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UNDERSTANDING NONPARTISAN ROLL-OFF AMONG STRAIGHT PARTY VOTERS

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Abstract. Voters who use the straight party voting option (SPVO) are more likely than others to roll off when voting for nonpartisan offices and ballot questions. Previous research has theorized that this effect is due to voter error, as individuals fail to understand that they must still complete nonpartisan questions after selecting the straight party option. Using cast vote records, we find the SPVO leads both to voter error in some individuals and satisficing in others. About half of voters using the SPVO who engage in nonpartisan roll-off leave *all* nonpartisan elected offices blank. At the same time, among voters who vote for at least one nonpartisan elected office, individuals using the SPVO are still more likely than other voters to engage in nonpartisan roll-off. Survey data confirm both of these patterns. Among voters using the SPVO, those with college education are more likely to state that they intentionally rolled off rather than were confused about their vote while those without college education are more likely to be unsure about who they voted for. We also find that the effect of the straight party option on nonpartisan roll-off increases with voter fatigue and decreases with campaign spending, supporting the explanation of satisficing. Our results highlight the unintended effects of ballot design in influencing voter behavior.

1. Introduction

While American civil society elevates the act of voting to near religious status, scholars are often placed in the position of throwing cold water on this veneration. A century of research has shown that election outcomes are sensitive to idiosyncratic factors such as whether it is raining (Gomez et al., 2007) and which name appears first on the ballot (Koppell and Steen, 2004; Miller and Krosnick, 1998). Political scientists have concluded that overall the American voter is poorly informed about politics and candidates (Carpini and Keeter, 1996).

The authors wish to thank Shiro Kuriwaki for his guidance in introducing us to cast vote records in South Carolina.

Rather than voting as a sacred act, the canon of research suggests that voters are ordinary people leading busy lives and the process of casting a ballot is often rushed and haphazard. Viewed this way, the salience of seemingly minor aspects of the voting experience is less surprising.

This paper builds on a line of research exploring the effects of ballot design on voter behavior. It focuses on one particular election feature available in some states: the straight party voting option (SPVO). The straight party option allows a voter to initially select a political party when entering the ballot box. This choice populates their ballot with votes for all candidates of that party. The voter then reviews their ballot, with the opportunity to make any changes before finally submitting it. Because the SPVO does not mark a vote for nonpartisan contests or ballot questions, the voter must still make those choices as they proceed through the review of the ballot. While the prevalence of the SPVO has declined in recent years, nine states still use it as of early 2020.

The straight party option has been a subject of interest for those studying the effect of election inteface on voter behavior because it substantially alters the interaction of individuals with their ballot. Research has found that usage of the SPVO is associated with lower levels of roll-off (i.e. failing to cast a vote in a contest but still submitting a ballot) for partisan contests (Bonneau and Loepp, 2014; Feig, 2007, 2009; Kimball et al., 2002; Kimball and Kropf, 2006; Kritzer, 2016) and *higher* levels of roll-off for nonpartisan contests and ballot questions (Bonneau and Loepp, 2014; Feig, 2007, 2009; Herrnson et al., 2012; Kritzer, 2016) compared to voters not using the option. We are concerned in this paper with the relationship between usage of the straight party option and nonpartisan roll-off.

Prior research shows that roll-off for nonpartisan judicial elections is higher in states using the SPVO compared to those without it (Bonneau and Loepp, 2014; Kritzer, 2016) and that a correlation exists between the amount of roll-off for ballot questions in a precinct and the percentage of the precinct voting using the SPVO (Feig, 2007, 2009). However, with one exception (Herrnson et al., 2012), these previous studies have relied on aggregate election results and ecological inference to draw their conclusions. This has meant that we know

little about the voters who choose the SPVO, whether they are the individuals rolling off on nonpartisan races and ballot questions, and the reason why they might do so. Besides the threat of the ecological fallacy, the lack of individual-level data has also resulted in a paucity of theory to explain SPVO-related nonpartisan roll-off.

At present, there is disagreement in the literature about why SPVO voters engage in nonpartisan roll-off. Some have suggested the roll-off is due to voter error. They theorize that voters using the straight party option roll off because they are unaware they must complete the nonpartisan questions after selecting the SPVO (Feig, 2007, 2009). Others suggest that the roll-off is intentional and due to a lack of information or motivation among straight party option voters (Bonneau and Loepp, 2014; Herrnson et al., 2012).

We bring to bear two new sources of data on this question. We focus on the state of South Carolina, where individual-level data on ballots are publicly available via cast vote records used to audit elections. While the ballots are de-identified from any demographic or attitudinal information, we are able to observe the relationship between the SPVO and roll-off at the individual-level rather than with ecological inference. We also use exit poll data from a survey of Aiken County, South Carolina voters taken in 2018. This survey asks a number of demographic and attitudinal questions, measures usage of the SPVO and roll-off on nonpartisan School Board races. Together these data allow us to determine whether voters using the SPVO are more likely to engage in roll-off on nonpartisan questions compared to voters not using the option. We are also able to use individual characteristics and voting patterns to determine why these voters engage in this behavior.

We initially test whether nonpartisan roll-off by SPVO voters is unintentional and due to voter confusion. We establish, using cast vote records in Charleston County, that among both Democrats and Republicans, SPVO voters for their party are more likely to roll off of nonpartisan offices and ballot questions than voters casting identical partisan votes but not using the option. Examining patterns of individual roll-off, we find that about half of SPVO voters who roll-off of at least one nonpartisan elected office leave *all* nonpartisan elected offices blank. The fact that approximately 25% of all SPVO voters in Charleston County

leave all nonpartisan elected offices blank suggests that many voters using the straight party option may be unaware that they need to participate in these contests. However, we find that even among voters who vote for some nonpartisan elected offices, straight party option voters are still more likely to roll off of nonpartisan questions than non-SPVO voters. Individuals using the straight party option are inherently more likely to leave nonpartisan questions blank, even if they are aware of the need to participate in these contests.

These findings are confirmed using the Aiken County exit poll. We examine two nonpartisan, contested School Board races taking place in the county. SPVO voters were both more likely to report intentionally abstaining in their vote for School Board as well as more likely to be uncertain about whom they voted for. This relationship holds even when matching SPVO and non-SPVO voters on race, education, partisanship and political knowledge. Education moderates the relationship between usage of the straight party option and individual perceptions of their vote; among SPVO voters, individuals with college education were more likely to report abstaining while individuals without college education were more likely to be unsure about their vote. Taken with the cast vote records, these findings show that usage of the straight party option both creates confusion among some individuals about their vote while leading others to be more likely to intentionally engage in nonpartisan roll-off.

In understanding why the straight party option leads voters to be more likely to intentionally roll-off, we synthesize research on the effects of ballot design on voter behavior with research on survey methodology. The straight party option leads some individuals to "satisfice" in their vote for nonpartisan offices and ballot questions. Voters using the straight party option have a lower threshhold for rolling off of nonpartisan questions than individuals working their way through the ballot "manually". The theory of satisficing suggests that factors which increase difficulty of answering nonpartisan questions or decrease respondent motivation to do so should increase the effect of the straight party option on nonpartisan roll-off.

We confirm these predictions by using cast vote records to show that the effect of the straight party option on rolling off a nonpartisan ballot referendum is moderated by the

number of questions appearing before the referendum; the greater the number of nonpartisan questions the respondent must complete before getting to the referendum, the stronger the effect of the straight party option on motivating roll-off. This suggests that as voters become fatigued while completing nonpartisan questions, individuals who used the straight party option are especially prone to roll off of the final question.

We also compare cast vote records for 17 similar contested nonpartisan School Board races across the state and show that the amount of spending in each race moderated the effect of the straight party option, confirming previous results (Bonneau and Loepp, 2014) at the individual level. As spending in the School Board races increased, roll-off in the contests went down. It decreased most dramatically among individuals using the straight party option.

Overall, the results show that the straight party option confuses some voters. However, even among individuals who understand the necessity to vote in these races, using the SPVO lowers motivation to participate and exacerbates the effect of low information or voter fatigue in persuading voters to leave these questions blank.

2. Background and Theory

The straight party voting option remains a relic of the era of party machines before the advent of the secret ballot (Rusk, 1970). While a large number of states have used the straight party option on their ballot at some point since the advent of secret voting, there has been a steady decline in its prevalence in recent decades, reaching a low of nine in 2019, with Pennsylvania and Texas to discontinue the ballot option starting in 2020. By marking the ballot for all candidates of a particular political party, the straight party voting option changes the process of casting a vote. Scholars have primarily examined the effect of the SPVO in ticket splitting, but a number of studies have also explored the relationship of the straight party option to voter abstention, or roll-off, on both partisan and nonpartisan offices and questions on the ballot.

Evidence indicates that roll off in votes for *partisan* offices decreases significantly with the use of the SPVO. While the largest effects are observed down-ballot in state legislative

(Feig, 2007, 2009; Kimball et al., 2002), US House (Herrnson et al., 2012) or partisan judicial (Bonneau and Loepp, 2014; Kritzer, 2016) elections, some evidence has found reduced roll off even in presidential races (Kimball and Kropf, 2006). The effect of the straight party option on reducing partisan roll off appears to be conditioned on race (Feig, 2007, 2009; Kimball et al., 2002) and political information (Herrnson et al., 2012). At the same time, significant evidence exists that roll off in votes for *nonpartisan* offices and ballot questions increases with usage of the straight party option. Roll off is higher in referenda (Feig, 2007, 2009) as well as nonpartisan judicial elections (Bonneau and Loepp, 2014; Kritzer, 2016) under the SPVO rather than without the SPVO.

In understanding why nonpartisan roll off increases with usage of the straight party voting option, there is some disagreement in the literature as to whether the roll off is *intentional* or *unintentional* on the part of voters. Feig (2007, 2009) suggests that the nonpartisan roll off may be unintentional in that voters using the straight party option are unaware that they must still vote in nonpartisan contests and ballot questions. Campbell and Byrne (2009) surveyed voters and found significant confusion among respondents regarding how they believed the straight party option worked. Bonneau and Loepp (2014) suggest confusion as a possibility as well, although they acknowledge that it is impossible to know with their aggregate data. Bonneau and Loepp (2014) find evidence that the effect of the SPVO on roll off in nonpartisan judicial races is conditioned on political information. While roll off in nonpartisan judicial elections is higher where the SPVO is present, high levels of spending by campaigns offset this effect. This suggests that the failure of SPVO voters to participate in nonpartisan contests is not purely due to failure to understand the voting process. Herrnson et al. (2012), the only study to date exploring this question that does not rely on ecological inference, also suggests that the nonpartisan roll off observed with the SPVO is intentional. However the latter study's sample size is small and its results approach conventional statistical significance in rejecting the null hypothesis that there is no voter error.

Researchers have long appreciated that ballot design can affect the amount of voter error that occurs (Carey and Carey, 1957; Stiefbold, 1965). The pivotal role of the infamous "butterfly ballot" in affecting the outcome of the 2000 presidential election renewed scholarly attention on questions of ballot design (Kimball and Kropf, 2005; Niemi and Herrnson, 2003; Wand et al., 2001). Notably, Kimball and Kropf (2005) find that increasing complexity of ballot design leads to greater error on the part of voters. Later work confirms this earlier study's findings (Calvo et al., 2009; Carman et al., 2008; Pachón et al., 2017) and also highlights the role of education in moderating the relationship between ballot design and voter error. For example, Carman et al. (2008) theorize that education not only helps voters decide who they will vote for, it gives them the logical skills to navigate the sometimes confusing process of voting. In contrast, voters with lower levels of education may struggle to understand the ballot design, which in turn will lead to error in their cast votes.

While we test for unintentional roll-off due to voter error, prior research on the straight party option also suggests other factors explain the linkage between the SPVO and nonpartisan roll-off. Individuals may purposely roll off of their ballot. We turn to the literature on survey methodology to understand intentional abstention. A growing body of research has shown that voters exhibit similar patterns of response to those taking surveys (Augenblick and Nicholson, 2016; Bowler et al., 1992; Matsusaka, 2016; Pasek et al., 2014). This research equates roll-off with item nonresponse–the failure of a survey taker to answer a survey question. Much of the literature in this area has tied item nonresponse or other patterns of voter behavior to the theory of survey satisficing (Augenblick and Nicholson, 2016; Bowler et al., 1992; Matsusaka, 2016; Pasek et al., 2014). First articulated by Simon (1957) and later adapted to survey methodology by Krosnick (1991), the theory of satisficing is part of a longer-term appreciation among survey methodologists that the willingness of respondents to continue to answer questions and the quality of the responses they give are a function of the "cognitive burden" placed on them by the interview experience. Seemingly minor decisions undertaken by survey designers may substantially alter the cognitive burden placed on respondents and the consequent quality of data that is collected.

The theory of satisficing holds that when individuals are placed under a significant cognitive or information-processing task such as completing a survey, they may choose to only expend the effort necessary to complete a task at a "satisfactory" or minimally acceptable level rather than expend the cognitive effort necessary to complete the task at an optimal level. Survey methodology theorizes that the process of answering a survey question includes four steps (Cannell et al., 1981; Tourangeau and Rasinski, 1988): Respondents must first interpret and understanding what a question is asking. They then must search their memory for relevant information relating to the question and then integrate it into an overall judgment. Finally, respondents must respond to the survey and answer in a way that clearly conveys their opinion. Satisficing occurs when a respondent forgoes one or more of these steps (Krosnick, 1991). According to the theory of satisficing in surveys, the decision to satisfice is guided by three factors: the difficulty of the task confronted, the respondent's ability to perform the required task, and the respondent's motivation to complete the task. Increasing the first leads to an increase in satisficing while increasing the latter two decreases satisficing:

$$p(\text{Satisficing}) = \frac{\alpha_1(\text{Task Difficulty})}{\alpha_2(\text{Ability}) \times \alpha_3(\text{Motivation})} \tag{1}$$

Theories of the psychological process by which voters decide whom to vote for closely mirror the proposed four-step process of choosing to answer a survey question. Political scientists disagree on which pieces of information are most salient in the voting decision of an individual and the amount of information available to the average person. However, virtually all extant theories on the psychological process of political decision making propose that when confronted with the question of whom to vote for, individuals consider the information available to them on the options before reaching a decision and making a selection on their ballot (Lau and Redlawsk, 2006).

In understanding how the straight party option contributes to satisficing behavior, it is useful to consider what the SPVO is and is not in voting for nonpartisan questions and

contests. For the straight party option voter, the process of casting a vote in nonpartisan contests is mechanically exactly the same as the non-straight party option voter. Therefore, from a satisficing perspective, the difficulty of the questions the respondent faces does not change in a significant way by choosing the SPVO. It is possible that the voters who choose the straight party option have a lower level of ability to answer questions. We know very little about who chooses the SPVO when casting a ballot. In the following paper we test whether SPVO and non-SPVO voters matched on a variety of characteristics, including political knowledge, roll-off at the same rate. This possibility is discarded, indicating that usage of the SPVO affects roll-off.

We believe that the decision of SPVO voters to intentionally roll-off of nonpartisan contests at higher levels than non-SPVO voters is due to the lower motivation of straight party voters. There are a number of ways that the motivation of SPVO and non-SPVO voters could differ and pinpointing the exact mechanism is beyond the scope of this paper. It is possible, for example, that voters with lower motivation to complete nonpartisan questions and contests select into choosing the SPVO, perhaps because they are in a hurry and wish to expedite the voting process. Another, well-confirmed finding in survey research is that when a substantial gap exists between the respondent's *expected* burden taking a survey and their *actual* burden, respondents will engage in satisficing. Individuals who are led to believe a survey will be shorter than it actually is are more likely to discontinue or satisfice (Boltz, 1993; Crawford et al., 2001; Yan et al., 2011). Respondents whose progress leads them to believe they are approaching the end of the survey and whose progress then slows behave in a similar manner (Amer and Johnson, 2016; Conrad et al., 2010; Matzat et al., 2009). The straight party option completes most of the ballot for the voter with one click. Thus the voter may believe that most of their cognitive work is done. This perception is only reinforced given that partisan questions usually precede nonpartisan questions on the ballot. Thus, a voter may click through most of the ballot with answers completed before encountering difficult nonpartisan questions. This may lead the individual to engage in satisficing.

3. Data

The key difference from previous studies making the analysis in this paper possible is the usage of detailed individual-level data on voter behavior. With the exception of Herrnson et al. (2012), studies of nonpartisan voter roll-off related to usage of the SPVO have relied on aggregate election returns. Other studies into the relationship between usage of the straight party option and nonpartisan roll-off have either correlated the proportion of a precinct voting straight party with the precinct undervote (Feig, 2007, 2009) or compared roll-off in states that do and do not use the SPVO (Bonneau and Loepp, 2014; Kritzer, 2016). While sophisticated methods exist for such ecological inference, the fact remains that we are studying an individual-level behavior at an aggregate level. Such analysis requires modeling and assumptions about the relationship between these two levels of analysis. Aggregate analysis also robs us of the opportunity to examine how individual voter characteristics influence the relationship between SPVO usage and nonpartisan roll-off. This information is easiest to determine via individual-level data.

We use two individual-level data sources in this paper to examine the relationship between SPVO usage and nonpartisan roll-off. The first is an exit poll conducted of Aiken County, South Carolina by the University of South Carolina Aiken Social Sciences and Business Research Lab during the 2018 general election. The overall poll uses a combination of cluster sampling of precincts and systematic sampling of survey respondents to collect questionnaires. The sampled precincts were selected based on partisanship, size, and demographics to create representative samples of Aiken County as well as two State House districts and two School Board districts. Questions include the basic demographic and attitudinal questions, voter knowledge questions and questions about vote choice, including roll-off. Respondents were also asked whether or not they used the straight party option. The portion of the sample comprising Aiken County School Board Districts 3 and 6 is used here. Both of these nonpartisan School Board districts were competitive in 2018. The District 3 race featured

two candidates and a strong challenge to a long-serving incumbent who ultimately lost re-election. District 6 was an open-seat race contested by two candidates. The combined sample size for the School Board districts is 312 completed surveys.

We also make use of cast vote records from the state of South Carolina's 2018 general election. Statewide in this election, South Carolina used electronic voting machines (i.e. DRE or direct-recording electronic) whereby voters cast their ballots with a touchscreen interface. Elections are concerned with aggregate totals for precincts and these totals are usually reported. However, the actual combination of vote choices made by an individual voter (i.e. what they recorded for each question on the ballot) is grouped together and stored in the machine. As part of its elections audit process, South Carolina makes these data publicly available. Cast vote records therefore offer a number of attractive features for studying individual voter behavior (Kuriwaki, 2019). Because we can see, for example, whether the voters choosing the straight party option are indeed the same voters that engage in nonpartisan roll-off, cast vote records allow us to forego ecological inference. Cast vote records measure all votes on the ballot comprehensively and without error, in contrast to a survey. They also feature data on all voters rather than just a sample. Even large surveys such as a Cooperative Congressional Election Studies may only contain a few hundred voters in each congressional districts. The large number of records allow us to observe finer trends within these data.

It is important to acknowledge in this study that the decision to use the straight party option is not randomly assigned to voters. This is a conscious choice that individuals make. Therefore, a straightforward comparison of SPVO and non-SPVO voters risks a spurious relationship. Voters may choose the straight party option because of personal characteristics such as level of political knowledge or education that are also correlated with propensity to engage in nonpartisan roll-off. Therefore, in much of the below analysis of cast vote records and exit poll data, we use matching methods. These procedures are detailed below.

4. Examining Patterns of Roll-Off

We first use cast vote records to test patterns of roll-off among Democrats and Republicans from Charleston County, South Carolina. Patterns that cast vote records reveal can show whether individuals are aware of the need to vote for nonpartisan offices after using the straight party option and the number who do so. Voters who vote for some nonpartisan elected offices are clearly aware of the need to vote in these races, even if they leave others blank. On the other hand, voters rolling off of *all* nonpartisan elected offices may either be confused about the need to participate in these contests or simply have a lower motivation to do so. Thus, while cast vote records cannot necessarily distinguish between intentional and unintentional roll-off, they can clearly identify some voters who know they need to participate in nonpartisan races, marking these individuals by their participation in some nonpartisan elected offices.

Using the cast vote records from Charleston County, we first compare straight party option voters to non-straight party option voters on roll-off for four countywide nonpartisan offices, as well as the number of voters who rolled off of *all* nonpartisan elected offices. We also compare SPVO and non-SPVO voters in likelihood to roll of of all nonpartisan questions (i.e. all nonpartisan elected offices and referenda). In Charleston County in 2018, the number of nonpartisan elected offices on the ballot varied between five and eight and every ballot in the county ended with a nonpartisan constitutional amendment proposal.

Because selection of the straight party option is not random among voters, we match individuals who use and do not use the SPVO on ballot type and precinct exactly. The matching weights are used to calculate the percentages in this section. To further the purposes of comparison between SPVO and non-SPVO voters, we compare voters who cast the same partisan ballots–a vote for all Democrats or all Republicans running for statewide offices. The only measurable difference between the groups is that the SPVO group cast their votes using the option, while the non-SPVO group cast these same vote choices "manually".

The results for Democrats and Republicans appear in Figure 1. The complete nonpartisan breakoff measure is the percentage of SPVO and non-SPVO voters who failed to complete *any*

nonpartisan questions, including a ballot referendum. The elected office breakoff measures the percentage of voters who failed to vote for any nonpartisan elected office (thus excluding the referendum).

[Figure 1 about here.]

In every instance, both nonpartisan roll-off and breakoff is greater among voters using the straight party option than non-SPVO voters. Relatively few voters of any type left *all* nonpartisan questions blank (i.e. complete nonpartisan breakoff) but the significant disparity between complete nonpartisan breakoff and elected office breakoff shows that many voters left all nonpartisan elected offices blank while still voting in the referendum. Examining roll-off for the four countywide nonpartisan elected offices, a significant amount of the roll-off for these offices was due to elected office breakoff among SPVO voters. In other words, many of the SPVO voters who abstained in voting for these four countywide contests left all nonpartisan elected offices on the ballot blank as well.

While a significant amount of the roll-off for nonpartisan countywide elected offices was due to voters leaving all nonpartisan elected offices blank, many voters rolled off of those offices while still voting for other nonpartisan contests and offices. This indicates that many voters were aware of the need to vote for nonpartisan elected offices, yet specifically abstained in one or more contests. Among these voters, SPVO individuals were still more likely to abstain than non-SPVO voters. Figure 2 examines roll-off for the four countywide nonpartisan elected offices in the Charleston County among voters who cast a vote for at least one nonpartisan elected office.

[Figure 2 about here.]

Among just voters who cast a ballot for at least one nonpartisan elected office, straight party option voters are still more likely to roll-off than non-straight party option voters. These voters made the choice to participate in at least one nonpartisan race, indicating that they are aware of the need to participate in such contests. The fact that among this group, voters using the straight party option are still more likely to roll-off on nonpartisan elected

offices suggests that SPVO voters are more prone to nonpartisan roll-off for reasons that do not have purely to do with confusion or ignorance of the need to vote in these contests.

As a final measure of the proportion of voters who voted using the straight party option and why they rolled off, we categorized Democratic and Republican cast vote records for the 2018 Charleston County general election into four groups. We categorized ballots as:

(1) voting for all nonpartisan elected offices

(2) complete nonpartisan elected office roll-off

(3) voting for some nonpartisan elected offices but breaking off midway through and leaving the final two or more nonpartisan elected offices blank

(4) voting throughout on the nonpartisan elected offices but abstaining for some such contests

Table 1 shows the breakdown in percentages among these four categories for straight vote Democrats and Republicans by usage of the straight party option. Among both Democrats and Republicans, SPVO voters were less likely to cast a vote for all nonpartisan elected offices and much more likely to leave all nonpartisan elected offices blank. Among voters who completed some of the nonpartisan elected offices on the ballot, SPVO voters were also more likely to abstain from voting for some nonpartisan elected offices and about equally likely to break-off on the nonpartisan elected section compared to non-SPVO voters.

[Table 1 about here.]

5. Voter Perceptions of their Vote for Nonpartisan Elected Offices

Cast vote records confirm that voters using the straight party option are more likely to engage in roll-off for nonpartisan elected offices. However, they also show that multiple patterns of roll-off exist with nonpartisan elected offices. SPVO voters are both more likely to leave all nonpartisan offices blank as well as more likely to abstain from some of these offices while voting for others. This indicates there may be more than one source of the linkage between straight party option voters and nonpartisan roll-off. However, because cast vote records are de-identified, we cannot be sure.

To examine how voters themselves perceive their vote for nonpartisan elected offices, we use an exit poll conducted of two contested nonpartisan School Board races in Aiken County South Carolina. Data collected in both districts measured whether voters indicated that they used the SPVO, their perception of the vote for School Board and characteristics such as race, gender, age, education, and party identification. Voters in the districts were also asked three questions that measured their knowledge of the School Board race: they were asked to identify photos of the two candidates competing in their district, as well as a factual question about School Board budgets. Voters were asked which of the candidates they voted for in the race. They were also given an option to report that they didn't know or that they did not vote in that race.

The results from cast vote records in the preceding section suggest that some voters using the SPVO misunderstand the necessity to cast votes for nonpartisan offices when reviewing the ballot. A significant proportion of Charleston voters using the straight party option left all nonpartisan elected offices blank. With cast vote records, we do not know if these individuals are unaware that they left these offices blank or made a conscious decision to abstain from voting in all nonpartisan elected offices. We use the exit poll data to examine whether voters cast a ballot for a School Board candidate, whether they did not know who they voted for or whether they were aware that they abstained. While we are unable to match these exit poll responses to actual cast vote records at the individual level, we compare aggregate responses for School Board Districts 3 and 6 to cast vote records in Table 2.

[Table 2 about here.]

Among exit poll respondents, a significant number of voters reported being unsure of whom they voted for. As expected, this proportion was higher among individuals using the straight party option, confirming research that users of this ballot feature may be unsure of its limits and scope (Campbell and Byrne, 2009). While we don't know whether individuals unsure about their vote actually voted for School Board, comparison of the breakdown of exit poll respondents to cast vote records for Districts 3 and 6 suggests that many individuals

who are unsure about who they voted for may have in fact rolled off of this question. At the same time, a significant number of voters also reported rolling off of the School Board race and this proportion was also higher among straight party voters. Individuals aware that they abstained in this race suggests that the decision to do so was intentional for at least some voters.

It is possible that the relationship between using the straight party option and School Board roll-off and uncertainty is a spurious one. We test for this possibility by matching SPVO and non-SPVO voters in the two districts. Voters are exactly matched on race (African-American or not), whether they have some college education or not, whether they are a strong partisan or not and whether or not they answered two or more of the School Board knowledge questions correctly. Together, these four dichotomous variables created 16 strata. The coarsened exact matching algorithm (Iacus et al., 2009) was used to exactly match and weight voters on these strata. 13 of the 16 strata were matched comprising approximately 95% of the sample. Table 3 crosstabulates the usage of the SPVO with reported School Board vote using the matching weights. Matching voters by covariates such as political knowledge and education does not significantly reduce the effect of using the SPVO on voter roll-off and confusion. The straight party option itself, rather than the personal characteristics which lead voters to choose it, affects both voter roll-off and uncertainty.

[Table 3 about here.]

Previous research finds that the effect of ballot features on voter error is moderated by an individual's education (Calvo et al., 2009; Carman et al., 2008; Pachón et al., 2017). Voters who have formal education are better able to navigate the difficulties of potentially confusing ballot design to correctly cast a vote. One way to determine whether the straight party option causes voter error is therefore to examine how college education moderates the effect of the SPVO on reported roll-off and uncertainty.

Using the matched sample of exit poll voters, we estimate a multinomial logistic regression model to predict School Board vote choice among exit poll respondents. Our primary predictors of interest are education, usage of the straight party option and their interaction.

We also control for race, strong partisanship and School Board knowledge. Predicted probabilities and confidence intervals while holding covariates at their observed values are shown in Figure 3.

[Figure 3 about here.]

[Table 4 about here.]

The probability of reporting voting in the School Board race by college educated and non-college educated voters who use the straight party option is similar. However, this similarity masks differences between the education groups in reporting of roll-off and uncertainty about vote. Among these SPVO voters, individuals with college education are more likely to report being certain that they did not vote in the School Board contest than uncertain about the circumstances of their ballot. In contrast, individuals without college education are more likely to report being uncertain about their vote rather than sure that they rolled off.

These results suggest that like many ballot design features, the straight party option serves to generate voter error and confusion, especially among individuals with lower levels of education. However, the fact that it also leads SPVO voters to be more likely to abstain–intentionally–than non-SPVO voters indicates that usage of the straight party option also leads to roll-off by mechanisms other than voter error.

6. Evaluating the SPVO Effect as Satisficing

Previous research, as well as the preceding results in this paper, suggest that while the SPVO may play a role in leading to voter error, it also leads individuals to intentionally leave nonpartisan questions blank. For example, Bonneau and Loepp (2014) find that the effect of the straight party option on nonpartisan judicial election roll-off is moderated by campaign spending in the judicial election. While states with the straight party option see more roll-off on nonpartisan judicial elections than states without the option, the gap btween the two decreases with campaign spending in the election. This responsiveness to campaigns does not accord with an explanation based purely on voter error. The results in the preceding

sections of this paper also suggest that individuals using the straight party option are more likely to *intentionally* roll off of nonpartisan questions than non-SPVO voters.

We evaluate the theory of satisficing as an explanation for intentional nonpartisan roll-off with the straight party option. The theory suggests that the factors contributing to item nonresponse (i.e. roll-off) are multiplicative rather than additive in their effect. In other words, the effect of the straight party option should be dependent on the effect of other characteristics that affect nonpartisan roll-off. Because we theorize that the SPVO decreases motivation to complete nonpartisan questions, features of questions and offices that lead to greater nonpartisan roll-off should affect SPVO voters particularly strongly. We test this theory by examining the effect of ballot length on roll-off for a constitutional amendment and follow Bonneau and Loepp (2014) in examining the effect of campaign spending on roll-off for School Board races throughout South Carolina.

6.1. **Ballot Length and Referendum Roll-Off.** It is a well-established finding in the literature on survey methodology that respondent motivation to answer survey questions decreases with the length of the questionnaire (Heberlein and Baumgartner, 1978; Yammarino et al., 1991). The more questions a respondent must answer, the lower their motivation to continue and the greater their probability of engaging in satisficing behavior. In evaluating satisficing during voting, we should therefore see roll-off increase with the length of the ballot. However, a simple comparison of questions appearing earlier on the ballot with those appearing near the end risks confounding. Questions appearing early in the ballot tend to be for partisan office and are usually more prominent and familiar to voters compared to questions near ballot's end. Early questions on most ballots are thus inherently more likely to be completed by the voter irrespective of their place in the order of completion.

However, during the 2018 general election in South Carolina, a constitutional amendment question was placed on every ballot in the state. The question proposed changing the State Superintendent of Education position from an elected one to an appointment made by the Governor. The measure was defeated but its place on the ballot was notable: on nearly every single ballot in the state, the constitutional amendment question appeared last. Using cast

vote records, it is thus easy to determine how many questions appeared on the ballot prior to the amendment proposal. Because different ballots, even within a county or precinct, had a variable number of offices and referenda depending on the districts the voter was located in, the constitutional amendment proposal presents us with a quasi-experiment to examine how the number of questions before an item on a ballot affects roll-off in vote for that item.

In keeping with the findings from survey methodology, we expect that roll-off will increase on the constitutional amendment with the number of questions preceding it on the ballot as the voter's motivation to complete the questions lessens and the probability of satisficing increases. Further, we predict that this effect will be more pronounced among SPVO voters compared to those not using the straight party option as the former will begin with a lower motivation to complete the question. Thus, the effect of voting straight party on constitutional amendment roll-off will be larger on long ballots compared to short ones.

However, ballot length is not randomly assigned. It is therefore necessary to once again match SPVO and non-SPVO voters. Because cast vote records are de-identified from any personal information, we match ballots on aggregate precinct characteristics. We also make the decision to only compare different numbers of *nonpartisan* questions on the ballot. We expect that nonpartisan questions will have the greatest effect on satisficing by both SPVO and non-SPVO voters given that partisan questions are already essentially completed by selection of the straight party option. In Charleston County, there is also very little variation in the number of partisan questions throughout the county compared to variation in nonpartisan questions over the county.

The analysis was conducted for Democrats and Republicans in Charleston County. We conduct a logistic regression modeling the decision to roll off of the constitutional amendment as a function of the proportion of the precinct that was African-American, the proportion over 65, the number of individuals voting in the precinct in person, the proportion of the precinct's voters voting for all Democrats for statewide office, the proportion of the precinct voting all Republican for statewide office, usage of the Democratic (Republican) straight party option for the analysis of Democrats (Republicans), the number of nonpartisan questions on the

voter's ballot, and an interaction term of the latter two variables. The matching weights are used. Table 5 shows the estimates for the Democratic and Republican models. Figure 4 shows the predicted probability of roll-off for the constitutional amendment as a function of the usage of the SPVO and number of nonpartisan questions on the ballot.

[Table 5 about here.]

[Figure 4 about here.]

As predicted, the number of nonpartisan questions on the ballot is positively associated with roll-off on the last question. Also, as predicted, usage of the SPVO among both Democrats and Republicans is associated with significantly higher levels of roll-off on the ballot question. However, there is a notable interaction of these two factors. The number of nonpartisan questions on the ballot modestly affects roll-off among straight vote Democrats and Republicans who do not use the SPVO. It much more significantly affects roll-off among straight vote Democrats and Republicans using their party's SPVO.

6.2. **Campaign Spending and School Board Roll-Off.** The theory of satisficing also predicts that roll-off on ballot questions and elected offices will take place with greater frequency as voters' ability to answer the questions decreases. Wattenberg et al. (2000) find that voters who lack the requisite information to choose a candidate often leave that question blank on a ballot. The effect of the straight party option on nonpartisan roll-off should therefore be moderated by the ability of voters to answer these questions. While an individual using the straight party option will probably always be more likely to roll off of nonpartisan questions than a comparable voter not using the straight party option, the difference between SPVO and non-SPVO voters should increase as the voter's ability to answer the question decreases. Put another way, supplying information about the nonpartisan elected offices to voters may help mitigate the increased roll-off from using the straight party option.

Bonneau and Loepp (2014) test just this hypothesis. Their unit of analysis is nonpartisan judicial elections and their dependent variable is the amount of roll-off observed in these races. They find that while nonpartisan judicial elections in states with the SPVO experience higher levels of roll-off, the effect of the SPVO interacts with total spending in the judicial

election. As spending increases (and presumably voters have more information about the contest), the difference in roll-off between SPVO and non-SPVO elections decreases.

As a final test of intentional voter roll-off due to satisficing, we conduct a similar analysis using individual cast vote records from nonpartisan School Board races across South Carolina in 2018. For the sake of comparison, we examine cast vote records in every single nonpartisan School Board race taking place in South Carolina in a single-member district with three competing candidates. This led to a total of 17 such races in the state. Our unit of analysis is the individual voter in each of the 17 School Board races. We analyze Democrats and Republicans separately. Here, an individual is included as a Democrat or Republican based purely on their vote for governor. Our independent variables of interest are whether the voters used the SPVO for their party as well as the total amount of spending by all candidates in the School Board race and an interaction term between the two. We control for the total number of voters participating in the race, the proportion of the race's voters voting for Democrat for governor and whether there was an incumbent running in the School Board race. Our dependent variable is a dichotomous measure of whether the individual rolled off of the School Board race. We use a logit model with robust standard errors clustered at the level of the School Board race to take into account within-race correlation in error.

Table 6 shows the estimates from the models and Figure 5 plots the predicted probability of rolling off for School Board race as a function of total campaign spending and usage of the straight party option among Democrats and Republicans. The results confirm the analysis by Bonneau and Loepp (2014) for nonpartisan judicial elections as well as the theory of satisficing. Campaign spending reduces roll-off in nonpartisan School Board races across South Carolina while usage of the SPVO increases roll-off. However, the effect of the SPVO diminishes with increased campaign spending. The fact that the SPVO's effect on School Board roll-off is diminished by increased campaign spending in the race strongly suggests that the roll-off is intentional rather than due to voter error, which would be random and unresponsive to information about the School Board race.

[Figure 5 about here.]

[Table 6 about here.]

7. Conclusion

Our work here confirms the importance of seemingly minor ballot design features in influencing how voters behave. While we are not the first individuals the observe the relationship between the straight party voting option and nonpartisan roll-off, we have made a number of methodological and theoretical advances that give us a better sense of why individuals who use the straight party option are especially prone to leave nonpartisan offices blank. Our usage of individual-level cast vote records marks us as the first study to observe the relationship with valdiated voting data at the level of the person. We are also able to leverage this individual-level analysis to discern patterns of nonpartisan roll-off that would not be possible to detect with aggregate data. We find that approximately half of straight party option voters who roll off of at least one nonpartisan elected office leave *all* elected offices blank. At the same time, even SPVO voters who do not leave all nonpartisan offices blank are more prone to roll off of individual nonpartisan offices on the ballot. These patterns suggest that while some SPVO individuals may roll-off from the nonpartisan elected offices in error, the usage of the straight party option also leads voters to be more likely to intentionally abstain.

Exit poll data confirm that greater numbers of SPVO voters are confused about their vote for nonpartisan offices as well as intentionally abstain compared to non-SPVO voters. Confirming prior research in the literature suggesting that confusion over ballot design is moderated by education, exit poll results show that the effect of the straight party option is moderated by college education. Individuals voting using the SPVO who have at least some college education are more likely to report intentionally abstaining than being confused while individuals with no college education are more likely to be confused about their vote compared to intentionally rolling off.

We utilize the theory of survey satisficing to explain the intentional roll-off for nonpartisan elected office, following much of the previous research on ballot design effects. Because satisficing is not voter error but instead an intentional act, we test two ways that nonpartisan

roll-off should vary by ballot characteristics. We find systematic, rather than random patterns of roll-off, suggesting that the SPVO leads individuals to intentionally abstain rather than accidentally do so. We first find that the effect of the straight party option varies by the number of questions a voter must complete on the ballot before a referendum. As the number of nonpartisan questions increases, SPVO voters are more likely to roll-off relative to non-SPVO voters. We also find a similar effect regarding campaign spending; spending by candidates on School Board elections partially offsets the effect of the straight party option on roll-off in these contests. Both examples suggest that individuals using the straight party option have a lower threshhold for roll-off and are more strongly affected by factors which increase or decrease its prevalance.

We leave open future avenues of research. While survey methodology suggests some possible reasons why SPVO voters have a lower threshhold for rolling off compared to non-SPVO voters, such as a divergence between voter expectations and reality regarding effort, or voter impatience, the present study does not allow us to distinguish among these explanations.

Overall, we suggest that the straight party option serves as another example of the role electoral institutions play in shaping human behavior. The fact that voters of differing education levels may respond differently to these institutions raises normative concerns about representation. If the straight party option prompts roll-off (intentional and unintentional) among some voters but not others, it may well play a role in distorting representation.

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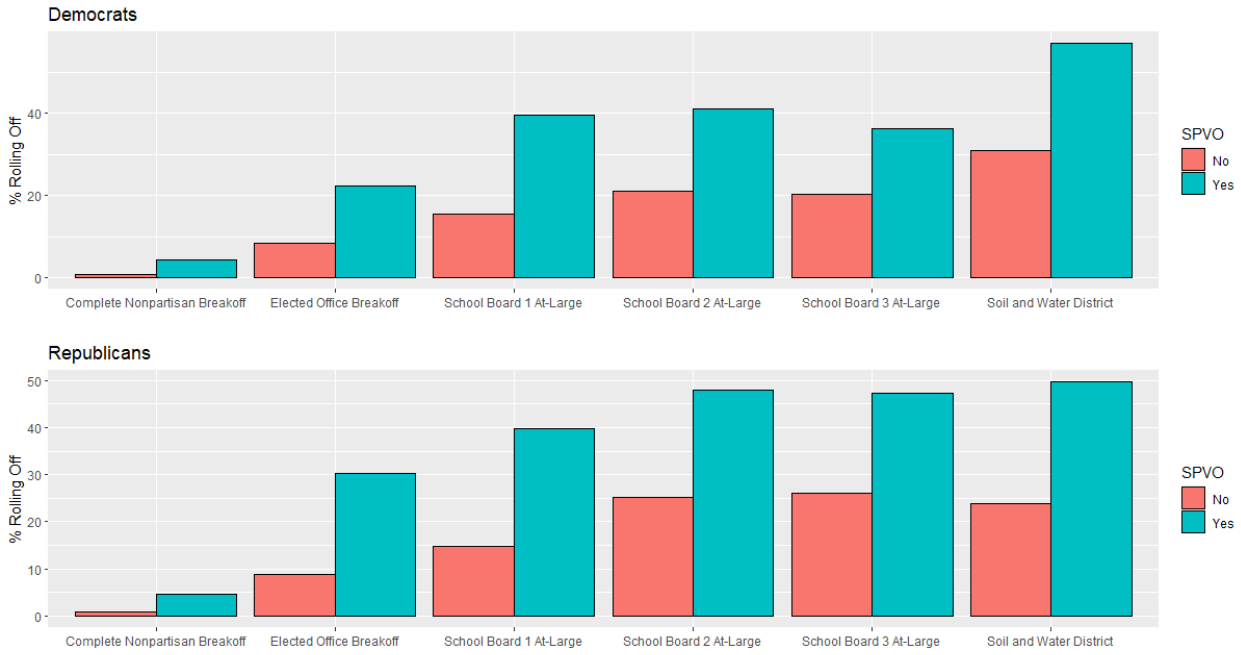

FIGURE 1. Nonpartisan Roll-Off and Breakoff in Charleston County

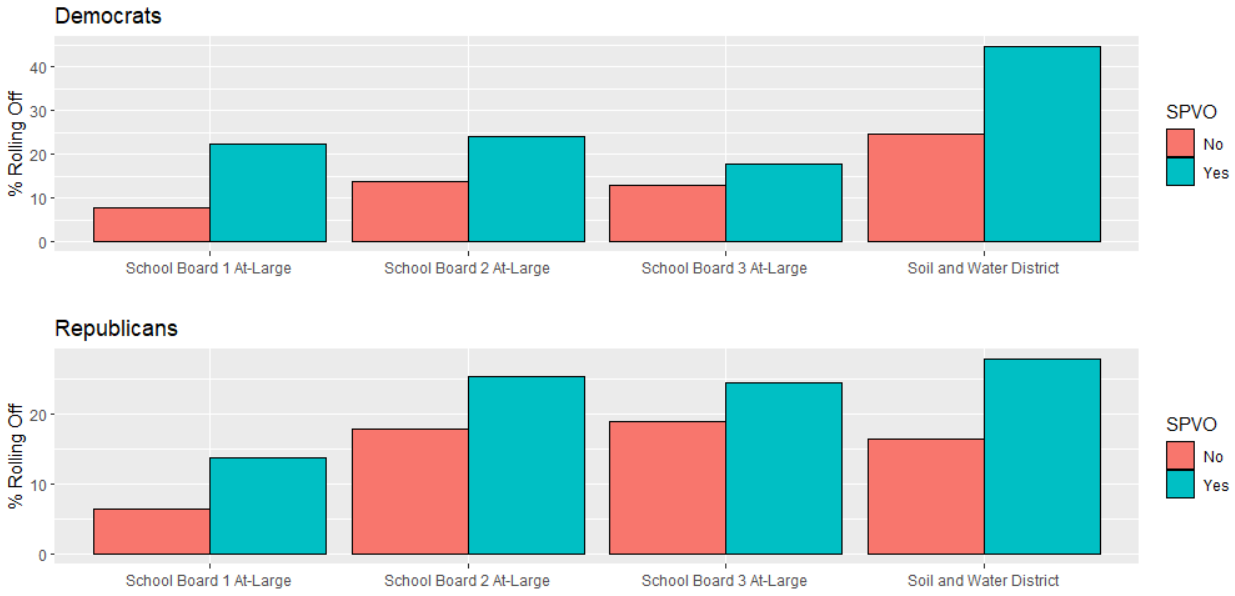

FIGURE 2. Nonpartisan Roll-Off Among Those Voting for at Least One Nonpartisan Office in Charleston County

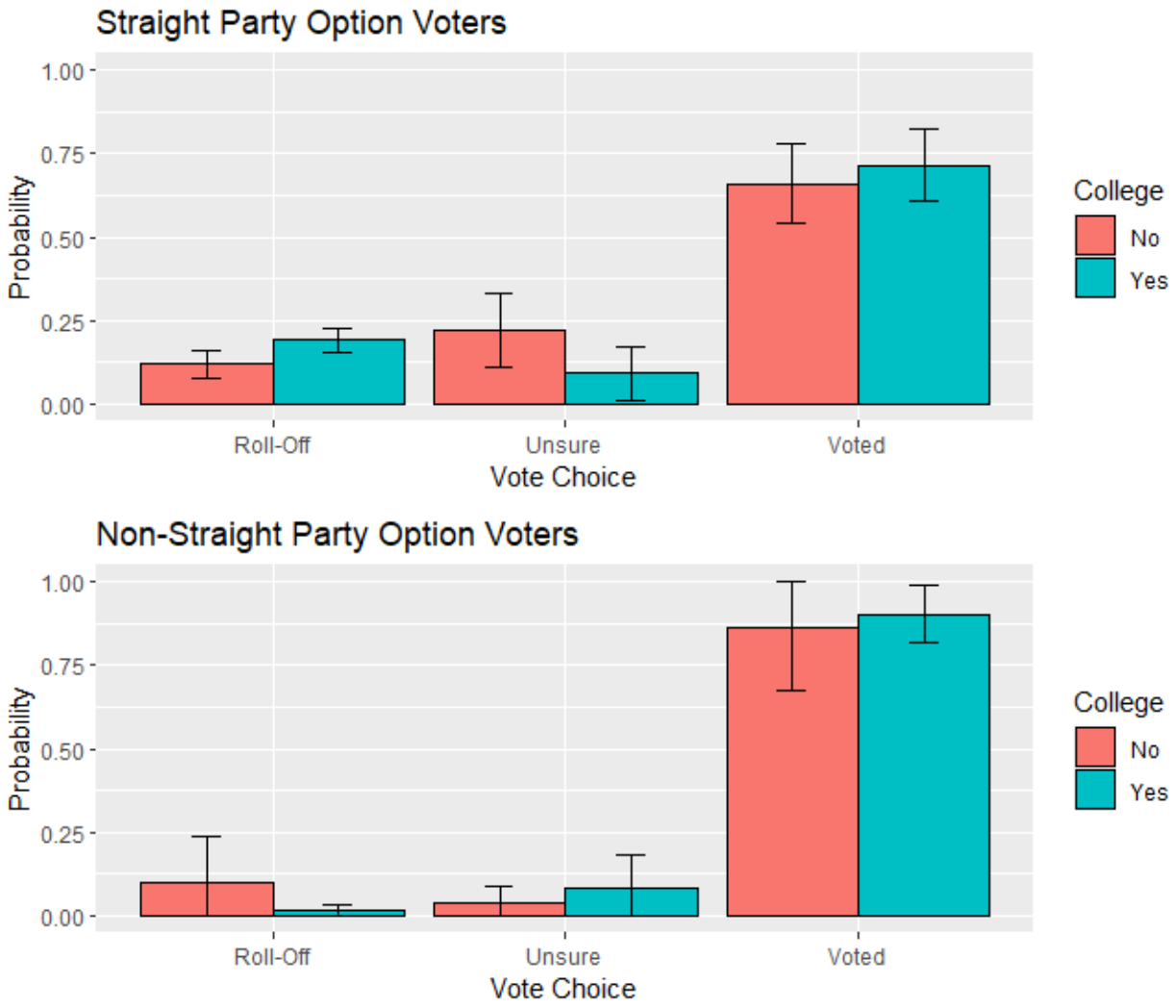

FIGURE 3. Perceived School Board Voting in Aiken County, South Carolina

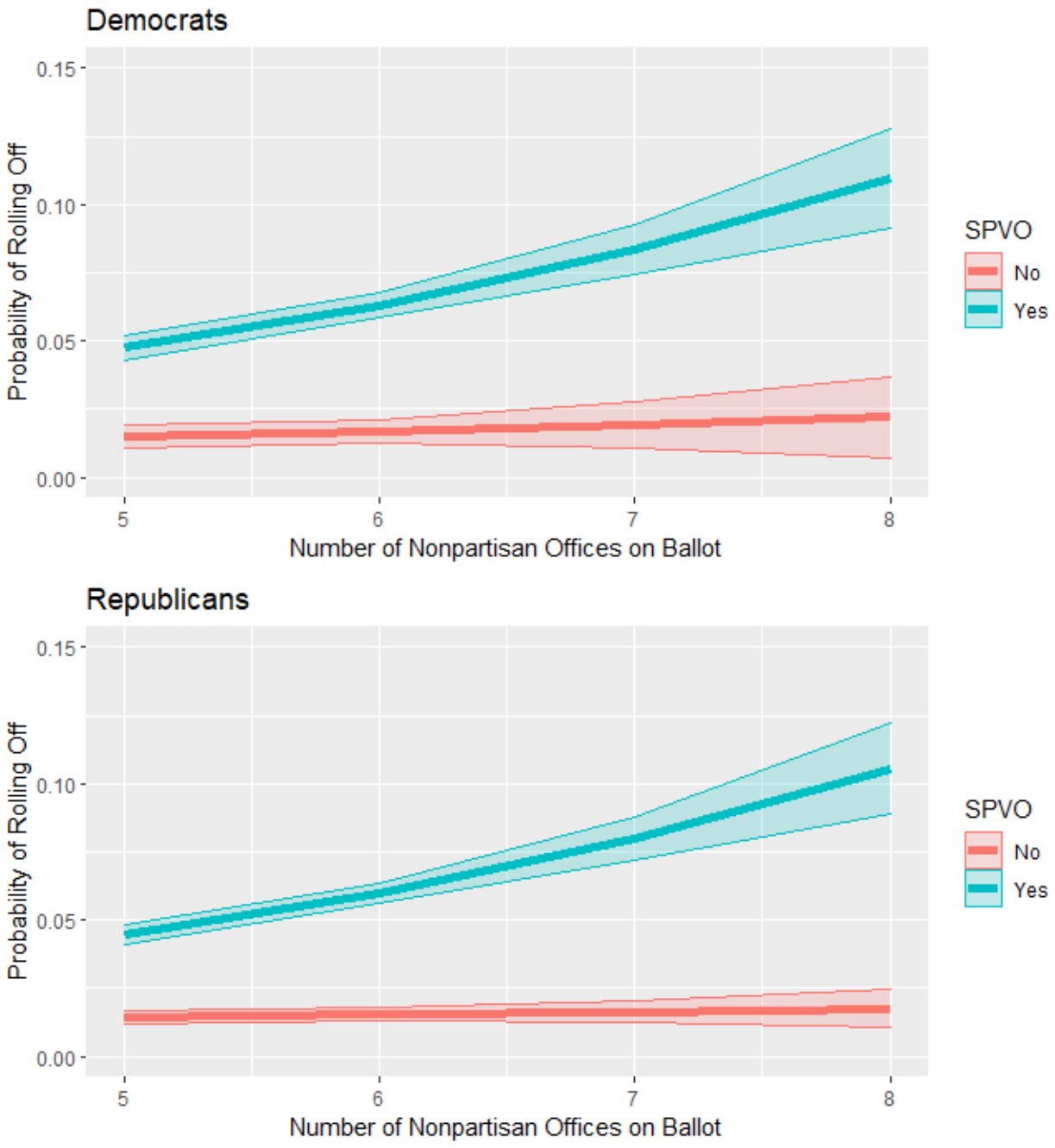

FIGURE 4. Probability of Constitutional Amendment Roll-Off in Charleston County

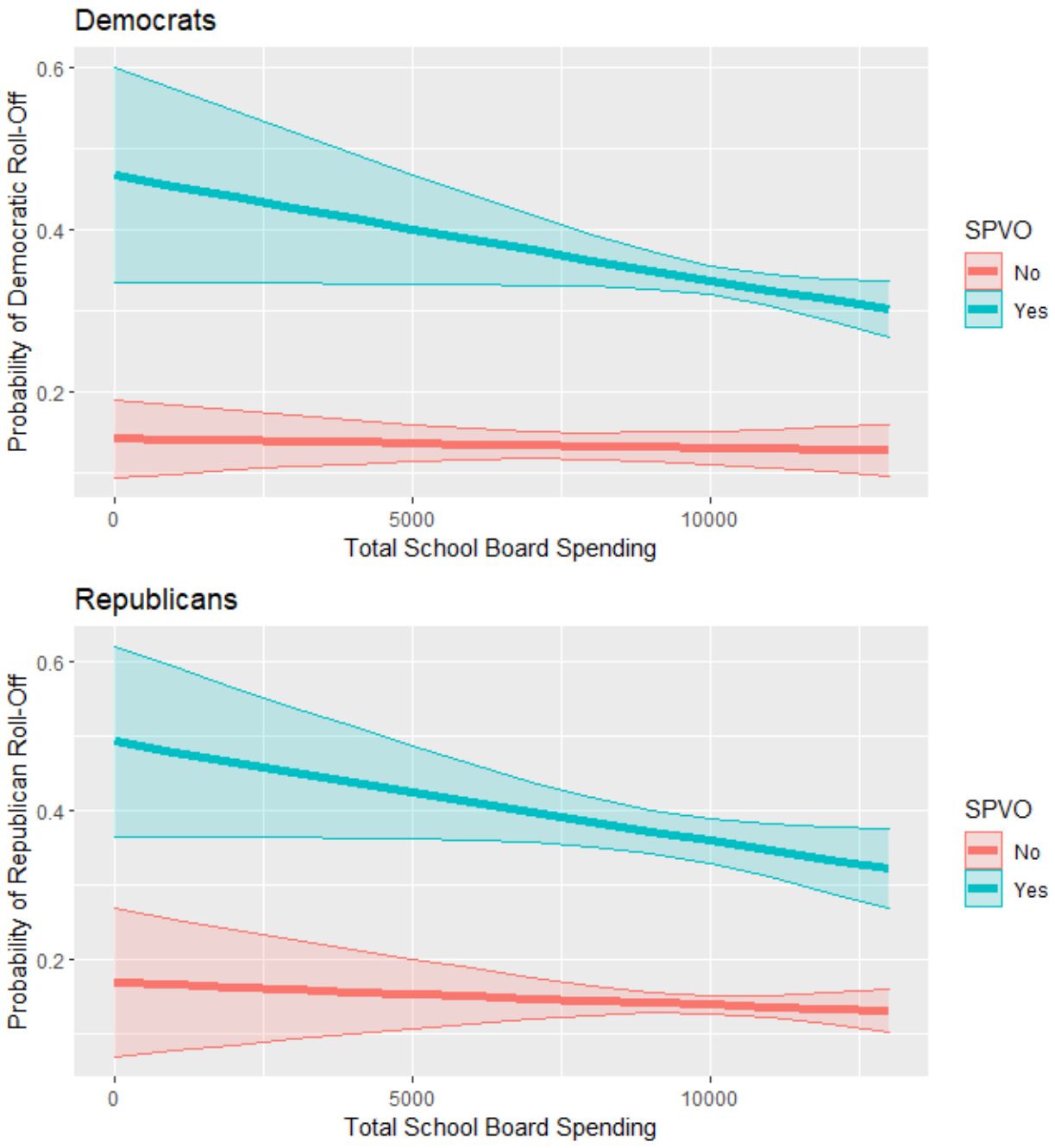

FIGURE 5. Probability of School Board Roll-Off in South Carolina, 2018

	Democrats		Republicans	
	Non-SPVO	SPVO	Non-SPVO	SPVO
Voted for All	58.74	36.05	59.79	38.77
Rolled Off All	8.30	22.38	8.87	30.29
Break-off	11.22	12.31	15.33	13.73
Some Roll-Off	21.73	29.25	16.01	17.21

TABLE 1. Patterns of Nonpartisan Elected Office Roll-Off in Charleston Cast Vote Records

	Cast Vote Records		Exit Poll Responses	
	Non-SPVO	SPVO	Non-SPVO	SPVO
School Board District 3				
Voted for Candidate	92.48	70.93	88.37	71.96
Roll-Off	7.52	29.07	2.33	16.82
Unsure who Voted for	-	-	9.30	11.21
School Board District 6				
Voted for Candidate	88.54	60.51	88.73	67.03
Roll-Off	11.46	39.49	5.63	16.48
Unsure who Voted for	-	-	5.63	16.48

TABLE 2. Patterns of School Board Voting in Aiken County, South Carolina

	District 3		District 6	
	Non-SPVO	SPVO	Non-SPVO	SPVO
Voted for Candidate	87.07	71.88	90.06	67.06
Roll-Off	2.58	16.67	6.58	16.47
Unsure who Voted for	10.35	11.46	3.36	16.47

TABLE 3. Patterns of School Board Voting in Aiken County, South Carolina, Matched Sample

	School Board	
	Unsure Who Voted For	Did Not Vote
Straight Party Voting Option	0.523	0.781
	(0.593)	(0.424)
Some College Education	-2.665^{***}	-1.427
	(0.252)	(0.760)
Interaction Term	2.676^{*}	2.620^{***}
	(1.181)	(0.462)
Political Knowledge	-1.814^{*}	-1.069
	(0.738)	(0.574)
Strong Partisan	-0.291	-0.203
	(0.516)	(0.422)
African-American	0.105	-0.228
	(0.537)	(0.853)
School Board District 3	0.189	0.024
	(0.682)	(0.503)
(Constant)	-1.750	-2.221^{**}
	(0.950)	(0.824)
Log Likelihood	-183.07	
Num. obs.	295	

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

TABLE 4. Perceived School Board Voting in Aiken County, South Carolina

	Democrats	Republicans
Straight Party Voting Option	−0.209	−0.029
	(0.572)	(0.514)
Number of Nonpartisan Offices	0.046	0.080
	(0.095)	(0.083)
Interaction Term	0.279**	0.232**
	(0.096)	(0.462)
Proportion African-American	0.675	−1.069
	(0.391)	(0.088)
Proportion Aged 65+	1.148***	0.405
	(0.298)	(0.273)
Number of Voters	−0.001	−0.001
	(0.001)	(0.001)
Proportion Straight Democratic	−0.776	1.631
	(1.082)	(1.137)
Proportion Straight Republican	−0.924	0.463
	(0.825)	(0.881)
(Constant)	−4.261***	−5.227***
	(0.820)	(0.746)
Log Likelihood	−9701.04	−8023.511
Num. obs.	42661	40626

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

TABLE 5. Perceived School Board Voting in Aiken County, South Carolina

	Democrats	Republicans
Straight Party Voting Option	1.689^{***}	1.631^{***}
	(0.176)	(0.995)
Total School Board Spending/1000	−0.009	−0.023
	(0.024)	(0.038)
Interaction Term	-0.046^{*}	−0.034
	(0.019)	(0.020)
Proportion of District Vote Dem.	−1.124	1.632
	(0.997)	(0.995)
Incumbent in Race	−0.274	−0.153
	(0.246)	(0.239)
Number of Voters/1000	0.012^{*}	0.010
	(0.005)	(0.007)
(Constant)	-1.384^{**}	-2.662^{***}
	(0.404)	(0.565)
Log Likelihood	−53390.77	−38064.24
Num. obs.	96350	68775

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

TABLE 6. Roll-Off of Contested, Three-Candidate School Board Races Across South Carolina