The habit for voting, "civic duty" and travel distance

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Keywords: voting participation; election turnout; travel distance; travel cost

Abstract: There is a rich literature addressing the paradox of not voting and election turnout from both theoretical and empirical perspectives. By taking advantage of a unique dataset from an "experimental" setting, this paper is the first to estimate the utility that drives the "civic duty" or the habit for voting. Consistent with the general turnout literature, education level, marital status, household size, and distance all affect the persistence of voter participation.

1. Introduction

An enormous literature addresses the paradox of not voting and election turnout from both theoretical and empirical perspectives (Downs, 1957; Tullock, 1967; Riker and Ordeshook, 1968; Wolfinger and Rosenstone, 1980; Powell, 1986; Ledyard, 1981, 1984; Palfrey and Rosenthal, 1983, 1985; Cox and Munger, 1989; Matsusaka and Palda, 1993; Knack, 1994; Fort, 1995; Morton, 1991; Shachar and Nalebuff, 1999; Green and Sachar, 2000; Feddersen and Sandroni, 2006; Coate and Conlin, 2004). The literature is vast because the Downsian (1957) model of the rational voter raises an interesting puzzle: individual voters have expected benefit of zero from voting, because each has an infinitesimally small chance of affecting the outcome of the vote, while voters incur positive costs of voting, for a negative expected net benefit of voting, yet many people vote.

The first explanation for this paradox proposed that people voted out of a sense of civic duty. This apparent *deus ex machina* asserts that people derive a consumption benefit from the act of voting which is sufficiently large to overcome the costs of voting, at least for some voters. Moreover, the size of this consumption benefit can vary from issue to issue, and may be affected by the efforts of other individuals or groups, such as campaign spending and get out the vote drives.

The second explanation for the paradox suggested that the probability of affecting the outcome may not be infinitesimal after all. If one believes that all other voters will not vote, because they feel they cannot alter the outcome, then no one votes, and one voter who decides to vote will in fact be certain to affect the outcome. Game theoretic models building on this insight find there will be turnout to vote in equilibrium, even without reliance on a consumption benefit from voting.

In this paper we take advantage of a unique dataset to both estimate and control for the impact of "civic duty" or the inherent consumption benefit in a model that estimates the impact of travel cost on the persistence in voter participation, i.e. the habit for voting. Our setting is attendance at the annual meeting of the membership of one of the biggest professional football clubs in Germany, with more than 71,000 club members. At the annual meetings, club members in attendance vote on club leadership positions and policies. For instance, each third year one of the four directors of the club is elected using simple majority rule.

While the issues under consideration by the football club are different from those in an election for a governmental position or policy, concerns about participation, or turnout, related to costs and benefits of voting are similar. Consequently, we argue that general conclusions about voting participation behavior can be drawn from our setting. Moreover, our unique dataset affords us the opportunity to address "civic duty" and consumption benefits of voting in a novel way.

Club members were surveyed about their voting behavior, reasons for attending or not attending the annual meetings, attendance at club football matches, and participation in other social and political organizations. Attendance at the annual meetings is a requirement for voting, and survey respondents indicated their frequency of attending as never, seldom, sometimes, or often. Our dependent variable indicates the persistence in voter participation, letting us estimate ordered probit models of voter participation, with a focus on a habit for voting.

The hurdle parameters of the ordered probit model provide estimates of the impact of the feelings of civic duty on the decision to participate. Moreover, using estimates of the impact of travel distance we are able to assess the sensitivity of habitual voter participation to changes in travel cost and other

factors. Our results indicate that distance matters for voting, as do setting-specific variables like length of club membership and whether or not the individual belongs to more than one sport club. Consistent with the general turnout literature, education level, marital status and household size also affect participation.

The next section of the paper, section 2, is a brief review of the voter participation literature. Our purpose in this section is to describe the state of the literature and to make clear how our analysis contributes to an understanding of voter participation. In section 3 we describe the data, and the survey from which it is derived. Section 4 develops the empirical model of persistent or habitual voter participation. Section 5 presents the estimation results and evaluation of the impact of distance on the persistence of voting. Section 6 concludes.

2. Literature

In the early literature on voter turnout (Tullock, 1967; Riker and Ordeshook, 1968) the decision to vote is often discussed with respect to a comparison of the cost of voting with the expected benefits of voting. Given that the likelihood that an individual voter's ballot alters the outcome of the election is vanishingly small, the decision calculus can only lead to voting if there are benefits from participation that are independent of the outcome of the election.

The expected benefits from the policy outcome are called instrumental benefits. The benefits from participation are sometimes described as arising from doing one's "civic duty", for example, but they are also explained as voting for reasons other than concern for the actual outcome of the election. For instance, the decision to vote may be motivated by benefits derived directly from the act of voting. A voter may also derive benefits from voting for or against a particular alternative independent of the outcome of the election. For example, one might vote in support of the environment or in opposition to gay marriage not because of one's expected net benefits from the favored outcome, but rather because one is

expressing support for a moral or ethical position. Voting motivated in this "public minded" way is called expressive voting. Whether voting is explained as instrumental or expressive, or because people vote because they feel it is their civic duty or because they derive happiness from participation, these explanations focus on the individual voter first.

Ledyard (1981, 1984) and Palfrey and Rosenthal, (1983, 1985) developed game-theoretic models in which the probability of being the decisive voter is endogenous. These models do not require a consumption benefit from voting to generate positive turnout. More recently, scholars have sought explanations for individual participation in voting using the behavior of groups (Morton, 1991; Shachar and Nalebuff, 1999; Feddersen and Sandroni, 2006; Coate and Conlin, 2004). While the individual voter still decides whether or not to vote, the motivation to vote is influenced by the activities of groups. These models rely on the existence of consumption benefits from voting and focus on explaining changes in those benefits to explain the paradox of nonvoting (Feddersen, 2004). For example, political parties, party leaders, or other interested organizations might engage in voter mobilization drives (Pollock, 1982; Morton, 1991; Shachar and Nalebuff, 1999). Alternatively, voter participation may derive from a set of ethical norms to act in the best interests of the group to which the voter belongs (Feddersen and Sandroni, 2006; Coate and Conlin, 2004). These ethical voters consider different behavioral rules, comparing them according to their results when everyone in their group acts according to the same rule. In addition, ethical voters derive satisfaction from following the rule that they determine produces the best group outcome from among the various possible rules.

Finally, there is evidence that voters may develop a habit for voting. That is, people who have voted in the past are significantly more likely to vote again. Green and Shachar (2000) use panels from the American National Election Study to examine voting behavior in successive elections. Their intent is to avoid

problems of unobserved heterogeneity and bias using recursive regression and instrumental variables to control for personal and situational determinants of voting that may persist over time. They find a significant impact of voting previously on the probability of voting in the current election. Gerber, Green, and Shachar (2008) extend the analysis using an experimental design in which some voters are encouraged to vote in a specific election and others are not. Those that were encouraged to vote were more likely to do so both in the first election and in a subsequent election a year later. They conclude that the increase is the result of voting becoming a habit, supposing that unobservable heterogeneity has remained constant from election to election. Of course, whether unobservable heterogeneity is in fact constant is unknown and unknowable, but one could also infer that the treatment, that is, the encouragement to vote, changes the unobservable heterogeneity in favor of voting for those voters who get the treatment. In other words, the treatment introduced by Gerber, Green, and Shachar (2008) enhances the consumption benefits from voting, and this enhancement is persistent.

Regardless of the source of these consumption benefits, the decision to vote will also depend on the cost of voting. Costs of voting include such things as educating oneself on the issues, the time spent waiting to enter the voting booth, and the costs of transportation to the polling station. The higher are the costs of voting, the fewer the voters for whom the consumption benefits of voting exceed the costs of voting, and the lower will be the turnout (see Matsusaka and Palda, 1993; Knack, 1994; Gibson, J., Kim, B., Stillman, S. & Boe-Gibson, 2012; Haspel, M. & Knotts, H. G., 2005).

Munger (2001) conceptualizes the total vote on a ballot measure as a share of the population as the product of four ratios, the share of the population that is enfranchised, the share of those that are enfranchised that are also registered, the share of those that are registered that enter the voting booth, and the share of those that enter the booth that vote on the specific ballot measure. The literature on

turnout focuses on the last two of these ratios, and generally assumes that there is only one item on the ballot so that everyone who enters the booth in fact votes.[1] In other words, much of the literature throws away useful information about turnout by focusing on a single election. Cox and Munger (1989) relax this assumption by accounting for presidential and senatorial campaign spending when evaluating the impact of spending by candidates for the House of Representatives. Nownes (1992), Green and Shachar (2000) and Gerber, Green, and Shachar (2008) relax it further by considering participation in multiple elections by the same voters. Nownes (1992), who estimates a multinomial logit model in which those eligible to vote may turn out to neither the primary nor the general election, may turn out only in the general election, or turn out to both, is most like what we do here. Indeed, his discussion of the three categories of voters is highly suggestive of our approach, that the voter interest is ordered from least to most interested in politics.

Our approach is also consistent with the findings by Fowler, Baker and Dawes (2008), Fowler and Dawes (2008) and Loewen and Dawes (2012) that a proclivity for voting is connected to genetics. By using all turnouts by our voters to construct an indicator of the strength of the urge to vote, our analysis is able to shed light on the impact that other factors may have in mitigating the urge. For example, Fowler and Dawes (2008) find that the impact of having the genetic marker that leads to a greater likelihood of voting is larger for those that attend religious services. They also find that higher income, greater cognitive abilities, more partisanship, and college education enhance the likelihood of voting. But their regressions do not contain any measure of the cost of voting, such as distance from the polling place.

[1] Fort (1995) estimates a recursive model of voting on a specific issue in which the first step is to explain registration, then turning out to the polls, and finally voting once in the booth.

3. Data

We take advantage of a unique dataset to analyze the role of "civic duty" in a model that estimates the impact of travel cost on the decision to vote. Our analysis is not of a typical political environment of a national, regional or local election. Rather our "experimental" setting is attendance at the annual meeting of the membership of one of the biggest professional football clubs in the first division of the German Bundesliga, i.e. the club Hamburg Sport-Verein (HSV).[2] At the annual meetings, club members in attendance vote on various issues related to the club's policies. For instance, each third year they vote directly on one of the four directors of the club via simple majority voting. Every year, voting occurs on issues concerning club governance, amending bylaws, and so on.

Overall, the club has more than 71,000 members. At the date of inquiry 57,612 members were at least 16 years old and therefore (in general) eligible to vote. However, in contrast to the ever increasing membership figures (starting from around 7,000 in 1996), the number of members making use of their voting right remains rather small. For instance, only around 2% of all members eligible to vote attended the annual assembly on 15 January 2012 where Oliver Scheel was re-elected as the fourth director of the club. Since issues related to costs and benefits of voting as well as the overall participation decision are relevant to voting in this case just as they are in voting participation decisions in general (political) elections, we contend that conclusions based on an in-depth analysis of our "experimental" setting can be extended to the general election context.

Our dataset is based on an online survey of the club members. Between 23 July and 5 August 2012 all members eligible to vote were surveyed about their voting behavior and other related issues. The final adjusted net sample of

[2] HSV offers competition and training in 30 sports and is the only club to have been in the top division every year since the formation of the league in 1963. Club members get voice and vote, as well as season tickets to the football matches at member prices, priority access to tickets for top home and away matches, and discounted travel packages to away matches.

respondents (n=9,090) consists of 15.8% of the voting-eligible population and is representative with regard to the geographic distribution of the club members as well as their age and gender (see Figures 1 and 2).

The variables in the analysis are defined in Table 1. The dependent variable is attendance at the football club's annual meetings (with possible answers of never, seldom, sometimes, and often). We equate attendance at the annual meeting with voting, and frequency of attendance with frequency of voting. At first sight, this may seem a problematic assumption as attending the meetings may occur for a variety of reasons. However, the survey also asks members who have attended the meetings sometimes or often about their motivation for doing so (see Figure 3). Here, voting appears to be by far the strongest motivation for attendance with about 95% of respondents who strongly agree or tend to agree with the statement that they attend the meetings predominantly to vote. On these grounds, we feel equating attendance with voting is justifiable.

The choice of explanatory variables in the analysis is guided by the existing voter turnout literature. Consequently, we include the voter's age and age squared, educational level, family size, marital status, income, and distance from the voting location. The distance variable is measured as the travel distance by car between the center of the 2-digit zip-code of residence and that of the venue of the assembly in Hamburg (in kilometers). Our variables also include responses to four questions about the voter's other activities. Voters respond to questions about their frequency of activity in four categories, sport participation, volunteer work, political participation, and religious activities. Responses range from never participate to weekly participation. Since the level of participation in these activities is a choice, just like the decision to attend the annual club meetings to vote, we are concerned that these variables are likely to be correlated with the

unobservable error in the regression model. Therefore, while we estimate the model including these variables, our preferred model omits them.

In Table 2, the mean values of each of the variables is reported for the full sample in the regression and split into the least frequent and most frequent voters. The asterisks indicate the level of statistical significance for rejection of the null hypothesis that the split sample means are equal. Those club members that vote most regularly are slightly older, better educated, live in smaller households, are somewhat more likely to be female, and unmarried than are the less frequent voters. More frequent voters are also less likely to belong to another sports club, to have been members of HSV longer, and to feel more strongly that success of the club affects their satisfaction with life. More frequent voters are also more frequently involved in volunteer work and in political parties. There is no statistical difference between the more frequent voters and less frequent voters regarding sports participation or religious activities. Finally, more frequent voters live substantially closer to the assembly meeting place than do the less frequent voters.

4. Modeling persistent voting behavior

Club members' voting behavior is assumed to derive from their utility maximization. Unlike the typical model where the decision to vote focuses on one specific election the focus here is put on the pattern of participation in multiple elections over time, i.e. a habit for voting. We begin by assuming that for each club member there is an unobserved utility of voting U_i that depends upon the instrumental, expressive, and any consumption benefits and costs. These benefits and costs are represented by vector X_i and the marginal influence of these benefits and costs is reflected in the parameter vector β. The error term or random element ε_i captures unobserved and unobservable influences on voting behavior, including the benefits from doing one's duty, from the act of participation, or genetic

predisposition. In other words, large values of ε_i will be associated with more frequent voter participation, all other things constant; small values of ε_i will be associated with less frequent voting. The utility function is

$$U_i = X_i\beta + \varepsilon_i \quad (1)$$

To estimate the parameter vector β we utilize the club member's reported frequency of participation in voting, U_i^O. $U_i^O = 0, 1, 2, 3$, where 0 indicates the member never votes, 1 indicates the member seldom votes, 2 that the member sometimes votes, and 3 that the member often votes, as reported in the survey of club members. We link the reported participation with the utility function as follows

$$U_i^O = 0 \;\; if \;\; U_i = X_i\beta + \varepsilon_i \leq \mu_1 \quad (2)$$

That is, the club member reports never voting if $\varepsilon_i \leq \mu_1 - X_i\beta$, where μ_1 is a threshold parameter to be estimated. Similarly, a voter reports seldom voting if

$$U_i^O = 1 \;\; if \;\; \mu_1 < U_i \leq \mu_2 \;\; \text{or} \;\; \mu_1 - X_i\beta < \varepsilon_i \leq \mu_2 - X_i\beta \quad (3)$$

where μ_2 is a second threshold parameter to be estimated. The voter that reports voting sometimes satisfies the following

$$U_i^O = 2 \;\; if \;\; \mu_2 < U_i \leq \mu_3 \;\; \text{or} \;\; \mu_2 - X_i\beta < \varepsilon_i \leq \mu_3 - X_i\beta \quad (4)$$

and the voter that reports voting often satisfies

$$U_i^O = 3 \;\; if \;\; U_i = X_i\beta + \varepsilon_i > \mu_3 \;\; \text{or} \;\; \varepsilon_i > \mu_3 - X_i\beta \quad (5)$$

This model is an ordered probit, with the three threshold parameters dividing the voters according to the degree to which their voting is based on "civic duty", enjoyment from participation in club governance, or genetics.

The vector of explanatory variables X_i includes the variables described in Table 1 under socio-demographic characteristics, member characteristics, and leisure time engagement.

Voter age (AGE) entered quadratically, allowing the marginal impact to rise or fall as one ages, reach a maximum or minimum, and then fall or rise. A consistent finding in the voting literature is that older citizens are more likely to vote than younger individuals, so we expect this to be true in our data as well. Furthermore, our expectation on greater household size (HHSIZE) is that it will be negative, reflecting likely greater opportunity cost of attending the annual meetings (which might easily last 6 hours). In addition, we expect that regular voting is more likely for male voters (MEN), for married voters (MARRIED), and for voters with greater education (DIPLOMA and UNI). DIPLOMA indicates a lower level of education than UNI, the omitted category is the least amount of education, and it is possible that these two levels of education have different effects on likely voting participation. Nonetheless, we expect both coefficients to be positive. We had no expectation about the impact of income on the proclivity to vote. In the literature, justifications for the inclusion of income include that income measures a voter's stake in the outcome, is a proxy for political interest or awareness of the issues, measures productivity in political activity (Frey, 1971), or represents the opportunity costs of taking the time to vote (Cebula and Toma, 2006). In other words, income might be positively or negatively associated with the likelihood of voting. Empirical evidence is, naturally, mixed: income is sometimes found to be positively associated with voting (Cox and Munger, 1989; Knack, 1994; Fowler and Dawes, 2008; Gibson, et al, 2012), but is also found to negatively influence the likelihood of voting (Sanders, 2001), or to have no influence on the likelihood of voting (Matsusaka and Palda, 1993; Timpone, 2008). We experimented with a variety of income dummy variables indicating monthly earnings in ranges; the only income variable that was ever significant in

our model is that indicating earnings of 3500 euros or more a month (INCOME35) reflecting higher opportunity costs in line with Cebula and Toma (2006). Finally, the DISTANCE between a voter's home and the polling place is a commonly used measure of the opportunity cost of voting. Greater distance means less convenience and increased costs of voting, resulting in a lower likelihood of voting. Gibson, et al (2012) and Haspel and Knotts (2005) are two recent studies focused on distance. The article by Niemi and Hanmer (2010), which focuses on voting by college students, bears some similarity to our analysis because the distance from the voter's residence to his or her polling place is potentially quite large. In their analysis, relative to their home (polling place), the student-voters are classified as living within 30 minutes, between 30 minutes and 2.5 hours, or more than 2.5 hours away. The greater the distance, the less likely the student is to vote, all other things equal.

In addition to the socio-demographic characteristics discussed before (which are standard covariates in the general turnout literature) we also control for member characteristics and leisure time engagement to consider the specific nature of our "experimental" setting.

Length of time as a club member (MEMBERDUR), and whether the voter perceives their happiness as connected to the club success (LIFESAT) are each expected to have a positive impact on the likelihood of voting more often. Membership in more than one sports club (MEMBEROC) is expected to have a negative influence on the likelihood of a club member voting frequently.

We have no strong prior belief about the influence of frequency of sport participation (SPORT) on frequency of voting. Members of the club who are frequent participants in sporting activities may be less likely to attend the annual meetings, since most of the agenda regards the first division football team. On the other hand, those same individuals may also be the most avid of the fans of the club and wish to participate in its governance. Our assumption is that

volunteerism (VOLUNT) and political party activity (POLITIC) will be positively associated with attendance at club meetings and, therefore, voting. Indeed, some of the volunteer activity may be as a coach or referee for the club's many member sports or even as an official in the club leadership. Likewise, our expectation is that greater religious participation (CHURCH) will be associated with more frequent attendance at the annual meetings.

5. Results

In this section we discuss the results of estimating the model described above. Table 3 reports regression results for the ordered probit model explaining persistence of voting behavior by the members of HSV. We estimate the model both with and without the variables about frequency of sports participation, volunteerism, political activity, and church. Explanatory variables hold few surprises, and coefficient estimates are little different between the models with and without the frequency of other activities variables.

The impact of age on the likelihood of voting is minimized at 36 or 37 years old. Club members younger than this grow less likely to vote as they age, while club members older that 36 or 37 become more likely to vote as they age. Consistent with our expectations a greater household size has negative impact on regular voting while the probability of voting more frequently is increasing with increasing educational level. In contrast to our expectations, males are not more likely than females to be voters. However, over 90% of the survey respondents are male, so it is possible that there are not enough females to estimate a gender difference. It is also possible that any female that is sufficiently interested in sport, particularly football, to be a member of the sport club is also sufficiently interested to participate in club governance at the same rate as the male members of the club. Distance by car between one's home and the meeting place is significantly and negatively related to frequency of voting. The z-score for this

variable is 30.97 and 31.46 in the two models, larger in absolute size than that of any other variable, suggesting distance has quite a strong influence on voting participation. In addition to these socio-demographic characteristics our setting specific variables indicate that those voters who are members of more than one sports club are significantly less likely to vote than are members of just Hamburg SV. Furthermore, club members are also more likely to vote if they reported that the success of the club affected their life satisfaction. Finally, each of the four coefficients on the frequency of activity variables is positive, though sport participation is not statistically significant at any conventional significance level. Both volunteerism and political activity are significant at the 1% level and religious activity is significant at the 10% level.

Consider now the threshold variables. For the model without participation variables, the first threshold is at -0.749 which means that the probability is 0.227 that a voter's unexplained motivation for voting, or their benefits from the act of voting, regardless of the outcome of the vote, are so small that they never vote. Said differently, 22.7% of voters derive too little benefit from the act of voting for that to ever induce them to vote. Threshold 2 is -0.049, or at a probability of 0.491. About 25.4% of the voters derive enough benefit from the act of voting that they will seldom vote rather than never vote. The third threshold, 0.702, implies that an additional 27.8% of voters are motivated to vote "sometimes" by the benefits from the act of voting. The remainder indicates that 24.1% of the club members surveyed would be motivated to vote "often" if only the consumption benefits of voting mattered. The results are a bit different when the variables for frequency of participation in other activities are included. The threshold parameters indicate that 27.1, 26.9, 26.5, and 19.4% of voters fall in the four categories, respectively. The largest impact is in reducing by about 5 percentage points the percentage of voters whose utility from voting is sufficiently great as to induce them to vote often.

In the following we provide two examples on how to use this information on the threshold parameters to derive further conclusions. First, suppose that a voter were completely indifferent between never voting and seldom voting, that is, her utility is exactly -0.749. For that voter to become indifferent between seldom voting and sometimes voting, her utility would have to increase by 0.7 (=-0.749 - (-0.049)). That gain in utility would require the voter move 281 (=0.7/0.0025) km closer to Hamburg. For that same voter to often vote, she would have to move more than 582 kilometers closer to Hamburg. The mean distance from Hamburg for our sample is 177 kilometers, but for those who never or seldom vote the mean is 213 kilometers, while it is 77 kilometers for those who sometimes or often vote. Our results suggest that few individuals in our sample live sufficiently far away that their voting participation would be materially affected by moving closer to Hamburg.

Second, the negative impact of age on voting is strongest at 36 or 37 years of age, reducing the utility index about .53 and .47 in models 1 and 2 respectively. Note that even at the largest impact, the effect of age is not sufficient to change a voter from indifferent between sometimes voting and seldom voting into indifferent between seldom and never voting. Likewise, age would never be sufficient to change someone indifferent between often and sometimes voting into a seldom voter. At 20 years old, the total impact of age is negative, about -.42 in model 1 and -.37 in model 2. The results also indicate that while increased age reduces the negative impact of age on voting after one reaches their mid-30s, increased age only changes that impact into positive for voters in their 70s, 73 or older in model 1 and 75 or older in model 2.[3]

[3] Note, that out of n=9,090 individuals in our sample, 42 are 73 years old or older; 10 of these 42 report voting (attending the club annual meeting) often, 9 sometimes.

6. Conclusion

This paper has used a unique data set and what we believe is a novel estimation strategy to address the size of consumption benefits from voting and the impact of distance/travel cost on the persistence of voter participation. The model employed is an ordered probit with three threshold parameters dividing the voters according to the degree to which their voting is based on "civic duty", enjoyment from participation in club governance, or genetics, holding all other things constant.

Our approach seems successful, as the empirical results are intuitive with most variables being statistically significant: it is found that setting-specific variables like length of club membership and whether or not the individual belongs to more than one sport club matter for voting. Furthermore, consistent with the general turnout literature, age, education level, marital status and household size also affect participation. In addition, distance from the polling place statistically significantly influences voting, but may have little practical impact since few individuals in our sample live sufficiently far away that their voting participation would be materially affected by moving closer to the venue in Hamburg where voting takes place.

Although this analysis is not of a typical political environment of a national, regional or local election we think that our findings are generally transferable to other elections as argued before. It appears promising to test the robustness of our results in future research based on other data sets. However, to the best of our knowledge micro data on repeated general elections is unfortunately not available at present.

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Figure 1: Comparison between sample (n=9,090) and total population "all members of HSV aged 16 years and older" (without members living abroad, N=56,847), focus: 2-digit-ZIP

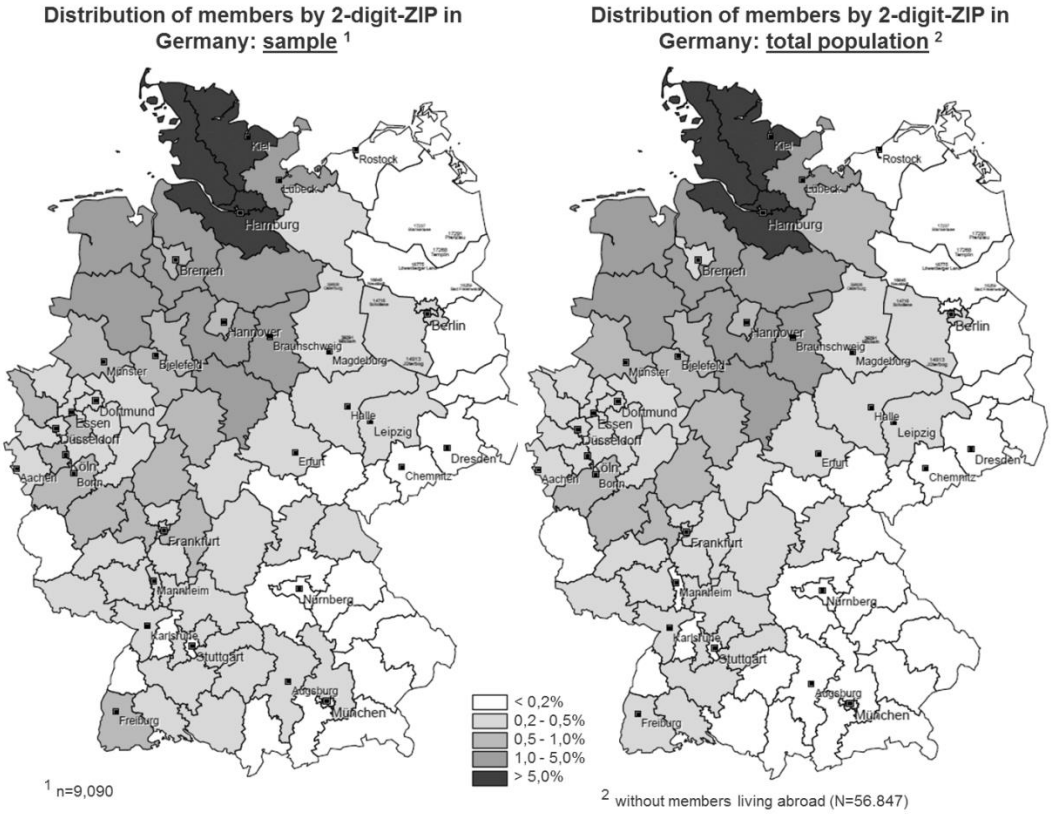

Figure 2: Comparison between sample (n=9,090) and total population "all members of HSV aged 16 years and older" (N=57,612), focus: age and gender

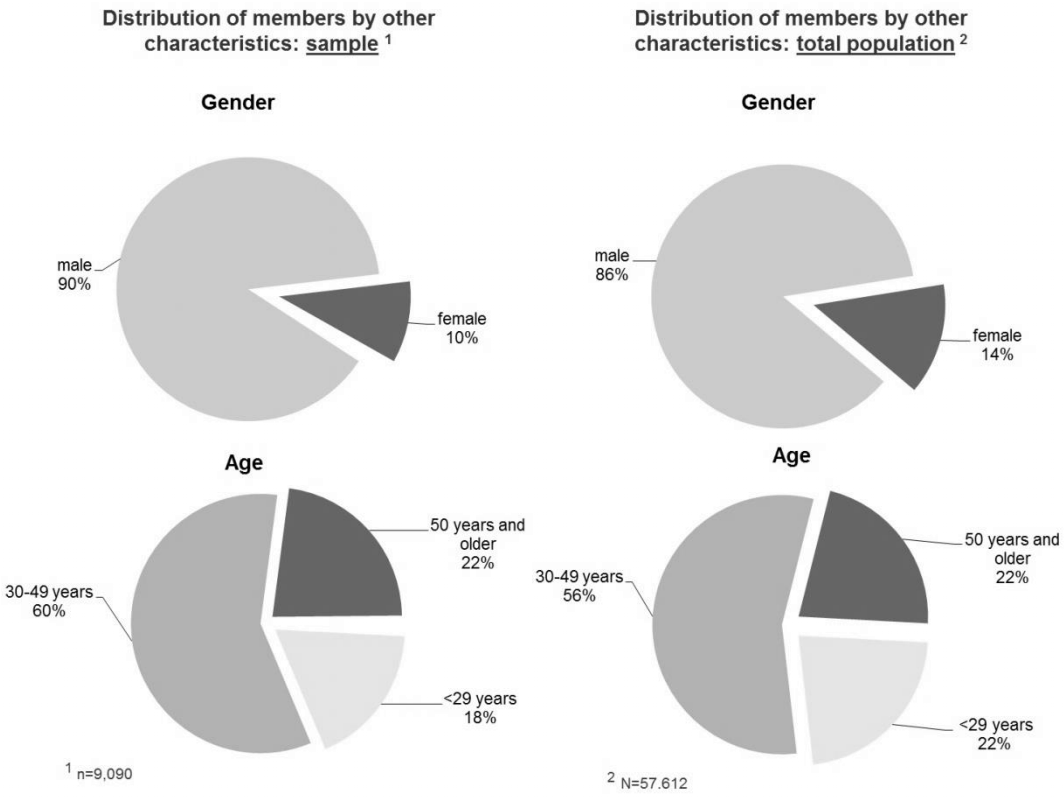

Figure 3: Main reasons for attending the annual assemblies (subsample of members who attend the assemblies sometimes or often, n=2,404)

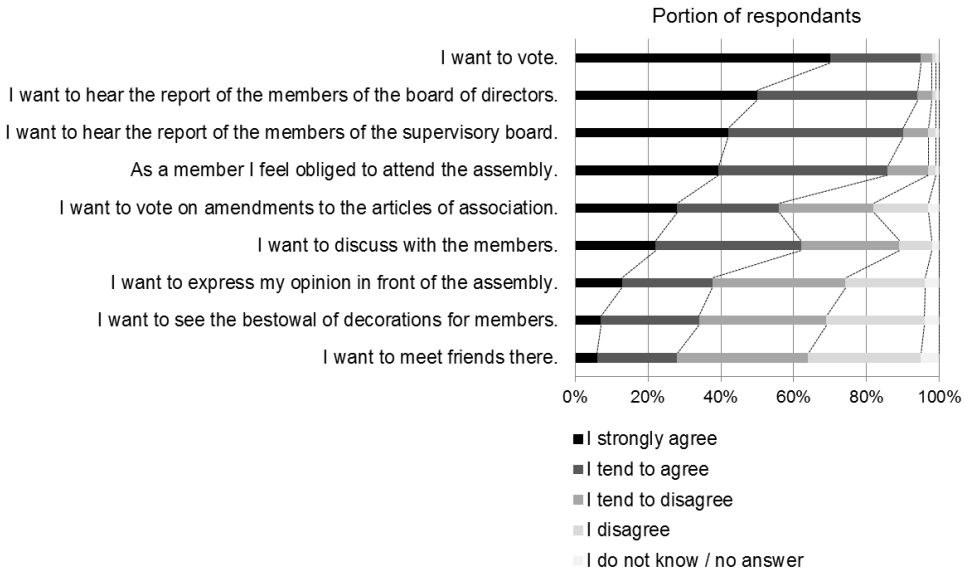

Table 1: Variable definition

Voter turnout	
FREQVOTE	Frequency of attending the annual general assembly of HSV (4-point-scale, 0=never, 1=seldom, 2=sometimes, 3=often)
Socio-demographic characteristics	
AGE	Age (in years)
AGE2	Age (in years) squared
HHSIZE	Household size
DIPLOMA	Educational level (dummy, final secondary school examination=1)
UNI	Educational level (dummy, university's degree=1)
MEN	Gender (dummy, male=1)
MARRIED	Family status (dummy, married=1)
INCOME35	Income is at or above 3,500 Euros per month
DISTANCE	Travel distance to the assembly venue by car (in kilometer)
Membership characteristics	
MEMBEROC	Member in another sport club (member=1)
MEMBERDUR	Length of the HSV membership (in years)
LIFESAT	The performance of HSV has an impact on my overall life satisfaction (dummy, I agree or tend to agree=1)
Leisure time engagement	
SPORT	Frequency of physical activity (4-point-scale, 0=never…3=each week)
VOLUNT	Frequency of volunteerism in sport clubs or for community services (4-point-scale, 0=never…3=each week)
POLITIC	Frequency of engagement with political parties or citizens' groups (4-point-scale, 0=never…3=each week)
CHURCH	Frequency of church attendance (4-point-scale, 0=never…3=each week)

Table 2: Descriptive statistics: (conditional) mean values and t-test significances

	mean	**mean if FREQVOTE=2 or 3**	**mean if FREQVOTE=0 or 1**
FREQVOTE	.857***	2.367	.314
AGE	40.838*	41.198	40.708
HHSIZE	2.681***	2.554	2.726
DIPLOMA	.266*	.277	.262
UNI	.238***	.256	.231
MEN	.902**	.891	.906
MARRIED	.484***	.435	.501
INCOME35	.278	.269	.282
DISTANCE	177.333***	76.646	213.536
MEMBEROC	.410***	.342	.435
MEMBERDUR	6.939***	8.028	6.547
LIFESAT	.459***	.505	.443
SPORT	2.129	2.119	2.133
VOLUNT	1.127**	1.168	1.112
POLITIC	.333***	.411	.304
CHURCH	.390*	.406	.383
n	9,090	2,404	6,686

*Note: significance levels of the t-test: *** 1% level; ** 5% level; * 10% level.*

Table 3: Ordered probit estimates

	Model 1			Model 2		
	Coefficient	**Robust Std. Errors**	**z**	**Coefficient**	**Robust Std. Errors**	**z**
AGE	-.02959***	.00578	-5.12	-.02528***	.00585	-4.32
AGE2	.00041***	.00006	6.19	.00034***	.00007	5.13
HHSIZE	-.02774**	.01091	-2.54	-.04168***	.01098	-3.80
DIPLOMA	.06804**	.03022	2.25	.04847	.03045	1.59
UNI	.15611***	.03234	4.83	.12274***	.03318	3.70
MEN	.02682	.04382	.61	.02260	.04387	0.52
MARRIED	-.12026***	.03010	-4.00	-.12972***	.03031	-4.28
INCOME35	-.05682*	.03073	-1.85	-.06212**	.03095	-2.01
DISTANCE	-.00249***	.00008	30.97	-.00260***	.00008	-31.46
MEMBEROC	-.12684***	.02530	-5.01	-.22621***	.02843	-7.96
MEMBERDUR	.02159***	.00207	10.45	.02151***	.00205	10.49
LIFESAT	.24940***	.02482	10.05	.24136***	.02489	9.70
SPORT				.01974	.01315	1.50
VOLUNT				.08689***	.01297	6.70
POLITIC				.15599***	.01981	7.87
CHURCH				.03692*	.02098	1.76
μ1	-.74867	.13003		-.60751	.13595	
μ2	-.04879	.13009		.10186	.13612	
μ3	.70175	.13055		.86212	.13674	
Wald chi(12)	1,264.20***			1,391.42***		
LR(12)	1,706.56***			1,889.35***		
R_{MZ}	.240			.261		
n	9,090			9,090		

*Note: significance levels: *** 1% level; ** 5% level; * 10% level.*