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# THE IMPACT OF CANDIDATE NAME ORDER ON ELECTION OUTCOMES

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**Abstract** Perceived obligations of citizen duty may compel some people to cast votes in democratic elections even when they lack sufficient information to make informed choices. Psychological theories of choice suggest that, under such circumstances, voters may be influenced by the order in which candidates' names appear on the ballot, biasing people toward candidates listed early (when voters can generate reasons to vote for the candidates) or late (when voters can only generate reasons to vote against the candidates). Consistent with this reasoning, analyses of 1992 election returns in Ohio revealed that reliable name-order effects appeared in 48 percent of 118 races, nearly always advantaging candidates listed first, by an average of 2.5 percent. These effects were stronger in races when party affiliations were not listed, when races had been minimally publicized, and when no incumbent was involved. Furthermore, name-order effects were stronger in counties where voters were less knowledgeable about politics. All of this suggests that ballot structure influences election outcomes when voters lack substantive bases for candidate preferences. However, the magnitude of name-order effects observed here suggests that they have proba-

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bly done little to undermine the democratic process in contemporary America.

## The Impact of Candidate Name Order on Election Outcomes

Contemporary American elections often confront voters with tremendously challenging tasks. In California, for example, citizens have routinely been asked to vote on a dozen ballot issues on topics ranging from insurance reforms to tort claims, school funding, or the confidentiality of AIDS tests (Allswang 1991; Beck 1997, p. 250). And in all states, voters have sometimes been asked to make choices in well over two dozen races, ranging from high visibility contests to races for offices so obscure that many voters probably could not describe the job responsibilities associated with them. In 1911, for instance, voters in Cleveland, Ohio, were confronted with 74 candidates for city offices, 12 candidates for board of education, 14 candidates for municipal court judges, and 32 candidates for constitutional convention (Davies 1992). And matters were no better in 1992: Cleveland voters were asked to cast ballots in more than 40 county- and statewide races, plus a number of district-wide races.

Because races for highly visible offices (e.g., for U.S. President and Congress) receive a great deal of news media attention, often involve well-known incumbents, and usually involve explicit endorsements of candidates by political parties, voters who wish to make substance-based choices can do so in principle. However, candidates in such races rarely take clear and divergent stands on specific policy issues (Berelson, Lazarsfeld, and McPhee 1954; Page 1978), and media coverage of such contests usually focuses on the horse race rather than on the candidates' records and policy positions (Patterson 1994). The cognitive demands of sifting through lots of such media coverage and extracting useful, substantive information about candidates' positions are therefore probably so substantial as to outstrip most voters' incentives to do the work (Downs 1957). Therefore, people rely on only a small subset of substantive information to make such vote choices, pursing what Popkin (1991) called "low information rationality."

Media coverage of races for less visible offices (e.g., attorney general, auditor, judge, sheriff, coroner, or board of education) is often much more limited, making it even more difficult for voters to make choices based on substance (e.g., Graber 1991). People pursuing low information rationality can sometimes rely on cues, such as party affiliation, which can help them identify candidates with whom they are likely to agree on policy issues (Campbell, Converse, Miller, and Stokes 1960; Miller and Shanks 1996). But party affiliations are often not listed on the ballot for the very

races that receive the least media coverage. Alternatively, people can rely on name recognition: the candidate whose name sparks a stronger sense of familiarity may be seen as most likely to be the incumbent, who by virtue of his or her presumed experience may be considered the safer choice (Jacobson 1987; Mann and Wolfinger 1980). But because holders of low visibility offices probably get very little media attention during their tenures, voters may only rarely recognize their names.

What do people do when no such cues are present at all to guide their choices? If someone knows nothing about any of the races being run on a particular election day, he or she is likely to stay home rather than cast a ballot (Delli Carpini and Keeter 1996), in line with political theorists' notion that democratic governance should be carried out only by those citizens who are able to do so responsibly (see Dahl 1989; Pennock 1979). But in some years, large numbers of people go to the polls to vote in a few highly visible contests, yet they are asked to vote in minimally publicized races for relatively obscure offices as well. The higher rolloff rates typical of such races presumably reflect some voters' choices to abstain because they lack sufficient knowledge (Burnham 1965; Robinson and Standing 1960; Vanderleeuw and Engstrom 1987). However, other people may feel that being a "good and responsible democratic citizen" requires them not only to go to the polls but also to cast votes in all listed races, even when they know only a little about the candidates and have not made a firm choice among them before entering the voting booth.

In this article, we explore one possible phenomenon that may occur under such circumstances, whereby the structure of a ballot influences the outcome of an election. Specifically, the votes people cast may be influenced by the order in which the candidates' names appear on the ballot. Below, we first review psychological theories regarding the effects of order on choices and spin out from that literature some predictions regarding elections. We then review past studies of name-order effects in elections, illustrating that their findings are of surprisingly limited value. Finally, we document the prevalence of name-order effects in the 1992 elections in Ohio and explore the conditions under which those effects were most likely to occur. In doing so, we will gain new insights into the processes by which citizens cast votes in contemporary American elections.

## A Psychological Theory of Name-Order Effects in Elections

One psychological theory of order effects predicts "primacy effects," which are biases toward selecting the first object considered in a set (Krosnick 1991). People tend to evaluate objects with a confirmatory bias. Specifically, people usually begin a search of memory for information about

an object by looking for reasons to select answer choices rather than reasons not to select them (Klayman and Ha 1984; Koriat, Lichtenstein, and Fischhoff 1980). Because of this, when considering a list of political candidates, voters probably search memory primarily for reasons to vote for each contender rather than reasons to vote against him or her. When working through a list, people think less and less about each subsequent alternative, because they become increasingly fatigued and short-term memory becomes increasingly clogged with thoughts. Therefore, people may be more likely to generate supportive thoughts about candidates listed initially and less likely to do so for later listed candidates, biasing them toward voting for the former.

This theory is consistent with dozens of experiments that presented objects visually and nearly always found bias toward selecting initially offered options (for review, see Krosnick and Fabrigar, in press). For example, when students take multiple-choice knowledge tests, they are biased toward selecting answers offered early in a list, so they tend to answer items correctly more often when the correct answer is listed first than when it is listed last (Cronbach 1950; Mathews 1927). When people are told that an experimenter will imagine a series of questions and they should guess which of a set of offered response choices is the correct answer, people tend to select the first ones listed (Berg and Rapaport 1954). And when people are asked to taste a set of beverages or foods (e.g., four brands of beer) and select their favorite, they are biased toward choosing the first one they consider (Coney 1977; Dean 1980). Therefore, voters may well manifest the same sort of bias in elections.[1]

However, people attempting to retrieve reasons to vote for a candidate may occasionally fail completely, retrieving instead only reasons to vote against him or her. If this happens for all candidates in a given race, cognitive fatigue and short-term memory congestion would presumably bias a citizen toward generating more reasons to vote against the first-listed candidate than reasons to vote against later listed candidates. This would induce a recency effect, which is a bias toward selecting candidates listed last (see Schwarz, Hippler, and Noelle-Neumann 1992; Sudman, Bradburn, and Schwarz 1996).

Name order might also influence the votes cast by people who have no information at all about the candidates in a race but nonetheless feel compelled to vote in all races in order to be "good citizens." According to Simon's (1957) notion of satisficing, people are inclined to settle for the first acceptable solution to a problem they confront, especially when the costs of making a mistake will be minimal. Therefore, if a citizen feels compelled to vote in races regarding which he or she has no substan-

1. In contrast, when objects are presented orally, there is an overwhelming trend toward selecting the alternative presented last (for a theoretical account of this, see Krosnick 1991).

tive basis for choice at all, he or she may simply settle for the first name listed, because no reason is apparent suggesting that the candidate is unacceptable.

Thus, there is abundant theoretical justification for the hypothesis that the order of candidates' names on ballots may influence voters' choices in some races. If people simply settle for the first-listed contender when they have no information at all about a race, primacy effects will occur. Primacy effects would also be expected in races about which voters do have some information when they can generate at least some reasons to vote for each of the candidates. But when voters can retrieve only reasons to vote against competitors, recency effects would be expected.

Order-based choice should be least likely when voters are highly knowledgeable about candidates and have made substance-based choices before election day (Lodge, McGraw, and Stroh 1989). Therefore, name-order effects should be strongest in races that have received little news media coverage and among voters who are exposed to little or none of such coverage. Order-based choice should also be most common in races that do not offer voters heuristic cues, such as party affiliations of the candidates or incumbency-based name recognition. Cognitive fatigue is likely to build as a voter considers race after race on a long ballot, which may increase the likelihood of name-order effects. Also, races listed toward the end of a ballot may be perceived as less important than those near the beginning, so voters may be less motivated to cast votes carefully in the former and may therefore be more influenced by name order.

## Previous Studies of Name-Order Effects

Although a number of studies have been conducted to test for name-order effects on voting, these studies turn out to be of limited value. In order to assess a name-order effect unambiguously, a study must randomly assign groups of voters to receive different name orders (see, e.g., Aronson, Ellsworth, Carlsmith, and Gonzales 1990; Crano and Brewer 1973; Judd and Kenny 1981; Kidder and Judd 1986). Observed differences between these groups of voters must then be subjected to tests of statistical significance to assess whether they are likely to have occurred by chance alone or whether they are likely to represent real effects of name order. However, most of the 24 previous studies of name-order effects did not involve assignment of voters to different name orders at all but rather looked at whether, when combined across a large number of elections, candidates listed in different positions did better or worse on average (Bagley 1966; Bakker and Lijphart 1980; Benn 1970; Brook and Upton 1974; Brooks 1921; Byrne and Pueschel 1974; Hughes 1970; Kelley and McAllister 1984; Lijphart and Pintor 1988; Mackerras 1968, 1970; Mastermah 1964;

Mueller 1970; Nanda 1975; Robson and Walsh 1974; Upton and Brook 1974, 1975; Volcansek 1981). Most of these studies found that candidates did better when listed early (e.g., Bakker and Lijphart 1980; Benn 1970; Brook and Upton 1974; Brooks 1921; Hughes 1970; Kelley and McAllister 1984; Lijphart and Pintor 1988; Mackerras 1968, 1970; Masterman 1964; Mueller 1970; Robson and Walsh 1974; Upton and Brook 1974; Volcansek 1981). But because candidates' names were most often listed alphabetically, these differences between the positions might have been due to alphabetic-based name preferences instead of name order.[2]

The remaining six name-order studies all compared voters who received different name orders to one another. However, four of them failed to report statistical significance tests of the observed differences between the orders (Mueller 1969; Scott 1972; White 1950) or computed them improperly (Bain and Hecock 1957, pp. 73–88).[3] Furthermore, some of the observed differences suggested that candidates were advantaged when listed first (e.g., Mueller 1969); others suggested that candidates were advantaged when listed last (e.g., Scott 1972); still others suggested that candidates were advantaged when their names appeared in the middle of a list (e.g., Scott, 1972); and, in still other cases, no differences appeared at all (e.g., Bain and Hecock 1957, pp. 73–88). Because this heterogeneity could simply reflect random variation in the absence of any robust name-

2. In fact, preferences for names with initials early in the alphabet are likely to emerge for at least three reasons. First, people tend to like their own initials more than other letters (Johnson 1986; Nuttin 1985), and this bias is apparent in many countries (Kitayama and Karasawa 1997). Because people's last initials are concentrated primarily in the first half of the alphabet, a majority of people will be biased toward liking candidates whose last initials are in the first half of the alphabet (e.g., in the 1996–97 Columbus, Ohio, telephone book, 655 pages listed names with last initials in the first half of the alphabet, whereas only 374 pages listed names with last initials in the second half; see also Masterman 1964; Robson and Walsh 1974). Second, people are likely to have special positive regard for political candidates who share their own initials, because similarity enhances attraction (see Byrne 1971). And because more people in the general public have last initials early in the alphabet than late, this too would lead to a bias in an electorate as a whole toward electing candidates whose initials are early in the alphabet. Finally, the greater prevalence of such names in the general public means that everyone will be exposed to them more often, and mere exposure enhances liking (Zajonc 1968). Therefore, order effects apparent in studies that involved only alphabetical listings of candidate names (which constitute a majority of this literature) do not provide clear evidence about name-order effects.

3. When each voter is individually assigned to a name order independently of all other voters, the number of observations on which a statistical test should be computed is the total number of voters participating in the study. But when groups of voters (i.e., all those in the same precinct) are assigned to name orders, so that all members of a group receive the same order, it is inappropriate to use the total number of voters as the basis for computing the statistical significance of observed differences (see Darcy and McAllister 1990, p. 8; Judd and Kenny 1981, pp. 55–57). Such an approach will yield statistical tests that are too liberal, thus making observed differences seem less likely to have occurred by chance alone than is actually the case. Statistical tests in such studies must instead be based on the number of groups of voters (in most cases, precincts). Because Bain and Hecock (1957, pp. 73–88) should have computed their significance tests in this fashion but did not, their results overestimate the level of statistical significance of the differences they observed.

order effects, it is difficult to conclude from these studies that any observed differences were in fact attributable to name position.

The only two studies that did not suffer from one of these design flaws were conducted by Darcy (1986) and Gold (1952). And surprisingly, these investigations found no name-order effects at all. However, given the strong theoretical basis for expecting such effects and the limited number of informative studies done to date, it seemed worthwhile to further explore whether name-order effects occur, to assess their nature, magnitude, and prevalence, and to determine when they are most likely to occur.

To this end, we analyzed precinct-by-precinct in-person vote returns from all of the races in the 1992 elections held in the three largest counties in Ohio—Franklin, Cuyahoga, and Hamilton.[4] To set the stage for our findings, we will describe the voting systems used in each county, the races run in each, and the methods each employed to rotate name orders across precincts.

## Voting Methods

### FRANKLIN COUNTY

In 1992, 879 precincts in Franklin County (which contains the state capital, Columbus) used a mechanical voting system, and 384 precincts used an electronic voting system.[5] In the mechanical voting booths, candidate names were listed beneath a heading for each race, and voters pushed down levers next to the names. The electronic booths were similar to the mechanical booths in terms of the physical layout of races and candidate names, but next to each race heading was a small flashing red light. When the voter pressed a button to cast a vote in a race, the light became constantly illuminated.

### CUYAHOGA AND HAMILTON COUNTIES

In the 2,036 precincts in Cuyahoga County (which contains the city of Cleveland) and the 1,041 precincts in Hamilton County (which contains the city of Cincinnati), voting was done via punch cards. Voters were given (1) a booklet that listed the races and candidate names, (2) a 3.25″ × 7.5″ card with 228 small, perforated, sequentially numbered squares on

4. We were unable to analyze absentee votes because name order is rotated from ballot to ballot, and records are not kept of vote totals separately for the different name orders.
5. Electronic voting booths were placed in precincts chosen by local politicians, and those precincts were not comparable to those that received mechanical booths (see Nichols and Strizek 1995). Therefore, we cannot infer effects of voting method from comparisons of voting in the mechanical and electronic booths, because voters were not randomly assigned or even functionally randomly assigned to one of the two methods.

it, and (3) a pointed metal poker. The numbers on the squares corresponded to numbers listed next to the candidates' names in the booklet, and voters poked out squares to indicate their preferred candidates.

## Races

In 1992, many races appeared on the ballot in all precincts in a county (called countywide races); these included races for U.S. President, U.S. Senate, county commissioner, prosecuting attorney, and common pleas judge. Other races appeared in the precincts of only a single district (called district-wide races); these included races for U.S. representative, state representative, and state senator.[6] We analyzed the results of all countywide and district-wide races in the three counties except the five-candidate race for U.S. representative in Cuyahoga County, because it involved only 20 precincts and therefore did not offer sufficient statistical precision to estimate name-order effects.[7] In total, we tested for name-order effects in 37 races in Franklin County, 53 races in Cuyahoga County, and 28 races in Hamilton County. Appendix A reports the average position of each race on the ballot across the precincts in which the race appeared, the number of candidates in each race, and whether the ballot displayed the party affiliations of the candidates.

## Name Rotation

The procedures used to rotate name-order across precincts were different in each county, were rather complex, and are explained in detail in appendix B. The process started with listing all of the precincts in the county in an order determined by size of city, date of precinct creation, and the spelling of the precinct names. Then, for each race, a series of different name-orders were developed, beginning first with an alphabetical ordering of the candidates. Each additional name order was created by moving the first-listed candidate to the end of the list until each candidate had been listed first in one and only one order. The number of name orders created therefore equaled the number of candidates in the race. The first name order was assigned to the first-listed precinct; the second name order was assigned to the second precinct; and this assignment procedure continued, rotating repeatedly through the name orders, until every precinct had been

6. Some of these districts were U.S. Congressional districts, and others were districts designed especially for races for the state senate, the state house of representatives, or the county board of education.

7. Two races in Franklin County, seven in Cuyahoga County, and eight in Hamilton County involved only one candidate and were therefore not useful for testing our hypotheses.

assigned to a name order. This was done independently for each race, without regard to the rotation scheme used for the other races on the ballot.

Although this sequential assignment method is clearly not the same as random assignment, it seems likely to have produced equivalent groups of precincts to receive different name orders. To assess this objectively, we first examined whether the groups of precincts that received different name orders differed from one another with regard to the average number of votes cast per precinct, the average number of registered voters per precinct, or the average percentage of registered individuals who turned out to vote. If these groups were essentially equivalent, then they should not have differed in these regards.

To conduct this analysis, we created what we call an "order variable" for each race, ranging from 1 to the number of candidates in the race (where 1 meant the candidates were listed in alphabetical order, 2 meant the first candidate alphabetically had been moved to the end of the list, and so on). All precincts that received the same name order in the race were assigned the same value. Precincts in which a race was not run were not assigned any value on that variable.

In Franklin County, for example, one order variable was created for the eight-candidate presidential race (with eight levels: 1 = precincts receiving the first order, 2 = precincts receiving the second order, and so on up to 8). Another order variable was created for all the eight-candidate countywide races (with three levels representing each of the three name orders). And another order variable was created for all the countywide two-candidate races (with two levels representing the two name orders, alphabetical and reverse alphabetical). Twelve additional order variables were created, one for each of the 12 district-wide races for U.S. representative, state senator, and state representative. Each of these races involved a unique subset of the precincts in the county, so different subsets of precincts received each name order for those races. This procedure led us to create a total of 15 order variables for Franklin County, 24 for Cuyahoga County, and 14 for Hamilton County.[8]

Using each of these 53 order variables as the independent variable, we conducted a series of one-way analyses of variance predicting the average

8. An alternative would be to create only one order variable for each county, representing the different ballots used in the county. For example, in Franklin County, 24 ballots were created, and each precinct was assigned to receive one of these ballots (see appendix B for an explanation of why this number is 24). We could test whether the 24 groups of precincts receiving different ballots differed from one another in terms of demographic characteristics, voting behavior, and so on. However, a more powerful and efficient test of a name-order effect in a two-candidate race, for example, would lump together all precincts that received the candidate names in alphabetical order, and compare their votes to those of a conglomeration of all the precincts that received the candidate names in reverse alphabetical order. We took this latter approach and therefore constructed a number of different order variables for use in races differing in number of competing candidates and number of precincts in which the race was run.

number of voters who participated in the election, the average number of registered voters, and the average percentage of voter turnout in each precinct. Of the 159 analyses conducted, only two effects were statistically significant ($p < .05$). As many as 8 of these 159 tests would be expected to yield statistically significant results by chance alone, and any correction for family-wise error would decrease the alpha level for each test so much that none of the differences would be significant (Keppel 1991). Therefore, the precinct groups seem equivalent in these regards.

We also conducted a second set of tests, using data from the 1990 U. S. Census of Cuyahoga County.[9] We conducted one-way analyses of variance using the 24 order variables for that county to predict demographic variables that predict voter turnout and/or vote choice—educational attainment, income, age, race, gender, marital status, employment status, and home ownership (see, e.g., Miller and Shanks 1996; Rosenstone and Hansen 1993). In the 696 analyses of variance conducted, only five effects were statistically significant ($p < .05$), whereas as many as 35 of these tests would be expected to yield statistically significant results by chance alone. Consequently, we found no evidence to challenge the assumption that the precinct groups in Cuyahoga County were equivalent. And given that the rotation method used in Cuyahoga County was comparable to those used in Franklin and Hamilton Counties, this analysis suggests that the precinct groups in those counties are likely to have been quite similar as well.

## Results

### PREVALENCE OF EFFECTS

Tables 1 and 2 report tests of name-order effects in the two-candidate races and in races involving more than two candidates, respectively. The first column in table 1 shows the difference between the percentage of votes each candidate received when listed first and second on the ballot in Franklin County and the significance of this difference. The next two columns list comparable results for Cuyahoga and Hamilton Counties, respectively. In table 2, the first column lists the statistical significance of the $F$-statistic assessing whether any reliable difference between votes

9. We examined only Cuyahoga County in this analysis because we were only able to obtain a data set mapping Census data to voting precincts for that county (M. J. Salling, personal communication). In that data set, demographic statistics for the 1991 precincts in Cuyahoga County were calculated using the block data from the 1990 U.S. Census as follows. When a precinct included only a part of a block, the proportion of the area of the block that fell within the precinct was multiplied by the census counts for that block. Then, these figures were added to the census counts for all blocks that fell completely within a precinct to yield totals for that precinct. The precincts were redrawn between 1991 and 1992, and only 1,980 were the same in both years; we confined our analysis to these.