545	0.0894	0.6360	0.3178

IX. Cronbach's Alpha

```
Test scale = mean (unstandardized items)
Reversed items:  sreligion nsamevalues nfire nborrow

Average intertie covariance:     .1148628
Number of items in the scale:            9
Scale reliability coefficient:      0.4117
```

X. Relations of individual variables to the rest

Item	Obs	Sign	item-test correlation	item-rest correlation	average intertie covariance	alpha
svoter	316	+	0.2164	-0.0084	.1491654	0.4432
smtg	316	+	0.4350	0.1493	.1148792	0.3923
sreligion	316	-	0.4557	0.1040	.1204498	0.4259
snonproftime	316	+	0.4445	0.2750	.1087589	0.3548
ntrustppl	316	+	0.5207	0.3166	.0934649	0.3268
nhelp	316	+	0.4955	0.2802	.098163	0.3396
nsamevalues	316	-	0.3009	0.0744	.1344908	0.4165
nfire	316	-	0.4743	0.1966	.1052621	0.3698
nborrow	316	-	0.4461	0.1956	.1091313	0.3711
Test scale					.1148628	0.4117

Appendix B

Figures

Figure 1

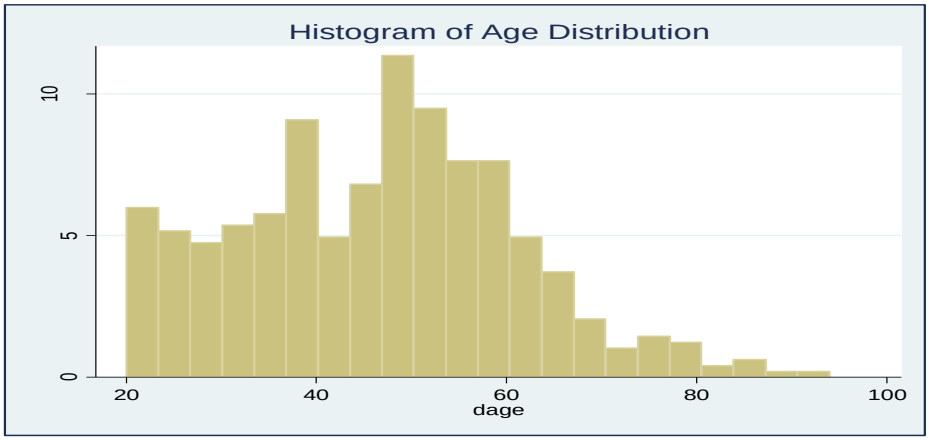


Figure 2

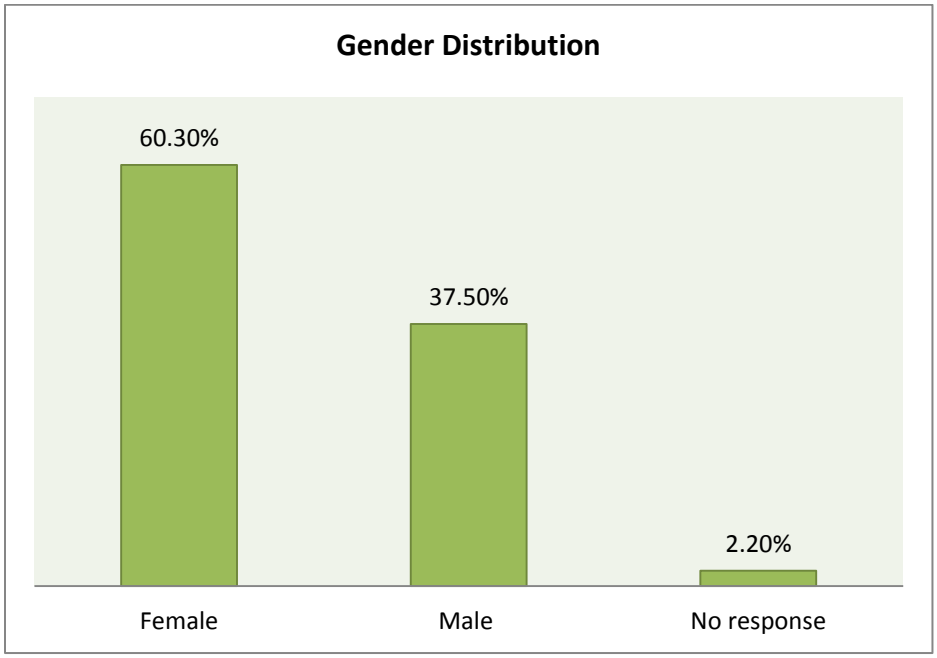


Figure 3

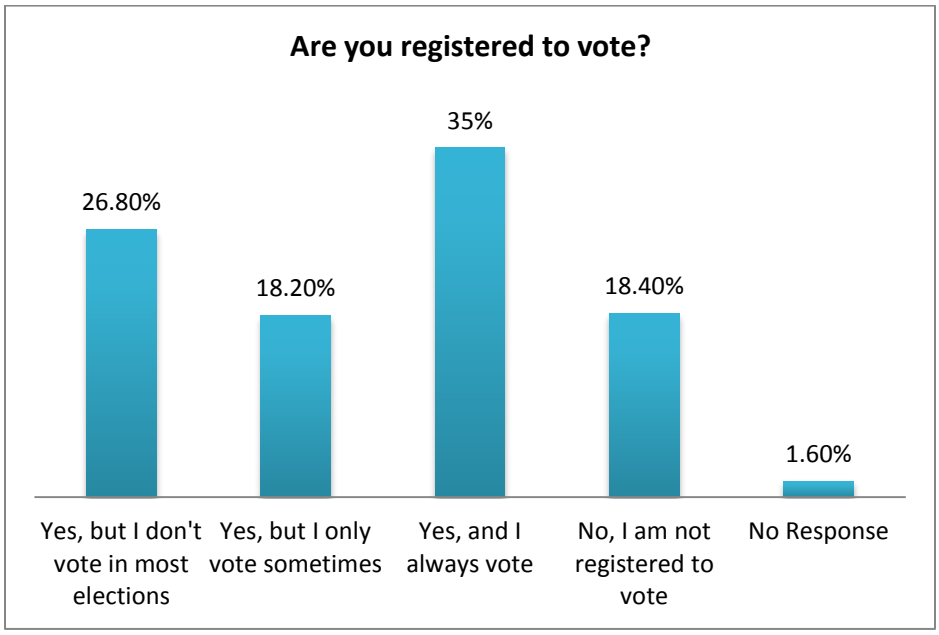


Figure 4

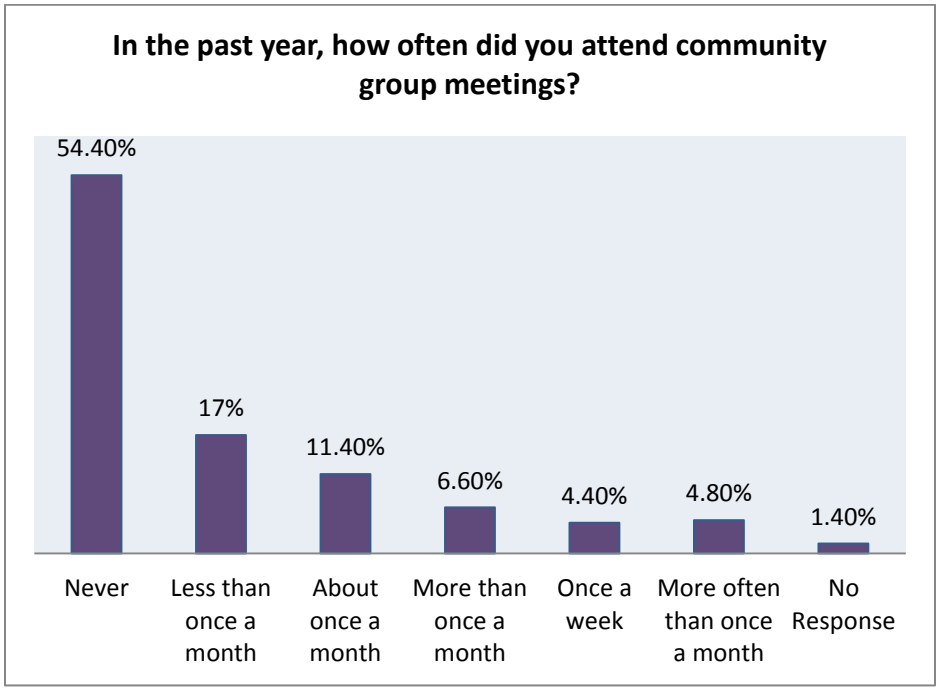


Figure 5

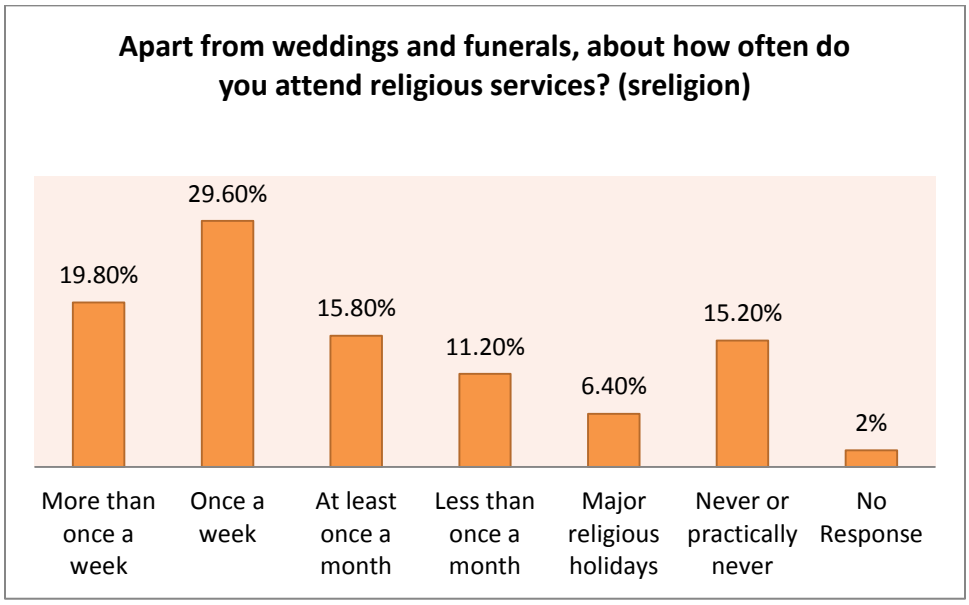


Figure 6

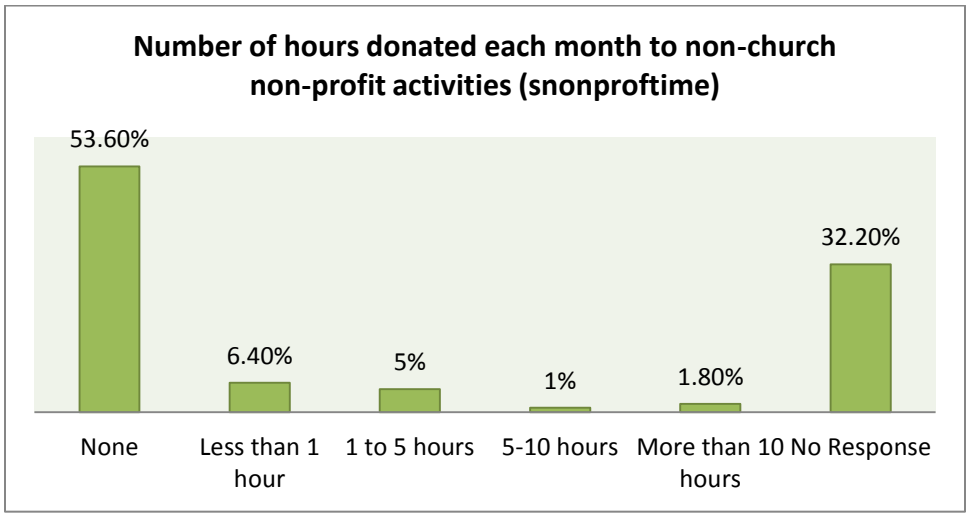


Figure 7

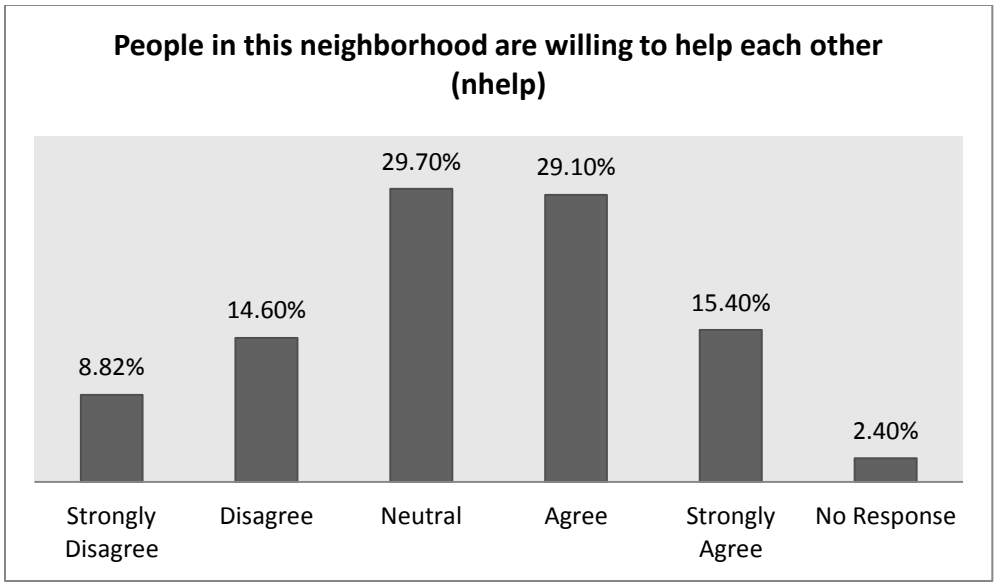


Figure 8

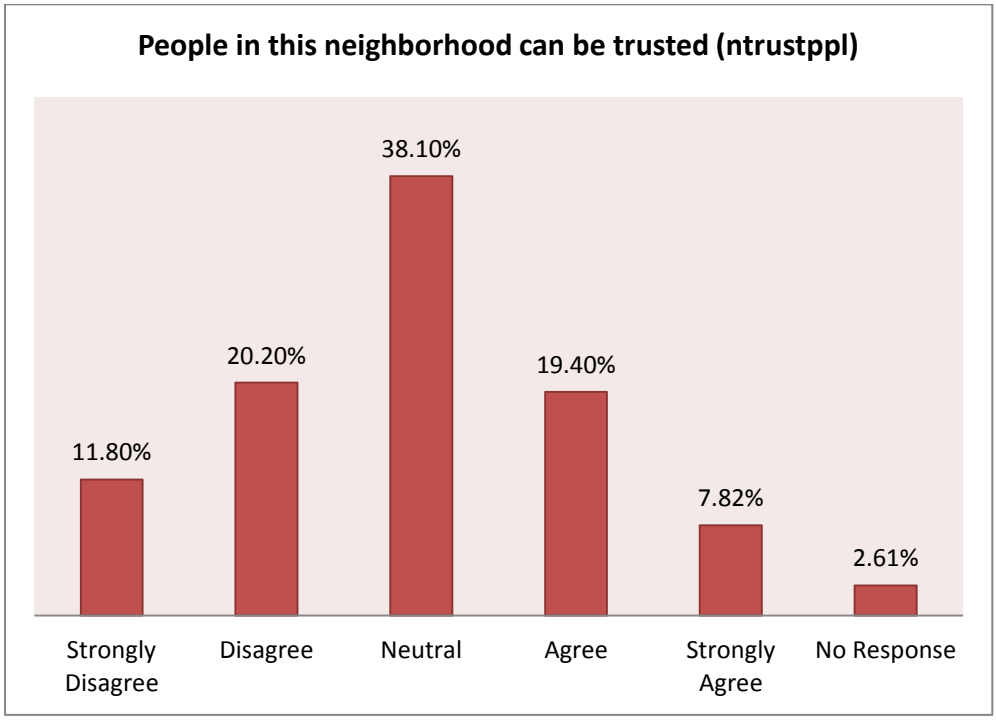


Figure 9

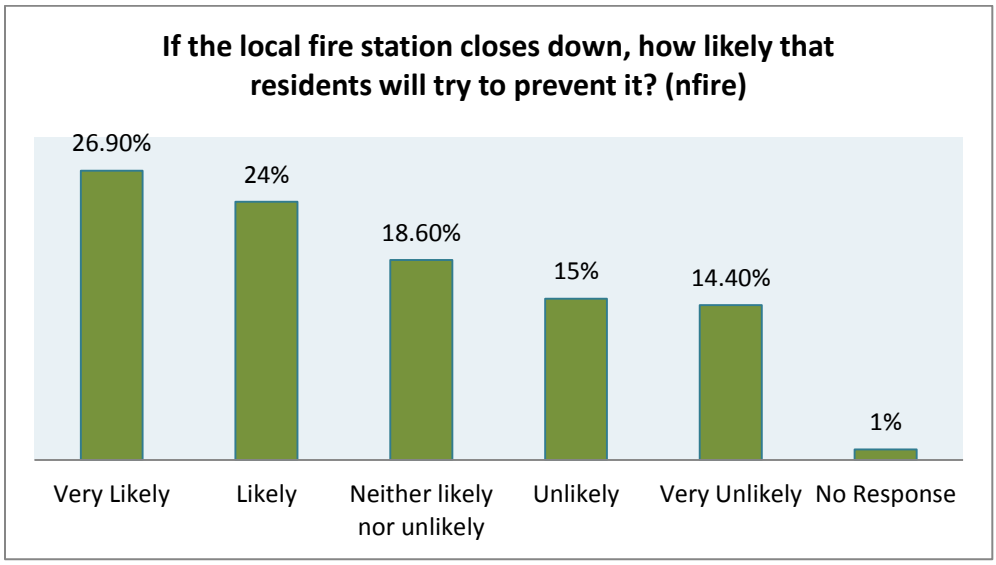


Figure 10

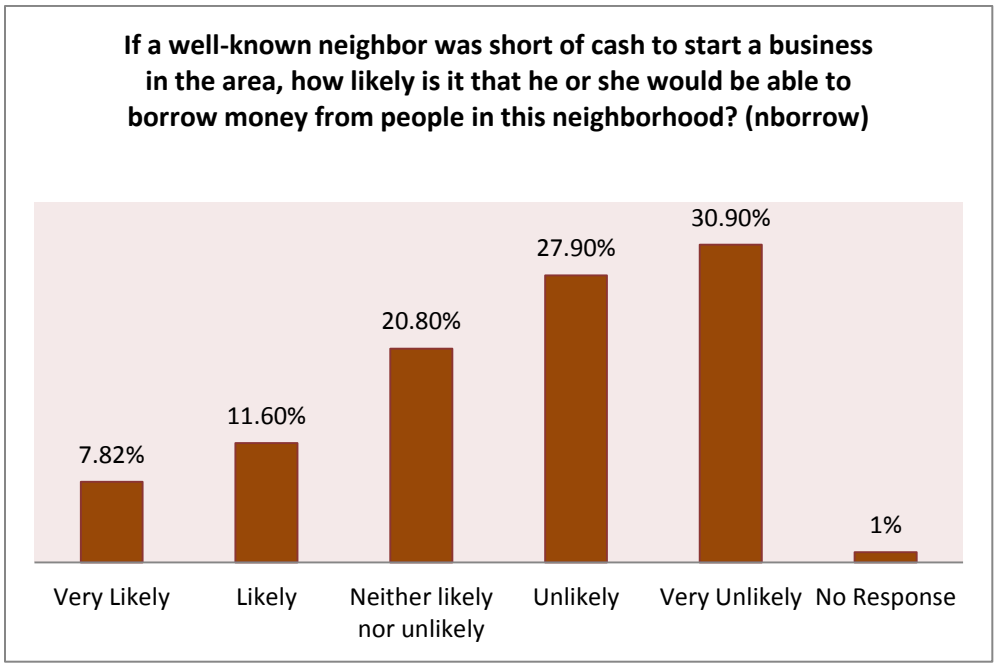


Figure 11

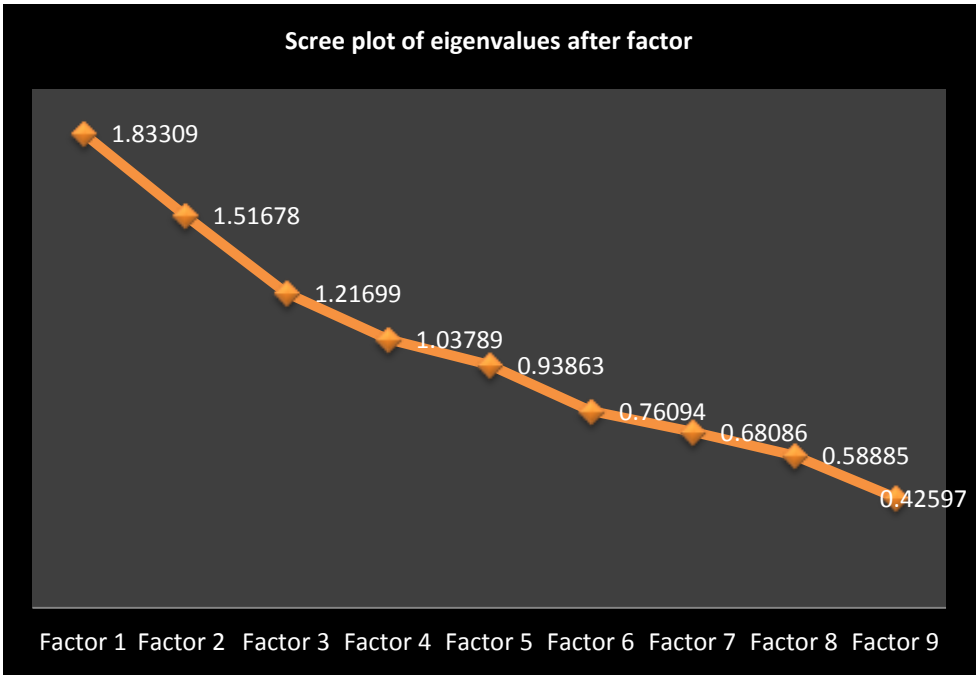
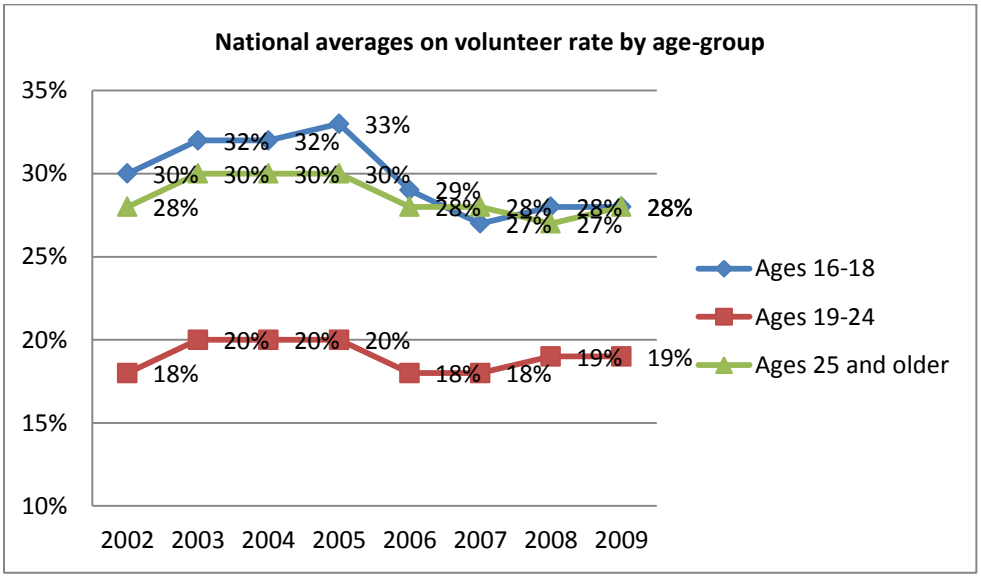
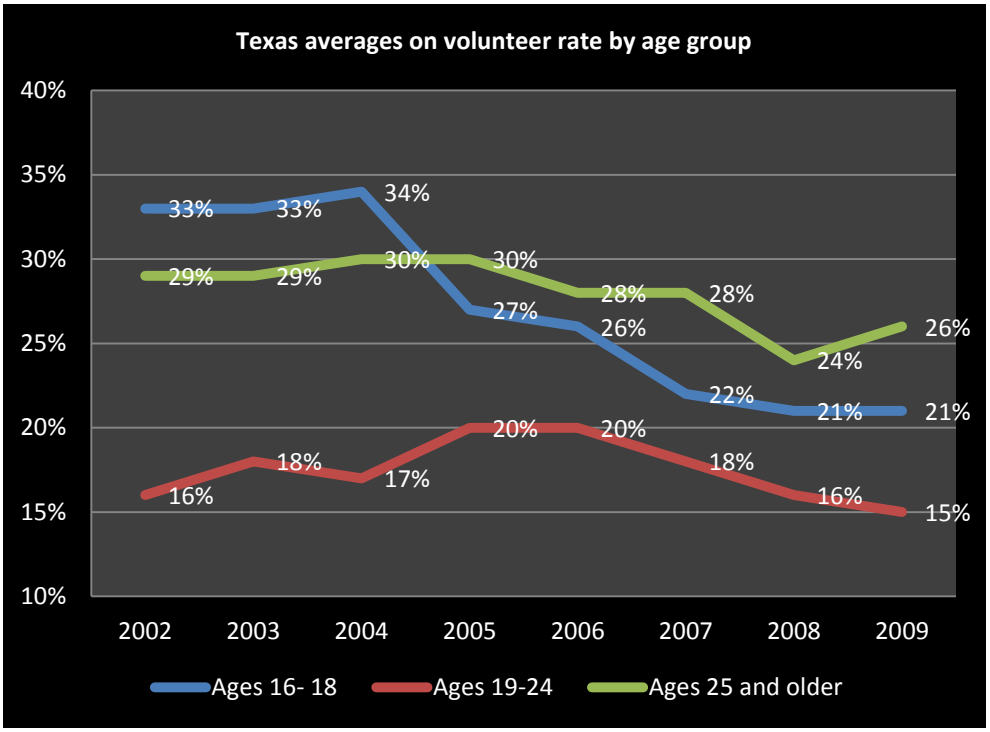


Figure 12



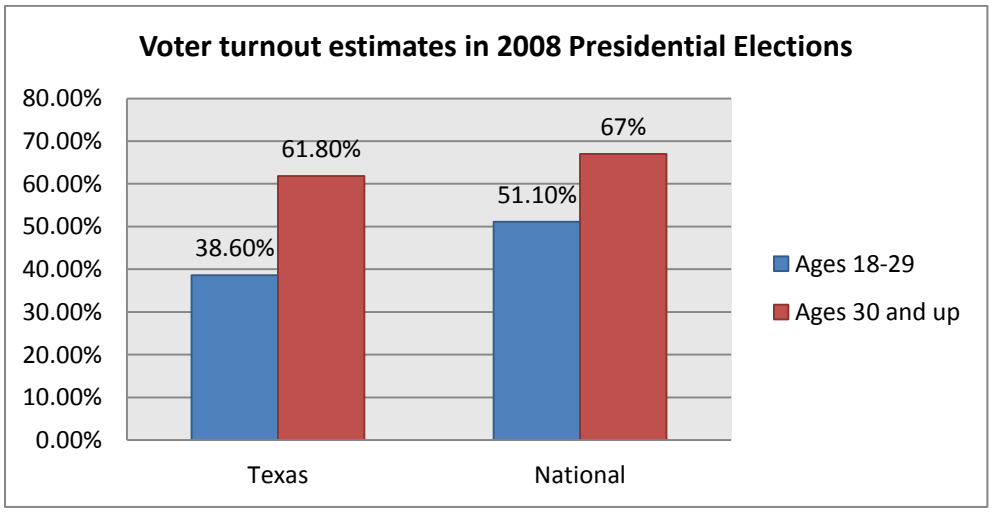
Source: Census Current Population Survey, September Volunteering Supplement, 2002-2009

Figure 13



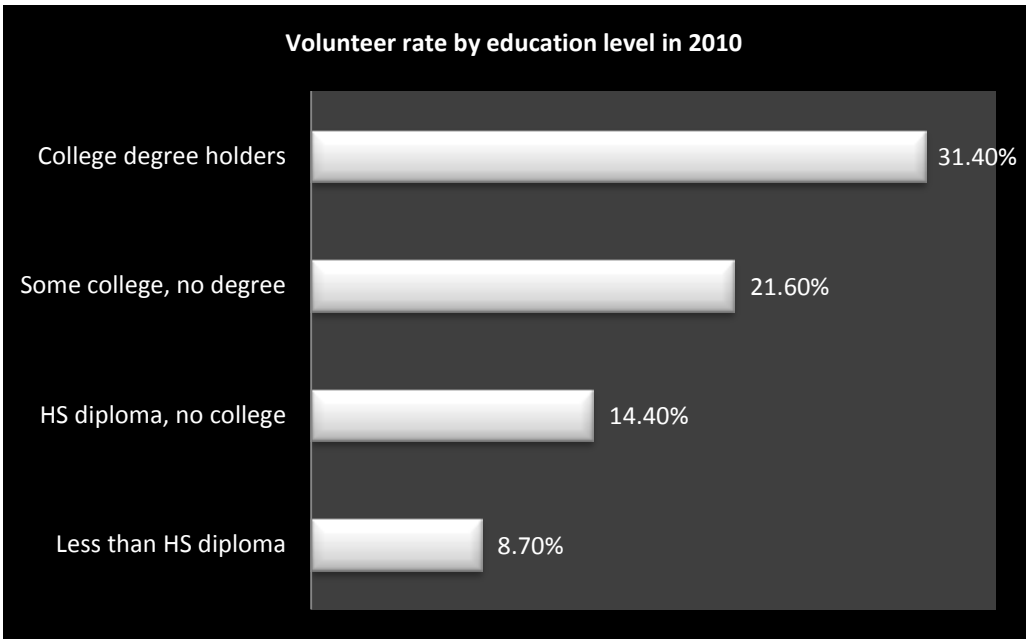
Source: US Bureau of Census Surveys (various years)

Figure 14



Source: Data collected from the Pew Research Center

Figure 15



Source: Current Population Survey by US Bureau of the Census (September, 2010 Supplement)