

Too Much Of A Good Thing? Longer Ballots Reduce Voter Participation

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Abstract

In many democracies, citizens complain that elections do not provide palatable options - none of the candidates are particularly appealing. More candidates implies more choice, and could potentially increase participation. However, too many candidates may overburden voters and thus discourage participation. In this paper, we use election results and experimental data to show that more candidates results in less participation. Effects are apparent even when comparing ballots with two or three candidates and are not assuaged by party labels. Our results suggest that too much choice on election day can be just as bad as too little.

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Voting is the primary method through which individuals participate in politics. As a result, a substantial literature investigates why individuals turnout on election day and how they make voting decisions. Much of that literature focuses on how individual characteristics of potential voters and broader political institutions affect the decision whether or not to vote.¹ Scholars have given less attention, though, to the ways that ballot type and structure, including the number of candidates, affect participation (Blais 2006). It is unclear if voters are more or less likely to turnout when many candidates are on the ballot

In elections with only a few candidates, voters routinely lament that they are dissatisfied with their options (Damore, Waters and Bowler 2012; Enten 2016; Ugglä 2008). Research shows that in elections with a small number of candidates some voters cast their ballot for the “lesser evil” while others choose not to participate at all (Alonso 2010; Damore, Waters and Bowler 2012; Heinsohn 2018). Theory suggests that if more candidates were on the ballot, voters would be able to cast their ballot for someone whose policy preferences are similar to their own (Cox 1997). In this situation, one would expect that turnout would be higher when there are more candidates. Nonetheless, increasing the number of candidates is not without costs. When many candidates compete voters will likely need to spend more energy learning about candidates and are likely to have difficulty identifying their ideal candidate. Some voters may be up to the task, yet others may not.

Research on decision making behavior shows that individuals struggle to decide between alternatives when presented with large choice sets (Chernev, Böckenholt and Goodman 2015; Schwartz 2004). Since learning about the alternatives and evaluating them requires substantial cognitive effort, individuals routinely modify their information acquisition behavior and use shortcuts to simplify decisions (Gigerenzer and Goldstein 1996; Payne et al. 1993). Not all individuals, however, respond in this manner. Instead of changing how they decide, others defer the decision or opt not to decide at all (Dhar 1997; Iyengar and Lepper 2000). Voters may behave similarly when faced with complex political decisions.

In this paper, we argue that voters are less likely to participate in elections with many candidates

¹For a review see Blais (2006) and Lau and Redlawsk (2006).

due to the cognitive difficulty of deciding between a large number of alternatives. We test this hypothesis using aggregate election data and data from a survey experiment. In our observational analysis, we find that voters are less likely to cast a valid vote as the number of candidates running for office increases. Likewise, experimental results suggest that voters are less likely to participate when they are overwhelmed by complex voting decisions. Importantly, we find that even a modest increase in the number of candidates significantly reduces voter participation and that party labels do not assuage the impact of choice set size on participation.

Our findings have critical implications for electoral democracies around the world. Although conventional wisdom suggests that providing voters greater choice may enhance democracy, our analysis shows that there is an overlooked cost to providing voters more choice. We find that voters have difficulty choosing between even a handful of candidates. This is concerning because in many countries, including fragile democracies like Iraq, elections routinely have hundreds of candidates (Katzman 2005). Our work indicates that information shortcuts, like party affiliation, may help voters cope with large choice sets, but these heuristics are not a panacea. When multiple candidates from the same party compete for public office, such as in primary elections or open-list electoral systems, cues like party affiliation do not simplify decision making. Our work suggests that when voters are presented many alternatives but do not possess the tools to simplify voting decisions, we can expect many of them to choose not to participate.

Electoral Institutions, Turnout, and Vote Choice

Previous work on the relationship between institutions, ballot length, and participation is impressively diverse, both in mechanisms and in findings. Reflecting on the state of the literature, Solijonov (2016, p. 36) writes, “there is no agreement on whether fragmentation increases or decreases turnout. Some argue that the availability of more parties gives more options to voters, and thus increases their desire to vote. However, the opposite may also be true — too many options can confuse voters and make it difficult for them to judge whether their vote will have the desired

impact on the election outcome.”

One perspective suggests that more candidates will increase participation through its impact on the diversity of the candidate pool. Candidates typically spread across the ideological spectrum (Cox 1997; Persson and Tabellini 2005). Therefore, as the number of competing candidates grows, the average distance between voters and the nearest candidate will decline (Powell 2000; Taagepera and Shugart 1989). If voters can cast their ballot for someone that reflects their preferences when more candidates run, we would expect ballot length to positively impact participation. On the other hand, others contend that more candidates will reduce participation. For example, Downs (1957) suggests that a large number of parties may cause a disconnect between voting and governance outcomes, due to complex post-election coalition formation. Citizens may choose not to participate at all when the impact of their votes on actual outcomes unclear (Downs 1957).

Empirical evidence on these questions is decidedly mixed. Some studies report a negative relationship between district magnitude and participation (Fornos, Power and Garand 2004), while others find a positive relationship (Jackman 1987; Powell 1986), and still others indicate that there is no relationship (Perez Linan 2001; Power and Roberts 1995). Other scholars have examined the relationship between the number of candidates and valid voting. Analyzing county-level voting in the 1996 United States presidential election, Knack and Kropf (2003) find that valid votes increased as the number of presidential candidates increased. In contrast, Cohen’s (2018a) analysis of presidential races in Latin America shows that valid voting is lower in countries where there are more presidential candidates.

Although these observational studies are valuable, the impact of ballot length on turnout remains unclear. The diversity of patterns suggest that the relationship may be highly contextual and vary according to other political factors. In addition, the patterns uncovered in these observational studies could reflect confounding variables. For example, consider Cohen’s (2018a) recent finding that valid voting decreases when there are more candidates. If voters are disillusioned with the existing party system, this could simultaneously depress turnout and increase the number of candidates. Voter turnout would be reduced out of frustration with the performance of the political

system and a sense of futility in participation. At the same time, more candidates and parties might emerge if established parties are seen as vulnerable to outsider attacks. In other words, voter mood could affect both turnout and the number of candidates, rather than the the number of candidates affecting turnout.

We seek to contribute to the literature on choice set size and turnout using both observational and experimental data. Although we find a strong relationship between choice set size and turnout in real elections, confounding variables remain a concern. Drawing on data from a survey experiment, in which individuals were randomly assigned to ballots of different lengths, we are able to isolate the impact of ballot length on voter participation. Together, our observational and experimental work points to a specific causal mechanism: the paradox of choice.

Choice Set Size and Electoral Participation

Individuals often express a desire for more choice and report greater satisfaction when choosing from large assortments (Botti 2004; Kahn and Lehmann 1991; Oppewal and Koelemeijer 2005). Yet, many individuals find the task of choosing between an abundance of alternatives to be overwhelming (Haynes 2009; Schwartz 2004). Psychologists refer to this phenomenon as choice overload, overchoice, or the paradox of choice.

Research shows that choice overload can occur in a variety of settings, such as when individuals are deciding between products or politicians (Cunow 2014; Schwartz 2004). One way that individuals cope with the complexity of large choice sets is by declining to choose at all. The results of a series of psychology experiments show that when the number of alternatives is large, individuals are less likely to choose any of the alternatives (Dhar 1997; Dhar and Simonson 2003; Iyengar and Lepper 2000; Tversky and Shafir 1992). Voters may behave similarly and choose not to vote for any candidate when there are many on the ballot.

There is limited research on how the number of candidates affects voter participation. Cohen's (2018*a*) analysis of voting in Latin American presidential elections is a rare exception. She con-

tends that when many candidates compete, voters are likely to invalidate their ballots to signal their discontent with the status quo. Consistent with this expectation, she finds that in presidential elections from 1982-2015, elections with more candidates also had more spoiled and blank ballots. This important analysis, however, does not consider voters who fail to turnout. While voters may choose to abstain from voting because they are frustrated with the status quo, others may do so because they are overwhelmed by the number of alternatives. Building on the broader literature on choice overload, we hypothesize:

- **H1:** As the number of candidates increases, voters are less likely to participate.

When individuals are presented with many candidates, one way they may cope with complexity is by choosing not to choose. Research on decision making behavior, however, reveals that this does not always happen. Instead, decision makers rely on heuristics to simplify the decision making process (Schwartz 2004; DeIVecchio 2001; Senecal and Nantel 2004). By using heuristics, they can limit what information about the alternatives they need to obtain and consider. Moreover, depending on the heuristics employed, decision makers can make decisions that approximate the choices that they would have made if they had complete information (Lau and Redlawsk 2006; Lau, Andersen and Redlawsk 2008).

Voters are known to use a variety of heuristics to simplify voting decisions (Hamill, Lodge and Blake 1985; Lau and Redlawsk 1997, 2001, 2006; Lenton and Francesconi 2010; Lupia 1994). Studies show that voters use information like ballot position, party, gender, and race to make inferences about candidates and reduce the complexity of electoral decisions (Lau and Redlawsk 2001; McDermott 1998; Shugart, Valdini and Suominen 2005). Evidence suggests that voters are more likely to rely on heuristics as the choice set size grows. Aguilar, Cunow, and Desposato (2015) and Aguilar et al. (2015), for example, find that as the number of candidates rise, voters are more likely to vote on the basis of gender and race, respectively. In a similar study, Cunow et al. (2021) show that voters are more likely to cast their ballot on the basis of list position when presented with many candidates.

Which heuristics voters can employ varies across electoral contests. For instance, party affiliation, which voters may use to infer candidates' issue positions and determine who shares their policy preferences, are absent from ballots in non-partisan races (Conover and Feldman 1989; Conroy-Krutz, Moehler and Aguilar 2016; Green, Palmquist and Schickler 2008). When voters cannot draw on party cues to simplify voting decisions, making an informed choice is likely to be more difficult and voters may instead choose to abstain. Moreover, when voters are presented with many candidates, the absence of party cues is likely to be especially consequential.

- **H2:** As the number of candidates increases, voters are less likely to participate when information on the party affiliation of candidates is unavailable.

Although the availability of party cues may help alleviate choice overload, party cues are more useful in some electoral systems than in others. In contests held under open-list proportional representation rules, multiple candidates from the same party compete against one another for the same office. As a result, even if information on candidates' party affiliation helps voters winnow the choice set, the voter may still have to choose between several different candidates affiliated with their preferred party. In sum, heuristics like party affiliation can help mitigate voters' cognitive burden, but may not always be a panacea.

To test these hypotheses, we use both observational and experimental data. In our observational analysis, we establish that there is a negative relationship between choice set size and electoral participation. Nonetheless, choice set size is endogenous to a variety of electoral factors (Jacobson and Kernell 1983). We therefore draw on data from a survey experiment in which subjects were randomly assigned to choice sets of different sizes. Together, our observational and experimental analyses highlight the underappreciated costs of larger choice sets, as well as provide new insight about the microfoundations of the relationship between choice sets and participation.

Case Selection

We test our hypotheses in Brazil, which constitutes a hard case for two different reasons. First, voting is compulsory in Brazil for citizens between the ages of 18 and 70.² Although the monetary penalty for not participating is small, citizens regularly turn out to vote because of the administrative penalties that arise from abstention (Power and Roberts 1995).³ On election day, citizens can vote for an individual candidate, a political party, or invalidate their ballot. The fact that citizens are obligated to vote should bias against finding that choice set size affects participation rates.

Second, Brazilian voters are accustomed to navigating both small and large choice sets. There is considerable variation in the number of candidates that compete in Brazilian elections. In mayoral elections between 2000 and 2020, 47 percent of races had at least three candidates and 4 percent had at least six candidates. In city council elections the number of candidates is even larger, and can range from 25 candidates in small municipalities to over a thousand candidates in the large cities. We leverage this variation in choice set size in our observational analysis. This variation is also useful for our experimental analysis because it means that our experimental conditions are perfectly realistic in the Brazilian context. If we were to expose voters in a country with small candidate fields to a ballot with 12 candidates, we might expect them to become overwhelmed. Brazilians, however, might be expected to easily choose among 12 candidates because they regularly encounter larger choice sets in real elections.

Observational Analysis

In our observational analysis, we assess the relationship between choice set size and electoral participation using data from Brazilian municipal elections. Brazil's municipalities are an ideal case to test for a relationship between choice set size and participation because there is considerable variation in the number of candidates that compete in its more than 5,500 municipalities. We use data from the mayoral and city council elections held in each of those municipalities between 2000

²Voting is optional for those between the ages 16 to 18 and individuals 70 and older.

³When individuals do not turn out their voting document becomes “irregular” and they are unable to obtain identification cards, work in the public sector, qualify for government support or access pension benefits (Nichter 2018).

to 2020. In total, our analysis draws on data from 66,731 different elections.

In Brazil, mayoral and city council elections are held concurrently every four years. Mayors are elected according to plurality rules in municipalities with less than 200,000 voters, and a two-round, run-off system in municipalities with more than 200,000 voters. City council members, on the other hand, are elected according to open list proportional representation in municipal-level, at-large districts.⁴ Mayoral and city council elections have very different size candidate fields because of their distinct electoral arrangements. In our sample, mayoral elections on average had 2.8 candidates and city council contests had 71.2 candidates.

We estimate the effect of the number of candidates on abstention using regression models by office type.⁵ We operationalize abstention as the percentage of the electorate in each municipality that failed to cast a valid vote for a candidate or a party list for any reason, including voters who failed to show up at the polls and those who showed up but cast a blank or invalid ballot. Our models include municipal fixed effects and controls for the district magnitude and the margin of victory in the mayoral election, each of which may affect participation (Indridason 2008; Jacobs and Spierings 2010; Muraoka and Barcelo 2019; Simonovits 2012).⁶ Moreover, we control for the demographic characteristics of municipalities that are relevant for explaining electoral participation in Brazil, including the size of the electorate, the percent of the population that resides in an urban area, the age and gender distribution of the population, and the share of the population that is illiterate. We cluster the standard errors on the municipality.

Figure 1 shows how the average abstention rate in Brazilian elections varies with the number of candidates. In both mayoral and city council elections, the relationship between choice set size and abstention appears to be non-monotonic. Not surprisingly, there is a large drop in abstention as a mayoral election moves from just one candidate (uncontested) to two candidates (contested), though average abstention increases with each additional candidate beyond this point. In city

⁴The number of seats on city councils range from 9 to 55 in accordance with the municipality's population.

⁵In Brazilian elections, voters can choose to vote for one office and not vote for others. Variation in the number of votes cast for different elected offices in the same municipality and election year indicates that this does occur.

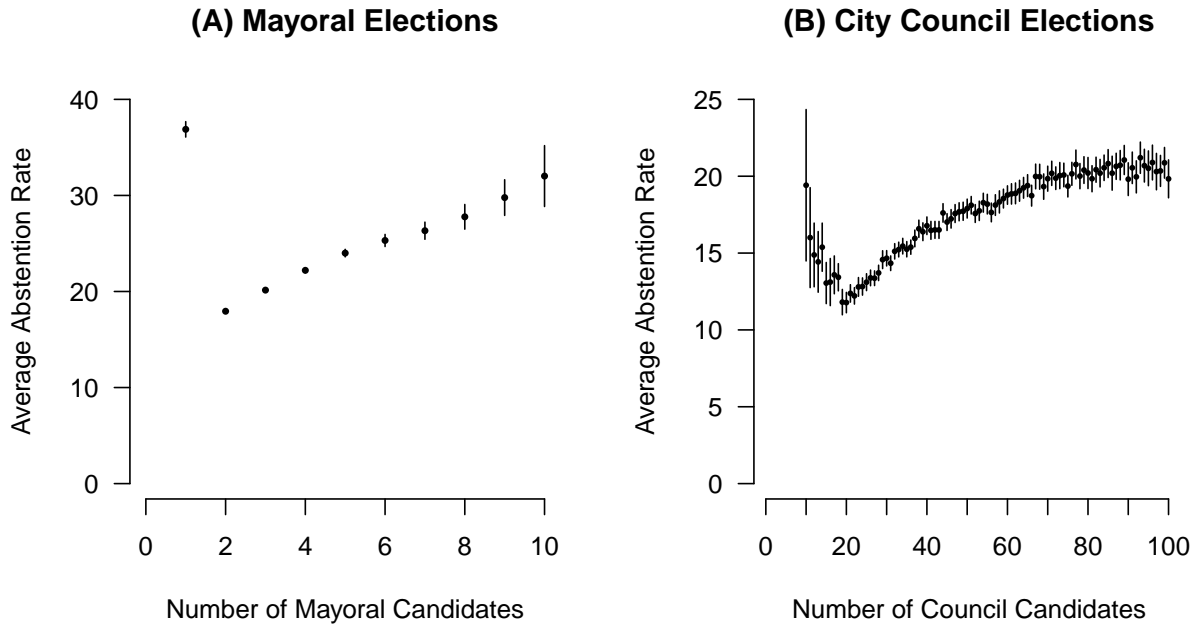
⁶Because elections for mayor and city council occur on the same day, we include controls for the mayor's margin of victory in both the mayoral and city council models.

Table 1: Choice Set Size and Electoral Abstention

	<i>Dependent variable:</i>	
	Abstention Rate (%)	
	City Council	Mayor
Number of Candidates	0.015*** (0.002)	0.170*** (0.051)
Mayor's Margin of Victory	2.450*** (0.121)	13.883*** (0.475)
District Magnitude	-0.018 (0.019)	
% Female	-0.848*** (0.037)	-0.709*** (0.050)
% Over 70	1.521*** (0.025)	1.490*** (0.034)
% Under 18	-0.773*** (0.037)	-0.412*** (0.051)
% Illiterate	0.487*** (0.015)	0.495*** (0.019)
# Eligible Voters	26.918* (13.783)	37.245** (16.280)
% Urban	-0.040*** (0.007)	-0.047*** (0.010)
Municipal Fixed Effects	Yes	Yes
R ²	0.815	0.691
Adjusted R ²	0.778	0.626
Num. obs.	33,151	31,704

Note: *p<0.1; **p<0.05; ***p<0.01

Figure 1: Average Abstention, by Number of Candidates



council elections, average abstention is lowest when there are twenty candidates on the ballot, but abstention tends to increase with each additional candidate thereafter.

The regression results presented in Table 1 provide further evidence of a positive relationship between the size of the choice set and electoral abstention.⁷ Each additional city council candidate was predicted to increase the abstention rate by 0.014 percentage points, while each additional mayoral candidate was predicted to increase the abstention rate by 0.16 percentage points. Although the effect for the city council candidates sample may sound substantively small, this effect can add up to a large increase in abstention in the aggregate considering that it is not uncommon for major cities like São Paulo, Rio de Janeiro, and Belo Horizonte to have well over a thousand city council candidates competing in the same election. Importantly, the effect of the number of

⁷We restrict the mayoral sample to the more than 95% of mayoral elections that were contested by at least two candidates. In the Appendix, we report results for both uncontested and contested elections, along with results for alternate specifications of this regression model. We also show that the results for city council hold even if we restrict the sample to small and medium-sized municipalities that tend to have fewer city council candidates than large municipalities.

candidates on abstention was statistically significant in both mayoral and city council elections.

Consistent with our first hypothesis, the results of our observational analysis strongly suggest that choice set size affects electoral participation. The reported results are especially notable considering that a variety of factors bias against finding any significant relationship. For instance, in the absence of compulsory voting rules, it is plausible that an even greater number of voters would stay home on election day. To assess the microfoundations of the relationship between choice set size and electoral participation, we now turn to data from a survey experiment.

Experimental Analysis

For our second analysis, we draw on data from a survey experiment conducted by Aguilar, Cunow and Desposato (2015).⁸ In the experiment, which was conducted in São Paulo, Brazil, subjects were randomly assigned to ballots with 3, 6, or 12 hypothetical candidates. Subjects were told that these candidates were considering running for federal deputy, given the opportunity to learn about them, and then asked which candidate they would like to vote for. Subjects were also given the option to abstain and vote for none of the candidates. This provides an excellent opportunity to estimate the causal impact of choice set size on abstention.

To recruit survey participants, enumerators approached individuals in public areas in a diverse set of São Paulo neighborhoods and asked them to participate in a study about political attitudes. If they agreed to participate, subjects completed an informed consent process and then were randomly assigned to one of the possible ballots. In total, 2,126 subjects participated in the study. Those subjects are not perfectly representative São Paulo residents. They were slightly younger, wealthier and better educated than São Paulo residents in general.⁹

Figure 2 shows one of the ballots used in the experiment.¹⁰ Every ballot includes a set of unique candidate profiles, each of which is composed of the candidates' name, photograph, a brief

⁸Aguilar, Cunow and Desposato (2015) and Aguilar et al. (2015) previously used this data to examine the impact of ballot length and candidate attributes on vote choice.

⁹See the Appendix for more detail.

¹⁰See the Appendix for examples of the other ballots.

Figure 2: Example Candidate Profiles for the 6-Candidate Treatment

<p>Marcos Miranda Pedrosa</p>  <p>Depois de se formar em jornalismo pela PUC-SP, Marcos Miranda Pedrosa começou a trabalhar na Imprensa Oficial como editor das publicações do Estado de São Paulo. Quando deixou este trabalho, Marcos começou a trabalhar como jornalista do Diário O Globo, escrevendo sobre política e economia. Ele e sua esposa, Juana, têm três filhos: Vanessa, Verônica e Danilo, de 11, 9 e 6 anos, respectivamente.</p> <p>Privatizações: Marcos permitirá maior participação privada na Petrobrás para assegurar que os recursos energéticos brasileiros sejam totalmente utilizados e para ampliar o fluxo de recursos financeiros para o governo.</p> <p>Impostos: Marcos propõe reduzir os impostos para impulsionar economia e cortar alguns gastos sociais sem afetar os recursos gastos com políticas de combate à criminalidade.</p> <p>Meio ambiente: Marcos vai permitir acesso a empresas privadas que estejam comprometidas com o desenvolvimento responsável da Amazônia para poder criar impostos e promover crescimento econômico.</p>	<p>Marcelo Antônio Vasconcelos</p>  <p>Marcelo Antônio Vasconcelos trabalhou durante anos para uma empresa internacional de consultoria, se especializando em assuntos energéticos e aumento de eficiência. Também trabalhou no governo estadual ajudando a implementar sistemas de contratação e avaliação de servidores públicos. Marcelo Antônio é graduado em administração de empresas pela Fundação Getúlio Vargas. Tem um filho de 9 anos, Pedro, e é casado com Maria Fernanda.</p> <p>Privatizações: Marcelo vai transferir para o setor privado muitos dos serviços prestados pelo Estado para aumentar a eficiência e assegurar que os recursos públicos sejam bem utilizados.</p> <p>Comércio Internacional: Marcelo quer ampliar a participação da economia brasileira no mundo assinando mais acordos comerciais que posicionaria como um ator econômico internacional importante.</p> <p>Transporte: Marcelo vai apoiar que empresas privadas fiscalizem o trânsito das ruas e das rodovias estaduais para que os congestionamentos e outros problemas de transporte sejam reduzidos.</p>	<p>João Pedro de Oliveira</p>  <p>Depois de se graduar em história na Universidade de Campinas, João Pedro de Oliveira trabalhou na Secretaria da Educação em um projeto de reformulação dos currículos de educação básica e na avaliação das escolas públicas e privadas. Desde então, João Pedro é professor de História Política Brasileira na Universidade de São Paulo. Ele e sua esposa, Maria Helena, têm três filhas: Carla, de 10 anos, Bruna de 7 anos e Juliana, de 1 ano de idade.</p> <p>Comércio Internacional: João Pedro quer renegociar os acordos internacionais com outros países, como a China, que não sejam benéficos às empresas nacionais e aos trabalhadores através da negociação de mais benefícios.</p> <p>Saúde: João Pedro vai aumentar a produção de medicamentos genéricos para tornar mais acessível uma saúde de qualidade.</p> <p>Transporte: João Pedro vai baixar as tarifas de ônibus e metrô para que as pessoas usem mais transporte público e o trânsito seja reduzido.</p>
<p>Fernando Lopes Damazio</p>  <p>Fernando se formou em economia pela Universidade de Campinas. Desde que decidiu seguir uma vida na política, ele trabalha como assessor na Assembleia Legislativa do Estado de São Paulo, ajudando a planejar o orçamento do estado. Ele também trabalhou para o Ministério da Fazenda como consultor fiscal. Fernando deu aulas na Universidade de Brasília. Ele e sua esposa, Viviane têm dois filhos: João, 10 anos, e Gabriel, 6 anos.</p> <p>Impostos: A fim de aumentar os gastos públicos, Fernando pretende aumentar os impostos igualmente para todos os cidadãos.</p> <p>Saúde: Fernando criaria programas de treinamento para médicos e enfermeiros para melhorar a qualidade do atendimento.</p> <p>Meio Ambiente: Fernando propõe proteger a Amazônia e permitir que empresas privadas aproveitem os seus recursos, desde que apresentem um plano de reflorestamento aprovado pelo governo.</p>	<p>Leonardo Coelho da Silva</p>  <p>Leonardo se formou na Universidade de São Paulo, onde estudou contabilidade. Depois de completar seus estudos Leonardo trabalhou como contador privado. Após decidir se dedicar à vida política, ele trabalhou como chefe de gabinete e como gerente de campanha de um deputado estadual em São Paulo. Leonardo também trabalhou como consultor de orçamento para o Ministério de Minas e Energia. Ele é casado com Ana Carolina e tem dois filhos: David, 11 anos, e Isabel, 7 anos.</p> <p>Impostos: Leonardo vai reduzir os impostos a fim de onerar menos as pessoas e estimular a economia, mesmo que isso signifique cortar gastos públicos.</p> <p>Saúde: Leonardo irá fornecer mais incentivos para os prestadores privados de saúde: abram novos hospitais e clínicas, permitindo que as pessoas tenham acesso a serviços privados de qualidade.</p> <p>Meio Ambiente: A fim de criar mais empregos e estimular a economia do país, Leonardo propõe dar acesso à Amazônia a empresas privadas e estrangeiras.</p>	<p>Sérgio Augusto Ribeiro</p>  <p>Sérgio é advogado graduado pela Universidade de São Paulo. Após concluir a universidade, trabalhou em um escritório de advocacia, antes de decidir dedicar a sua vida à política. Desde então, trabalhou no Tribunal de Justiça do Estado de São Paulo, onde serviu como uma ligação entre os legisladores estaduais e os juizes. Sérgio também tem trabalhado como agente do Ministério Federal da Justiça. Ele é casado com Juliana e tem dois filhos: Thiago, 12 anos, e Renata, 9 anos.</p> <p>Impostos: Sérgio vai aumentar os impostos sobre os ricos, a fim de aumentar os gastos governamentais em serviços sociais voltados para os pobres.</p> <p>Saúde: Para assegurar que as pessoas tenham acesso à saúde pública de qualidade, Sérgio vai construir novos hospitais e centros de saúde e contratar mais médicos.</p> <p>Meio Ambiente: Sérgio pretende proteger a Amazônia, e, ao mesmo tempo, desenvolver um programa sustentável para permitir que os pequenos agricultores se beneficiem de uma parte da floresta tropical.</p>

biography, and policy position statements on three of six issues. All candidates were college-educated males, had relevant professional experience, and were married with children. Although the candidates on every ballot were fictitious, Aguilar, Cunow, and Desposato (2015) report that all signs indicate that subjects did not perceive the candidates to be different than those in real elections. When asked how the survey candidates compared to the candidates who competed in São Paulo’s most recent elections, 68 percent of subjects stated they were “the same” and 15 percent responded that they were only a “little different” than the candidates who ran in São Paulo’s most recent elections.¹¹

In the experiment, the main manipulation of interest is ballot length. Ballots included 3, 6, or 12 candidates.¹² In addition, the order of the candidates for the ballot, the race of some candidates, and access to information about the party affiliation of candidates was also randomized. This final manipulation is particularly useful because it allows us to explore if subjects overcome choice overload by using one prominent voting heuristic.

¹¹Aguilar, Cunow, and Desposato (2015) indicate that the few voters who could express why the hypothetical candidates were different usually mentioned that the policy positions of the hypothetical candidates were too defined or candidates were more educated than usual. Furthermore, some respondents mentioned that they were familiar with politicians - which was impossible, given that the all the candidates were fictitious.

¹²A small subset of subjects saw a ballot with only 2 candidates. These 2-candidate ballots are less comparable to the overall sample for a number of reasons and are not discussed in the text. See Appendix for additional details.

For the party affiliation treatment condition, each candidate profile indicated that they were affiliated with one of Brazil’s three largest political parties, the PT, the PSDB, or the PMDB. Candidates’ policy positions were designed to be consistent with their party labels. Although partisanship in Brazil is notoriously low, many Brazilian voters are anti-partisans, meaning they have no positive party attachment but have strong attitudes against a particular political party (Samuels and Zucco 2018). As a result, even if subjects do not see a candidate from their preferred party on the ballot, the presence of party labels may aid them in deciding who to vote for.

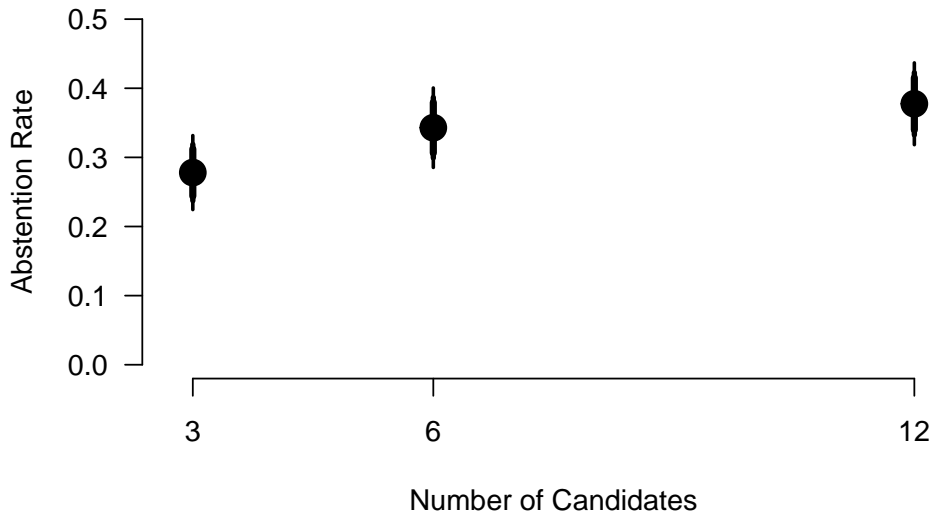
The experiment, which was originally designed to study the impact of race, gender, and partisanship on voting in Brazil, was not fully balanced. Ballot length only varied for some combinations of race, gender, and party labels. We exclude combinations of candidate race and gender that offer no variance on ballot length. Table 2 shows the number of subjects in each of the retained treatment groups. A full list of treatments from the original study is shown in the Appendix.

Table 2: Treatment Assignments

Race of Treatment Candidates	Ballot Length		
	3	6	12
White Treatment			
Party ID	152	156	141
No ID	160	144	145
Black Treatment			
No ID	152	152	159

Figure 3 shows the proportion of subjects who abstained when presented ballots with 3, 6, or 12 candidates that contained no party labels. When given a ballot with three candidates, 28 percent of subjects abstained. When there were 6 candidates on the ballot 36 percent abstained and when there were 12 candidates 38 percent abstained. These differences are consistent with our first hypothesis and provide compelling evidence that choice set size affects electoral participation. These sizeable effects are all the more notable because voting in the experiment was essentially

Figure 3: Abstention Increases With Ballot Length



Note: Figure 3 shows the proportion of subjects in the 3, 6, and 12 candidate treatments that chose “none” when asked to pick a preferred candidate, with 90, 95, and 99% confidence intervals.

costless: the subjects did not need to travel to a voting location, they were provided access to information about the candidates, and since this was not a real election, they could have simply picked a candidate at random.

Available evidence suggests that subjects abstained from voting not in protest or error, but because they were overwhelmed by the task of choosing from a large choice set. According to Aguilar et al. (2015), when presented with a ballot with three candidates, subjects appeared to make voting decisions carefully. They routinely read about candidates’ backgrounds and examined their issue stances before voting. When presented with a ballot with 6 or 12 candidates, however, subjects often did not even glance at candidates’ profiles before deciding.

Table 3 reports differences in the proportion of subjects who abstained when presented ballots with 3, 6, or 12 candidates that contained no party labels (3 versus 6, 3 versus 12, and 6 versus

Table 3: Difference of Proportions Tests Matrix

	6	12
3	0.079*	0.103**
6		0.023

* p < .05, ** p < .01

Note: Cells show the abstention rate for column treatment minus abstention rate for row treatment.

12). Each cell indicates the difference in proportions of subjects who chose a candidate under different treatment conditions (row minus column). For example, the 3,6 cell (value = 0.079) indicates that the proportion of subjects who did not choose a candidate when presented with six candidate ballot is 0.079 higher than the proportion of subjects who did not choose a candidate when presented with a three candidate ballot. Asterisks denote significance at the 0.05 and 0.01 levels. Subjects in the 6 and 12 candidate treatment have significantly higher abstention rates than subjects in the 3 candidate treatment (p-values of 0.044 and 0.009 respectively), but the difference between 6 and 12 is not statistically significant (p-value = .612).

The regression results reported in Table 4 confirm that these findings hold and also allow us to assess our second hypothesis about the role of information on candidates' party affiliation. Each of these models regressed abstention on a measure of ballot length, a series of demographic controls for the survey subjects, and the dichotomous indicator variable, *Party ID Shown*, which denotes whether subjects could learn the party affiliation of the hypothetical candidates.¹³ Regarding the main effect of ballot length (Hypothesis 1, Model 1), the *Number of Candidates* variable has a positive and statistically significant impact on abstention. According to Model 1, adding one candidate to the ballot is associated with a 1 percentage point increase in abstention.

Turning now to our second hypothesis, we find that party labels reduce the incidence of abstention. The main effect estimate for *Party ID Shown* suggest that labels reduce abstention by about six percentage points, although this estimated effect is only significant at the .10 level. We also test whether partisan cues on the ballot attenuate the impact of ballot length on abstention by

¹³We include demographic controls because the survey experiment was not perfectly balanced.

Table 4: Choice Set Size Experiment Results

	<i>Dependent variable:</i>	
	Abstention Rate	
	Model 1	Model 2
Number of Candidates	0.0108*** (0.0035)	0.0115*** (0.0042)
Party ID Shown	-0.0615* (0.0321)	-0.0466 (0.0604)
Num Cands X Party ID		-0.0022 (0.0075)
Black Candidate	-0.0488 (0.0316)	-0.0489 (0.0316)
Female Respondent	-0.0625** (0.0262)	-0.0625** (0.0262)
R's Education	0.0240 (0.0167)	0.0239 (0.0167)
Political Interest	-0.0198 (0.0146)	-0.0200 (0.0147)
Intercept	0.2946*** (0.0643)	0.2903*** (0.0659)
R ²	0.0170	0.0170
Adj. R ²	0.0124	0.0117
Num. obs.	1297	1297

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

interacting the *Party ID Shown* indicator variable with a measure of ballot length. Theory suggests that when voters are overwhelmed, they are likely to turn to heuristics to overcome choice overload. Consistent with theoretical expectations, Model 2 shows that the interaction yields a negative coefficient, but the effect is small and insignificant. In short, although party labels do appear to reduce abstention, we find little evidence that they mitigate the impact of ballot length on electoral participation.¹⁴

Overall, the results of our experimental analysis mirror the findings of our observational work. In the experiment, we find that that ballot length has a significant and substantively large effect on abstention. Subjects who were asked to select representatives from small choice sets were significantly less likely to abstain than subjects who were presented with large choice sets. Although subjects were more likely to participate when they had access to information on party affiliation, our findings also indicate that such voting cues do not always enable voters to overcome the cognitive burdens that accompany large candidate fields. Together, these results indicate that when more candidates run, voters are less likely to participate even when they can use heuristics to simplify voting decisions.

Discussion

Choice is central to democracy. Having too few candidates or parties in an election can effectively deny voters the opportunity to select representatives who reflect their preferences (Damore, Waters and Bowler 2012). Rather than voting for the candidate they dislike the least, voters who feel they have little effective choice routinely choose not to participate at all (Cohen 2018*a,b*; Uggla 2008). When voters are given the chance to choose from a large numbers of candidates, however, participation may also suffer. As the number of candidates increases, voters must process greater amounts of information in order to make an informed decision (Cunow 2014). To reduce the cognitive difficulty of making complex election decisions, some voters may decide that the best option is to not vote for anyone.

¹⁴See the Appendix for more information.

In this paper, we present empirical evidence that as the number of candidates competing increases and the cognitive burden for voters grows, voters are less likely to participate. Using election data and a survey experiment, we find that voters have difficulty navigating even relatively short ballots. When the number of candidates increases from just three to six, subjects were eight percentage points more likely to abstain. Although overwhelmed voters might be expected to use information shortcuts to simplify voting decisions, we find that the availability of party labels does not assuage the effect of choice set size on participation.

Our findings apply most directly to voting behavior in electoral systems with large candidate fields. Voters are particularly likely to experience choice overload when many candidates compete. Nonetheless, our findings are by no means irrelevant to electoral systems in which voters typically choose between a couple candidates. In the United States, for example, voters in party primaries and at-large districts are commonly tasked with choosing between more than a handful of candidates. Our findings suggest that some voters may forgo participating in these types of contests because the number of options they encounter is overwhelming.

Our study has several limitations. Both our observational and experimental data come from Brazil, where partisanship is generally low. Our observational analysis does not identify causal effects, and may be influenced by strategic candidate emergence. While our experimental analysis allow us to identify the causal effect of ballot length on abstention, it has other limitations. Arguably the biggest limitation is that it does not provide the means to fully explore the possible mechanisms at work. Further experimental work on participation and choice set size is therefore warranted.

Electoral systems are designed to provide representation, accountability, and governability. The extent to which they facilitate decision making though is likely to condition the extent to which they achieve these ends. In elections with many candidates, voters are likely to have the opportunity to select someone that shares their interests and preferences. If voters are unwilling or unable to identify quality representatives, though, lawmakers may fail to represent their interests and advocate on their behalf. When it comes to elections, providing voters too much choice may

be just as bad as providing too little.

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