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More Choice, Higher Turnout? The Impact of Consideration Set Size and Homogeneity on Political Participation

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ABSTRACT *Central to the emerging scholarship on how political supply influences electoral behavior is the claim that more choice leads to higher turnout. However, empirical tests of this proposition have been limited to the aggregate level. This article examines the relationship between the properties of electoral choice sets, as perceived by the voters, and electoral participation. Following recent advances in choice research, the article distinguishes between an awareness set, consisting of all choice options known to the voter, and a consideration set which includes only those alternatives that are seriously considered by the voter. We hypothesize that the cardinality, ideological homogeneity and distinctiveness of individual consideration sets are positively associated with electoral participation. The expectation is tested with individual-level data from three waves of the European Elections Study. Our results suggest that the relationship between the structure of political supply and participation is complex: while the number of choice alternatives in the consideration set is positively associated with turnout, the ideological diversity of choice options suppresses electoral participation.*

Introduction

Political participation in a democratic polity is about making choices. Voters choose to participate in elections or not, and participation entails choosing among available political alternatives. While attempts to explain these choices have traditionally focused on the characteristics of voters, electoral researchers have become increasingly interested in the question of how political supply influences electoral behavior (Dalton and Anderson 2010; Klingemann and Wessels 2009). The emerging literature on electoral choice sets argues that electoral contexts vary both in terms of how much choice they offer to voters and how meaningful these choices are (Schmitt and Wessels 2005; Wessels and Schmitt 2008).

A central claim in the recent scholarship on the effects of electoral choice sets is that more choice leads to increased electoral participation. This expectation is consistent with theories that conceptualize voting as rational, self-serving choice. A larger

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supply of differentiated political alternatives allows for more effective utility maximization (Downs 1957): with a larger number of options to choose from, more voters are likely to find a party or candidate whose views they perceive to be close to their own. The positive association between turnout and the number and heterogeneity of electoral alternatives has been empirically confirmed by a number of studies, including Wessels and Schmitt (2008) and Klingemann and Wessels (2009).

However, there are both theoretical and methodological reasons to revisit the hypothesis that more choice boosts electoral participation. First, research conducted in other disciplines, notably consumer behavior and behavioral economics suggests that the relationship between the number and distinctiveness of choice options and the likelihood of making a choice is complex. Several studies have demonstrated that an increased number and diversity of choice alternatives augments the cognitive complexity of the choice situation and may lead to choice deferral (Deshazo and Fermo 2002; Dhar 1997; Greenleaf and Lehmann 1995; Hensher, Stopher, and Louviere 2001). In light of the limited political interest and sophistication of the average citizen (van Deth 1990, 2000; van Deth and Elff 2000), the proposition that having too many choices to consider may reduce the ability or willingness to choose merits closer consideration also by electoral scholars. Second, most of the evidence supporting the claim that more choice leads to higher turnout is produced by aggregate-level studies which conceptualize choice sets as attributes of political systems, focusing on the number and distinctiveness of parties contesting an election (Wessels and Schmitt 2008). However, choice research in other disciplines – and more recently, political science – suggests that people differ greatly from one another in terms of their awareness, perceptions and evaluations of the options that constitute the choice set (Gruca 1989; Steenbergen and Hangartner 2008; de Vries and Rosema 2009; Wilson 2008). Because individual choices are ultimately the product of individual perceptions, it is important to gain a better understanding of how voters see the choice situation in which they find themselves. An enhanced understanding of perceptions and behavior at the micro level is essential for building better models of electoral choice.

This paper examines the question of whether more choice is associated with increased electoral participation, using individual-level data from three rounds of the European Elections Studies. We first propose a novel way to conceptualize and measure electoral choice sets on the individual level and secondly, assess empirically how choice set properties impact upon electoral participation.

More Choice, Higher Turnout?

The intuitive answer to the question of whether more choice in elections boosts participation would be yes. An abundance of choices should augment both the instrumental and intrinsic value of choosing (Pereira and Andrade e Silva 2009, 102–103), thus increasing the probability that people turn out to vote. A larger set of vote options (and, thus, possible governments) allows for more effective utility maximization according to each voter's preferences. With more choices, people are also likely

to derive a greater sense of satisfaction from choosing and attribute greater value to the chosen option (Chernev 2003, 170–171; Iyengar and Lepper 2000, 995). A larger set of choices should also increase the chooser's confidence that all theoretically possible options are actually present and there is no need to defer choosing in anticipation of a better available set in the future (Iyengar and Lepper 2000, 995). More choice should therefore be always preferable to less choice when both the instrumental and intrinsic value of choosing is considered.

How much real choice voters have depends not only on the number of choice items but also on their distinctiveness on relevant dimensions. In consumer research, choice set heterogeneity has been associated with a reduced probability of choice deferral (Dhar 1997, 217). Recently, electoral scholars have become interested in the distinctiveness of choices voters face in elections and its implications for electoral behavior. In a paper that inspired further research on the topic, Schmitt and Wessels (2005) argued that elections differ in the extent to which they provide meaningful choices – that is political alternatives that differ from one another in terms of ideology, policy and performance. Turnout, they argue, reflects the meaningfulness of choices and elections: when political supply is undifferentiated, the opportunity to maximize electoral utility is limited and choice becomes relatively inconsequential.

The relationship between turnout and choice set size and heterogeneity may not be linear, however. Findings in consumer research and information processing suggest that from a certain level onwards, choice set complexity starts to negatively affect the ability to make a choice or make consistent choices (Deshazo and Fermo 2002; Hensher, Stopher, and Louviere 2001). The cognitive gap (see Heiner 1983) between voter abilities and the demands of making a choice might increase with more complex choice sets. Faced with information overload (Lee and Lee 2004), individuals are likely to switch to different choice strategies marked by reliance on cognitive heuristics and use of simplified decision rules as suggested by Downs (1957) and empirically confirmed by others (e.g. Mazzotta and Opaluch 1995). Thus, a number of studies suggest that a larger number of choices might lead to no choices being made or choice deferral (Dhar 1997; Greenleaf and Lehmann 1995).

Only a handful of studies have empirically tested theoretical expectations about the relationship between turnout and the size and distinctiveness of electoral choice sets. Using aggregate-level data from 26 European countries, Wessels and Schmitt (2008) report that the effective number of political parties, the range of political offers on the left-right scale and the differentiation of supply are all positively associated with turnout. Klingemann and Wessels (2009) find that voter decision-making becomes simpler when the differentiation of political supply increases, as measured by the number of parties, the effective number of parties and the average number of party lists and the average number of candidates per district. Proportional electoral systems, which tend to offer more choice between competing party alternatives have higher turnout levels (Blais and Carty 1990; Blais and Dobrzynska 1998; Franklin 2003; Jackman and Miller 1995; Radcliff and Davis 2000). Then again, multi-partyism has been shown to decrease turnout (Banducci and Karp 2009; Jackman 1987). Yet other studies suggest that turnout does not increase with the effective number of

parties (Blais 2006; Blais and Aarts 2006). All in all, it is not clear how choice sets impact upon electoral participation, pointing toward a need for a more refined conceptualization of choice sets and the way in which they affect turnout.

Modeling Choice at the Individual Level: Awareness Sets and Consideration Sets

A large number of studies suggest that decision-makers do not consider the full universe of choices but due to cognitive constraints as well as pre-existing evaluations, focus on a limited subset of alternatives (e.g. Hauser and Wernerfelt 1990; Punj and Brookes 2001; Roberts and Lattin 1991, 1997; Roberts and Nedungadi 1995; Shocker et al. 1991; Swait et al. 2002). In this paper, we adopt the terminology used in consumer research. Thus, we refer to the totality of available alternatives as the *universal set*. The set of choices of which the decision-maker is aware is termed the *awareness set*. Finally, the set of alternatives that a person reasonably considers in the decision-making process is known as the *consideration set*. The formation of a consideration set is often regarded as the first step in a two-step choice process, and it is assumed that only items included in the consideration set can eventually be chosen. Furthermore, a key argument emerging from this literature is that modeling choice from consideration sets, rather than awareness sets, “is a more empirically realistic and methodologically appropriate approximation of the decision process” (Wilson 2008, 162). Ignoring the distinction between all available options and the ones actually considered by the decision-maker “results in misspecified models, parameter instability, and errant conclusions” (Wilson 2008, 162).

Distinguishing between universal sets, awareness sets and consideration sets has analytical merits in the study of voting behavior. In many electoral settings, especially new and unconsolidated democracies, voters are not aware of all electoral contenders in their district, and even if they are, they do not seriously consider all of the options on the electoral menu. This claim is consistent with the extensive literature that portrays voters as cognitive misers who rely on mental shortcuts to minimize information costs (e.g. Lupia and McCubbins 1998; Popkin 1991), as well as the literature on strategic voting which claims that voters want to make their vote count and hence dismiss parties and candidates who do not have a serious chance of winning (e.g. Cox 1997). If it is true that voters never seriously consider several or perhaps even most of the alternatives on the electoral menu, then the characteristics of universal sets should be of limited interest to scholars of voting behavior, and attention should be shifted to analyzing consideration sets. The central question of this paper can thus be reformulated as follows: are the properties of consideration sets systematically related to the likelihood of voting and if so, how?

This paper focuses on three properties of consideration sets, including their cardinality (i.e. the number of items in the set), their ideological span and their ideological distinctiveness. These properties of consideration sets have been argued to vary according to the availability of an ideal point, defined as “a combination of attributes and attribute values describing the ideal choice alternative” (Carpenter and Nakamoto 1989; Chernev 2003). When the ideal point is clearly articulated, the subset of choices

that the individual considers is likely to be small, scarcely populated and distinguishable. In the absence of a clearly defined ideal point, the consideration set is likely to include a greater number of items, and be more heterogeneous and less distinct. Consideration set homogeneity and distinctiveness could also be related to political sophistication: to the extent that ideological voting is more prevalent among sophisticated voters (e.g. Dassonneville and Dejaeghere 2014; Jou 2011), such voters should form consideration sets that are relatively homogeneous and distinct from the remaining choice options.

Building on the reasoning laid out above, we specify our expectations about the relationship between consideration set characteristics and electoral participation.

First, following most of the existing literature, we posit the hypothesis that having more attractive options is associated with a higher probability of electoral participation:

H1: The greater the cardinality of the consideration set, the higher the likelihood of voting.

This expectation is consistent with the literature that regards alienation as a key determinant of abstention (Adams, Dow, and Merrill 2006; Brody and Page 1973): voters who dislike all parties (i.e. have empty consideration sets) are less likely to take part in elections than those with inhabited consideration sets. It is not clear, however, what level of consideration set cardinality should be most conducive to participation. To account for the possibility that beyond a certain point, an increase in the number of attractive alternatives increases the cognitive complexity of the decision situation which in turn discourages participation, we also test the expectation that there is a curvilinear relationship between the cardinality of the consideration set and the likelihood of voting.

Second, we expect that the ideological span of the consideration set is negatively associated with electoral turnout. An ideologically homogeneous consideration set should be a sign of greater political sophistication which is widely regarded as a key predictor of electoral participation (Smets and van Ham 2013). Conversely, we expect a highly heterogeneous consideration set to be indicative of less developed and less consistent political preferences characteristic to less sophisticated voters.

H2: The larger the ideological span of the consideration set, the lower the likelihood of voting.

Our final expectation is that the ideological distinctiveness of the consideration set increases the likelihood of electoral participation. Voters who form consideration sets that are ideologically distinctive from less-preferred political alternatives have ideology-based utility functions indicative of greater political sophistication. Such voters have potentially more to lose from the victory of political contenders not included in their consideration sets than voters with less distinct consideration sets. This phenomenon, referred to as a *trade-off contrast* in consumer research, has

been shown to increase the likelihood of making a choice (Deshazo and Fermo 2002; Simonson and Tversky 1992). Our final hypothesis, therefore, is as follows:

H3: The greater the ideological distinctiveness of the consideration set, the greater the likelihood of voting.

Though the literature points towards linear effects we also test here for curvilinearity as preliminary data analysis pointed towards possible non-linear patterns.

Operationalizing Consideration Sets and Their Properties

Our research design calls for an empirical test of maximum generality. The conjecture that characteristics of consideration sets have an effect on electoral participation should be tested with data from multiple elections and diverse party systems. At the same time, it would be feasible to minimize the influence of contingent national factors. For these reasons, we use pooled data from three waves (1999, 2004, 2009) of the European Election Study (EES), a survey conducted in the context of the European Parliament (EP) elections.¹ Held simultaneously in all EU member states under unified electoral rules (proportional representation), EP elections are nevertheless organized on a national basis, and are contested by national parties. Thus, EP elections provide a unique “combination of country differences and cross-national context uniformity that can be seen as providing appropriate laboratory-like ‘windows’ into national political processes” (De Sio and Franklin 2012, 1370).

Next, we turn to the question of how to measure the cardinality, ideological span and distinctiveness of consideration sets using EES data. First, we need to establish a criterion for distinguishing between parties included in the consideration set and those that were not. In the absence of a direct measure of whether a party was considered or not, we use the propensity-to-vote (PTV) measure that was included in all three rounds of the EES.² PTVs are a widely used measure of electoral utility associated with each choice item (van der Brug, van der Eijk and Franklin 2007; van der Eijk and Franklin 2009; van der Eijk and Niemöller 1984; van der Eijk and Oppenhuis 1991). We follow van der Eijk and Oppenhuis (1991, 59) in treating a PTV score of 8 or above as a high voting probability and classify a party as being included in the voter’s consideration set if the PTV score assigned to it by the voter falls within these thresholds. While the PTVs are admittedly an indirect measure of inclusion in the consideration set and the choice of a cut-off point remains arbitrary, using PTVs makes sense in this context because a high probability of voting for party A should logically mean that the party was considered by the voter, and conversely, a low probability of voting for a party should mean that the party was not considered. To sum up, our measure of the cardinality of the consideration set is the number of parties to which the voter assigned a PTV score of 8 or higher.³

Next, we need to operationalize the ideological span on the consideration set. We use two survey questions from the EES in order to place political parties inhabiting the consideration set in a Cartesian two-dimensional space, defined by the left-right and

the pro- and anti-EU integration axes. The X-axis represents respondents' perceptions of where political parties stand on the left-right dimension; the Y-axis is based on a survey question inquiring about the placement of parties on the EU dimension.⁴ European integration has become an issue that polarizes both electorates and political elites across Europe. A number of recent empirical studies examining policy space in Europe have shown that the EU dimension constitutes a salient political axis that is, furthermore, weakly correlated with the left-right dimension (Arnold, Sapir, and De Vries 2012; Costello, Thomassen, and Rosema 2012; Hobolt and Spoon 2012; Hobolt and Wittrock 2011). In fact, such studies suggest that the salience parties give to the issue of European integration is increasing (Arnold, Sapir, and De Vries 2012, 1350). These findings provide a justification for modeling political space as being defined by two orthogonal dimensions: the left-right and the pro- versus anti-EU dimension. The scale for measuring party positions ranges from 0 to 10 on both dimensions. The resulting landscape captures a voter-specific perception of where parties stand relative to one another.

Figure 1 provides a graphical example of an awareness set of a hypothetical voter: the extreme values on the left-right scale are bounded by Party 1 and Party 6 with the

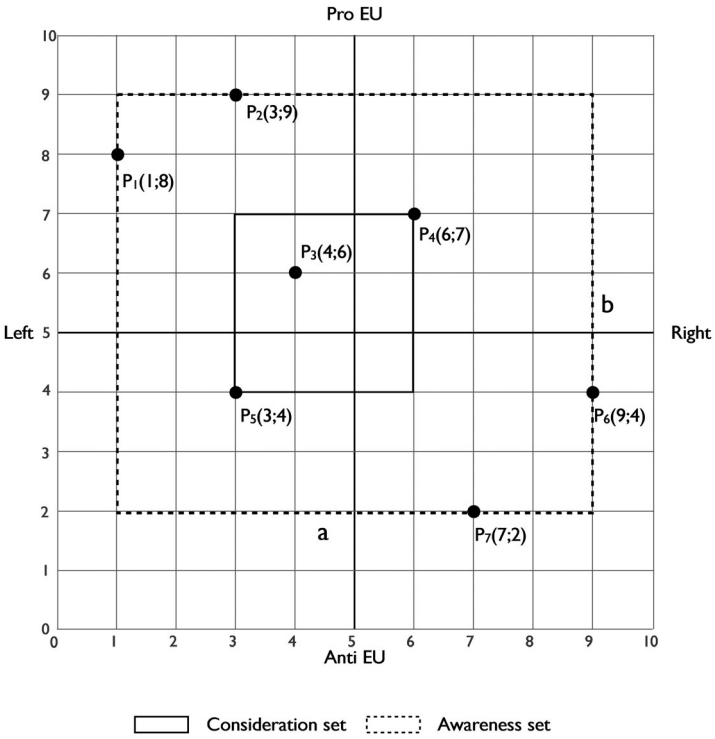


Figure 1. The ideological span of the consideration set and awareness set of hypothetical voter with parties P₃, P₄, P₅ in the consideration set (P signifies parties, coordinates in parentheses).

corresponding values of 1 and 9 on the X-axis; on the EU-scale the boundaries are set by Party 2 and Party 7 with the corresponding values of 9 and 2 on the Y-axis. Within that awareness set parties 3, 4 and 5 have received a PTV score between 8 and 10 and therefore form a consideration set. This set is bounded by coordinates 3 and 6 on the X-axis and 4 and 7 on the Y-axis.

To calculate the ideological span of the consideration set, we first ascertain the difference between the minimum and the maximum value assigned to parties inhabiting voter-specific consideration sets on both dimensions ($a = x_{\max} - x_{\min}$; $b = y_{\max} - y_{\min}$). This yields the lengths of the two sides of a consideration set rectangle (see [Figure 1](#)), the product of which represents the area of the rectangle ($S = a \times b$). Not all voters, however, distinguish between all parties on both dimensions.⁵ The EU-dimension in particular suffers from this problem. Therefore, for individuals who discriminate between at least two parties on one dimension, but assign the same value to the said parties on the other, the choice set rectangle collapses into a vertical or horizontal line segment (e.g. $a = 4, b = 0$). Second, for voters who *do not* discriminate between parties at all, the rectangle effectively collapses into a point, because they assign exactly the same value to a party/parties on both dimensions (e.g. $a = 0, b = 0$). In order to account for the presence of such special cases, we need a measure that would universally characterize the ideological span of all shapes that can logically occur – rectangles, lines (either horizontal or vertical) and discrete points. We propose measuring the spatial span of the consideration set by the following equation:

$$S = (\sqrt[3]{a} + \sqrt[3]{b})^3 \quad (1)$$

where a is the length of the side of the rectangle along the left-right dimension and b along the EU dimension. In case of line segments (where $a = 0$ or $b = 0$), $S = a$ or $S = b$. In such cases, the span of the consideration set is defined only by parties placed on one dimension. If we deal with a discrete point (this is the case for sets inhabited by a single party, as well for sets consisting of elements with identical ideological scores) then $a = b = 0$ and the ideological span of such a consideration set is zero.

Taking the cube root before summing the length of the axes accentuates differences in choice set span when they are small and diminishes differences when they are large. Raising the sum to the power of three transforms S back to its ordinal metric.

Our last remaining property of interest is the ideological distinctiveness of parties included in the consideration set. We hypothesized that a large ideological contrast between parties included in the consideration set and the parties that are least preferred by the voter would increase the probability of electoral participation because more is at stake for the voter. We express distinctiveness as the total mean ideological difference between parties included in the consideration set and the least-preferred parties on both dimensions (see [Appendix A](#)).

Empirical Model

According to our theoretical framework, we expect to find a positive relationship between the cardinality, ideological homogeneity and distinctiveness of the consideration set and electoral participation. We define our dependent variable as a dichotomy between those respondents who voted in EP elections (coded 1) and those who did not (coded 0). We acknowledge that measuring turnout by means of survey data may result in overreporting of electoral participation in EP elections, however, in the absence of better measures relying on this survey item is the only way to model electoral behavior at the individual level.

Following our expectations, we specify three key research variables that are expected to influence the dependent variable: the cardinality (C), ideological span (S) and ideological distinctiveness (D) of the consideration set.

In addition, we control for typical predictors of electoral participation, including gender (coded 1 for males, 0 for females); age; political interest (a four-category ordinal variable recoded into dummies with “no interest at all” as the reference category) and education (years of full-time education completed). Given that turnout in EP elections is substantially lower in new member states (Hix and Marsh 2011; Wessels and Franklin 2010) and that the electoral process tends to follow a different logic in new democracies we also include a control for the age of democracy with countries that joined the EU in 2004 and later coded as new (1) and all others as old democracies (0). We also include an aggregate-level control for variations in political supply in the form of the effective number of electoral parties.⁶ In including these variables, our aim is to test whether the effects of consideration set parameters on turnout persist while controlling for these covariates. To account for the possible non-linear effects of the cardinality and distinctiveness measure we also added their squared terms into the model, these results will be discussed separately. Finally, in order to take the multilevel structure of the data properly into account we estimate a mixed-effects two-level logit model with individuals nested in countries in the given years. It takes the following form:

$$\Pr(y_{ij} = 1 | u_j) = H(\beta x_{ij} + z_{ij} u_j) \quad (2)$$

where x_{ij} are the covariates of the fixed effects and z_{ij} are the covariates for the random effects, that is random intercepts and random coefficients for the choice set parameters, and H is the logistic cumulative distribution function.

Findings

Table 1 reports the effects of perceived choice set parameters, measured on the individual level, on voters’ propensity to participate in elections. Notice that the model also includes control variables, but since we are not interested in their performance *per se*, the full model is reported in Appendix B. To facilitate interpretation, we report odds ratios instead of logit coefficients.⁷

Table 1. Explaining turnout: the effect of choice set parameters on turnout

	Estimate
<i>Fixed effects</i>	
Cardinality of consideration set	1.057**
Ideological span of consideration set	0.997*
Distinctiveness of consideration set	1.023***
Controls	<i>Included</i>
Constant	0.302***
<i>Random effects</i>	
Variance (Number of parties in consideration set)	0.060
Variance (Ideological span of consideration set)	0.000
Variance (Distinctiveness of consideration set)	0.013
Variance (Constant)	0.671
<i>N</i> (Individuals)	38,618
<i>N</i> (Countries in years)	56
Log likelihood	-19,843

Note: Dependent variable: 1 voted, 0 did not vote. The table reports odds ratios for the fixed effect part. Significance levels.

*** $p < 0.001$.

** $p < 0.01$.

* $p < 0.05$.

The results of the model, reported in [Table 1](#), are in line with our theoretical expectations. First, the cardinality of the consideration set is positively associated with participation. As the odds ratios show a unit change for a variable that ranges from 0 to 12, the effect reported is a sizeable one.⁸ The model with the squared term (not reported) showed, however, still a clear linear effect, we therefore proceed with the simple model that does not include the interaction.

Second, the larger the ideological span covered by parties in the consideration set, the lower the likelihood of participation. Given that the variable has an empirical range of 0–80, the odds ratio reported in [Table 1](#) represents a non-negligible negative effect on participation.

Third, as expected, the distinctiveness of the consideration set has a positive effect on electoral participation, with the variable range of 0–20 suggesting a sizeable effect. This means that a large ideological distance between parties included in the consideration set and the parties least preferred by the voter increases the likelihood of participation, a clear indication of the trade-off contrast phenomenon at work. Here as well the squared term of the variable (not reported) did not produce a non-linear pattern, suggesting a robust linear effect.

[Figure 2](#) provides additional information about the effects of consideration set parameters on electoral participation. It shows the predicted probability of electoral participation for specific values of our key independent variables while holding other variables constant at their means. In order to test whether these effects are robust

across different approaches to operationalizing ideological space, we also calculate and graph the effects of span and distinctiveness for a unidimensional ideological space defined only by the left-right axis. The results are displayed in Appendix C. We see that the directions of the effects remain unaltered although the strength of the effects is weakened. The left-right scale absorbs variation on the EU dimension only partially. Hence the weaker effects could be caused by the reduction in dimensionality, one instead of two, which subsequently reduces variance. Reduced variance, as a rule, also produces weaker effects, so this is more a technical artifact rather than a substantive issue.

Turning to Figure 2 we see, first, that cardinality does show a strong positive effect. However, notice the wide confidence intervals at higher cardinality values. This indicates that few respondents attach high-utility levels to a large number of parties simultaneously. For robustness we examined the cardinality effect closer at its different ranges and a clear positive effect persisted even in these subpopulations. In light of this we can confirm our first hypothesis and conclude that a linear increase in the number of choice alternatives in the consideration set seems to increase the probability of participation.

Second, the ideological span of the consideration set is clearly negatively related to the probability of participation and no particular value of the ideological span appears to be accountable for it. In other words, the larger the ideological span covered by parties that are highly preferred by the voter, the smaller the likelihood that the voter will take part in elections. This finding corroborates our second hypothesis, leading us to conclude that the ideological homogeneity of the consideration set is positively associated with electoral participation.

Third, the distinctiveness of the consideration set shows a clear positive linear effect. The trade-off contrast phenomenon seems to be at work, which confirms the third hypothesis.

We refrain from interpreting the effects of our control variables (reported in Appendix B), because they exercise an expected influence on electoral participation.⁹ What is important, however, is that the main effects of our key research variables persist when controlling for potential socio-demographic and attitudinal covariates.

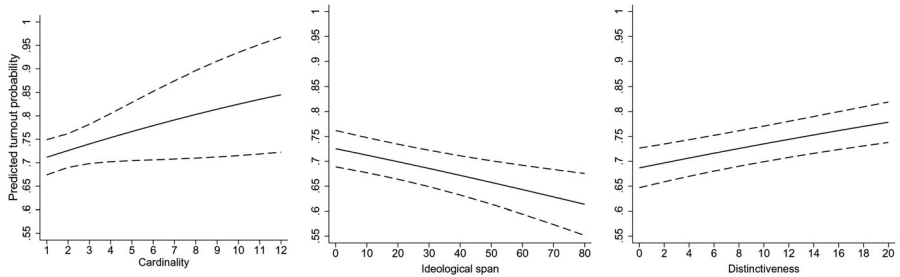


Figure 2. Predicted probabilities of participation (with 95% confidence intervals) by the cardinality, ideological span and distinctiveness of the consideration set.

In sum, we identify the following mechanism by which consideration set properties impact upon electoral participation.

Mechanism: The probability of electoral participation increases as the 1) number of choice alternatives within a consideration set *increase*, 2) the ideological span that is covered by those parties *decreases* and 3) the distinctiveness of the consideration set *increases*.

Discussion

This study adds a number of new insights to the literature on electoral choice sets and their impact on turnout. First, it demonstrates the value of including voters' subjective utility calculations in analyses on how political supply impacts electoral participation. While previous studies on the topic have argued that it is not simply the number of choices that matters but also their meaningfulness (e.g. Klingemann and Wessels 2009; Wessels and Schmitt 2008), aggregate-level designs have generally reduced meaningfulness to the ideological distinctiveness of choice items. This study took a different approach: borrowing from consumer research (e.g. Deshazo and Fermo 2002) and the extensive literature on electoral utilities (van der Brug, van der Eijk, and Franklin 2007; van der Eijk et al. 2006), it factored into the analysis the differential utility scores that voters ascribe to the alternatives constituting political supply. Focusing on consideration sets consisting of alternatives to which the voter attributes high utility is in line with the repeated call to model choice from subjectively defined consideration sets, as opposed to the universal set (Wilson 2008).

Contrary to the previous aggregate findings, our analysis suggests that having a large number of highly attractive choices matters more for participation than just a sheer number of all parties as shown by the significance of the cardinality and non-significance of the effective number of electoral parties. Having more bad choices provides few incentives to choose any of them – especially if abstention is an easy option. In fact, the number of choices is likely to boost turnout only in case the utility provided by these choices exceeds a certain threshold – the choice alternatives matter only if they satisfy the voter's minimal criteria for inclusion in the consideration set. A mismatch between political supply and demand may give rise to a situation where the voter faces an extensive choice menu but is left with an empty tray of highly preferred parties. Similarly to a vegetarian who leaves a steakhouse after browsing the menu, such a voter is likely to abstain. An individual faced with a large number of subjectively appealing alternatives, however, is unlikely to leave the restaurant without ordering a meal – or stay at home on election day.

Second, this study yielded novel findings about how the ideological span and diversity of choices influences turnout. Previous studies on the topic have suggested that choice is more meaningful (and hence, more likely) when the alternatives on offer are diverse and clearly distinguished from another. Our results enable us to specify the relationship further. We found that the ideological span of the

consideration set is negatively associated with electoral participation (even though the number of parties in such a set has a positive effect on turnout). This means that people who attribute high utility to a larger number of ideologically similar parties are more likely to vote than those whose subjectively constructed consideration sets include fewer parties or whose high-utility options are ideologically distant from one another. We also found that the probability of electoral participation grows, as the perceived ideological distinctiveness of the consideration set from the least-preferred alternatives increases.

In sum, our results suggest that we cannot understand the choices individuals make in elections if we neglect the question of how they perceive the choice alternatives in the first place. These perceptions are highly divergent: voters differ in their awareness of choice options, in their perceptions of where parties stand on relevant dimensions of political contestation and in their assessments of the utility the alternatives provide. This study showed how voters' perceptions of some basic choice set parameters influence their propensity to vote in elections. Future studies should dwell more deeply into the linkages between perceived properties of choice sets and various aspects of electoral behavior. In particular, electoral research would benefit from greater familiarity with the hypotheses and evidence produced by choice research in other disciplines, most notably studies of consumer behavior. Although the market analogy has its limits, findings regarding choice set complexity, choice consistency, multi-stage decision-making, consideration set formation and other related issues have the potential to advance our understanding of when individuals choose to vote, and why they vote the way they do.

Disclosure Statement

No potential conflict of interest was reported by the authors.

Notes

1. Extending the pooled dataset beyond the 1999 wave is not feasible due to the absence of key indicators used in our operationalization. Notice that we have dropped observations from enforced compulsory voting countries Belgium and Luxembourg (all years) and Greece (1999) (http://www.idea.int/vt/compulsory_voting.cfm).
2. The EES survey question is formulated as follows. "Some people are quite certain that they will always vote for the same party. Others reconsider in each case to which party they will give their vote. I shall mention a number of parties. Would you indicate for each party how probable it is that you will ever vote for that party?" The respondent is provided with the list of parties in the respective polity with a scale ranging from 0 to 10, where 0 means "Will certainly never vote for this party" and 10 means "Will certainly vote for this party at some time".
3. We replicated the analysis that follows also by grouping parties with a PTV between 4–7 and 0–3. The effects were not statistically significant, indicating that the PTV cut-off point suggested by van der Eijk and Oppenhuis (1991) is an empirically valid threshold separating parties that seem to matter most for the vote choice.
4. Q: And about where would you place the following parties on this (left-right) scale? How about the (Party a)? Which number from 0 to 10 [*1–10 in 1999 and 2004*], where 0 [*1 in 1999 and 2004*]

means “left” and 10 means “right” best describes (Party a)? Q: And about where would you place the following parties on this scale (EU)? How about the (Party a)? Which number from 0 to 10 [1–10 in 1999 and 2004], where 0 [1 in 1999 and 2004] means “already gone too far” and 10 means “should be pushed further” best describes (Party a)?

5. Missing party positions were imputed using the iterative Markov chain Monte Carlo method assuming an underlying multivariate normal model (using *mi impute mvn* command in STATA 12). We imputed the socio-demographic controls and the party positions on both dimensions and did so for each country in each year separately. Both the left-right and the EU-integration dimension tended to have more missing values on smaller parties and the EU-dimension had more missing values in general indicating clear non-random missingness. We did not impute, however, the PTVs, as these formed the core of the operationalization of the choice sets and lacking any choices due to not wanting to assign PTVs suggest the individual is not even aware of the party which differs from being unable to place a given party on an ideological dimension. We produced five datasets with imputations to arrive at the recommended 90% efficiency level (Cole 2008, 224).
6. Computed based on data from the European Election Datatbase <http://tinyurl.com/n9ggeuq>. Independent candidates were treated as one party and only parties receiving more than 1% of the vote were included in the calculations.
7. Multicollinearity diagnostics were within the acceptable limits, the largest variance inflation factor was 3.35. The measures of fit which we can report are severely limited due do the analysis being performed on multiply imputed datasets.
8. Given that the number of parties in the consideration set could be partly determined by the overall number of parties in the given country, we also ran the model with an alternative specification of the cardinality variable (the share of parties included in the consideration set out of all parties). The effect was similarly positive and significant, though somewhat stronger than the number of parties expressed as a count. We still use count as the preferred measure as it corresponds more closely to our theoretical approach.
9. We also ran the model on old and new democracies separately and found that all of the effects hold for old democracies, while the number of parties in the consideration set and the ideological span did not play a significant role in new democracies. The distinctiveness of the consideration had a comparable and persistent effect in both groups.

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Appendix A

Distinctiveness of the choice sets is calculated in the following manner. We take the center coordinate of one side (left-right dimension) of a consideration set rectangle $D_{X_{high}} = (X_{max_{high}} - X_{min_{high}})/2$ and the center coordinate for the same side of a rectangle containing the least-preferred options (PTV range 0 through 3) $D_{X_{low}} = (X_{max_{low}} - X_{min_{low}})/2$. Subtracting the latter from the former and taking its absolute value $D_{X_{high-low}} = |D_{X_{high}} - D_{X_{low}}|$ shows how distinct is the consideration set from the least-preferred set of parties on the left-right dimension. Next, we repeat the procedure for the EU dimension, which gives the difference between the consideration set and the least-preferred set of parties on the EU dimension $D_{Y_{high-low}} = |D_{Y_{high}} - D_{Y_{low}}|$. Finally, the sum of the two measures captures the distinctiveness of the consideration set $D_{high-low} = D_{X_{high-low}} + D_{Y_{high-low}}$.

Distinctiveness has special cases, too. First, for line segments that are defined by both dimensions the center coordinate for the line is computed exactly as for a side of a rectangle. However, the value for the other dimension will be the coordinate at which the respective dimension has collapsed $D_{X_{high}} = X_{high}$ or $D_{Y_{high}} = Y_{high}$. Second, for discrete points the center coordinates are equivalent to point coordinates $D_{X_{high}} = X_{high}$ and $D_{Y_{high}} = Y_{high}$. The sum of these center differences still produces the same distinctiveness measure as that of rectangles.

Appendix B

Table A1. Explaining turnout: the effect of choice set parameters on turnout (controls included).

	Estimate
<i>Fixed effects</i>	
Cardinality of consideration set	1.057**
Ideological span of consideration set	0.997*
Distinctiveness of consideration set	1.023***
Age	1.023***
Male	0.917***
Education	1.021***

(Continued)

Table A1. (Continued)

	Estimate
Very interested in politics (<i>reference: not interested at all</i>)	5.366***
Rather interested in politics	3.459***
Rather not interested in politics	1.846***
New democracy	0.501***
Effective number of electoral parties	0.958
Constant	0.301***
<i>Random effects</i>	
Variance (Number of parties in consideration set)	0.060
Variance (Ideological span of consideration set)	0.000
Variance (Distinctiveness of consideration set)	0.013
Variance (Constant)	0.671
<i>N</i> (Individuals)	38,618
<i>N</i> (Countries in years)	56
Log likelihood	-19,843

Note: Dependent variable: 1 voted, 0 did not vote. The table reports odds ratios for the fixed effect part. Significance levels.

*** $p < 0.001$.

** $p < 0.01$.

* $p < 0.05$.

Appendix C

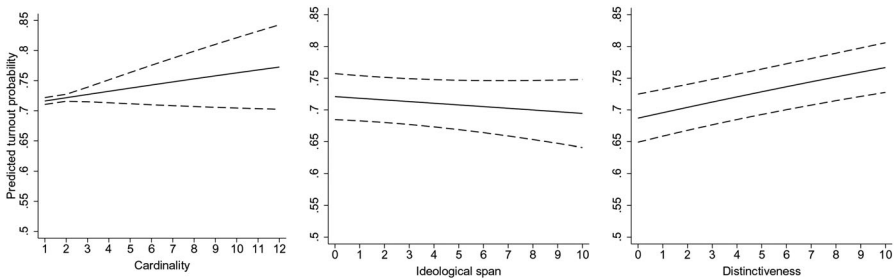


Figure A1. Predicted probabilities of participation (with 95% confidence intervals) by the number of parties, ideological span and distinctiveness of the consideration set when only the left-right dimension is used.