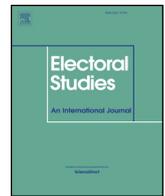




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# Consideration set models of electoral choice: Theory, method, and application<sup>☆</sup>

Henrik Oscarsson<sup>a,\*</sup>, Martin Rosema<sup>b</sup>

<sup>a</sup> Department of Political Science, University of Gothenburg, Sweden

<sup>b</sup> Centre for the Study of Democracy, University of Twente, The Netherlands

## ABSTRACT

In electoral research, decisions by voters are usually analysed as if they choose at once from the whole set of all competing parties or candidates. Consideration Set Models (CSM) posit that voters choose differently, namely in two stages. In the first stage, they exclude certain choice options and create a consideration set of viable options, while in the second stage they choose from within this set. This paper, which serves as an introduction to a special symposium about consideration set models of electoral choice, outlines the theoretical foundations of these models and discusses three methodological issues: research design, measurement, and statistical modelling. More specifically, we recommend the use of pre-election panel surveys, direct measures of electoral consideration sets, and statistical models suitable for analysing dichotomous variables and voter-party dyads. Furthermore, we briefly summarise the other contributions to this symposium and sketch some avenues for their application in future research.

## 1. Introduction

When people make a choice from a set of alternative options, such as choosing a main dish from the menu in a restaurant, they often decide in stages. In the first stage, they select a small number of options that they seriously consider, while in the second stage they make their final choice from within this subset. For example, a guest in a restaurant may first decide to have seafood (and rule out all meat dishes and vegetarian meals), while next deciding to opt for salmon. The process of electoral choice can be similar. For example, in a German national election a voter may first narrow down the options to three left-wing political parties (SPD, Linke, Grünen), and on Election Day decide to vote for the Social Democrats (SPD). In several fields of study, in particular consumer and marketing research, phased decision making has been extensively studied and scholars found that people often form consideration sets before making the ultimate choice (Roberts, 1989; Roberts and Lattin, 1991, 1997; Shocker et al., 1991).

Several researchers have argued that voter decision making operates in a comparable way, especially in multi-party and multi-candidate elections, and that electoral choice can therefore best be modelled as a two-stage process (Oscarsson et al., 1997; Shikano, 2003; Steenbergen and Hangartner, 2008; De Vries & Rosema, 2009). More recently, scholars who adopted this perspective analysed the impact of consideration sets on electoral turnout (Vassil et al., 2016), as well as their role with respect to the effects of issue ownership (Karlsen and Aardal,

2016), policy extremity (Moral & Zhirnov, 2018), and social influence (Schmitt-Beck and Partheymüller, 2016). This special symposium of *Electoral Studies* brings together papers from scholars who endorse the wider application of consideration set models in the study of electoral choice and who aim to increase our insight in their role in voter decision making.

The view on voting as a two-stage decision process is at odds with the way in which vote choice is usually analysed, namely as if voters choose at once from the whole set of all competing parties or candidates. The possibility that voters decide in stages has long been largely neglected (for an early exception, see Wilson, 2008). In most analyses of voting, the set of alternatives comprises all political parties (or candidates) that participate in the election, and the central question is why individual voters selected a particular party or candidate. The theoretical models do not focus on if and how voters limit the set of competing parties to a smaller set of parties before making the final decision, nor do the empirical analyses: the dependent variable is usually a single categorical variable comprising all (major) parties or candidates, or some equivalent. Electoral researchers seem to have assumed, implicitly, that voter decision making involves a single choice, and thus overlooked the presence of an intermediate ‘partial decision’ in which certain alternatives are ruled out, while the final choice still has to be made.

The neglect of consideration sets in voting theory can presumably be attributed, at least partly, to the fact that electoral research has focused

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\* Corresponding author.

E-mail addresses: [henrik.oscarsson@pol.gu.se](mailto:henrik.oscarsson@pol.gu.se) (H. Oscarsson), [m.rosema@utwente.nl](mailto:m.rosema@utwente.nl) (M. Rosema).

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strongly on the United States, in particular U.S. presidential elections. In these contests, there are usually only two serious contestants, namely the candidates of the Democratic Party and Republican Party. If there are only two choice options, it becomes logically impossible to create a consideration set that is smaller than the universal set of choice options but larger than the final choice. Consideration set models then do not appear meaningful. Another reason for the neglect of consideration sets, is the fact that in particular in the United States electoral researchers have emphasized the strong loyalties that citizens feel towards one political party, captured by the notion of party identification (Campbell et al., 1960; Green et al., 2002), and the idea that voters tend to have a ‘standing decision’ (Key, 1966). Therefore, it is understandable that in the study of American presidential and gubernatorial elections consideration sets have not become an important feature. This does not mean that consideration set models are not useful in the American context, as they may be valuable for studying multi-candidate primary elections and could also be useful for studying the decision making process of so-called independents, who are more likely to consider more than one candidate at the start of the campaign. This is even more true if third-party candidates are evaluated positively a substantial part of the electorate.

In other political systems, however, the relevance of consideration sets is more obvious. Previous research suggests that consideration sets become relevant in particular if people have many options to choose from (Bettman, 1979, p. 215; Gensch, 1987). Hence, especially in elections in multi-party systems consideration sets may well come into play. Some voting research links up well to this idea, such as the finding that in multi-party democracies many voters identify with two or three different parties (Van der Eijk and Niemöller, 1983; Mayer and Schultze, 2018). Moreover, scholars focusing on Europe have emphasized that electoral choice is not best studied as a categorical choice, but by taking the degrees of preference into account (Van der Eijk and Franklin, 1996; Van der Eijk et al., 2006). So, also past research on voting behaviour provides some reason for having a closer look at the mechanisms of phased decision making.

There are more reasons to believe that consideration sets play a role in multi-party and multi-candidate elections. First, when choosing in elections people use the same brains as in all other areas of life where they make choices. Hence, it seems logical that similar psychological processes operate. Hence, if phased decision making is observed in other domains, it is likely to take place in elections too. There is no *a priori* reason to believe that deviant decision making mechanisms characterise people’s choice process in their role as voters. Second, although in theories of voting consideration sets are usually absent, national election surveys sometimes included questions about which parties voters considered. Such questions appear to have arisen more out of intuition than being strongly theoretically grounded, but still suggest that those who developed the questionnaires presumed that voters may have formed a consideration set while still being undecided about for whom to vote.

This is presumably even truer today than a few decades ago. Long-term developments in elections have made citizens’ task to choose increasingly demanding (Weßels et al., 2014). Voters no longer have the same support in terms of cue taking from interest-based parties or societal groups as in the past, when cleavage structures and party attachments effectively linked voters to one specific political party. Indeed, the psychological attachments of citizens with political parties in most established democracies appears to have weakened (Dalton, 2000). Furthermore, today voters face a more complex information environment. Hence, voters have less guidance from political socialisation, media channels, and habits. Voters are more solitary and unattached actors (like consumers) on a volatile market. Developments in Sweden, for example, illustrate this well. Here we see a waning of class voting and decreasing party identification, an increased volatility of the electorate, and an increasing fragmentation of the party system (Bengtsson et al., 2014; Oscarsson and Holmberg, 2016). As a result,

voters have finally ‘begun to choose’ (Rose and Mcallister, 1986) instead of always being loyal to the same political party. This makes consideration sets more relevant today than in the times when cleavage-based voting was common.

The application of consideration set models may increase our general understanding of voter decision making for several reasons. One is because voters may use different selection criteria in both stages. It is imaginable, for example, that some voters form a consideration set based on their religious identity, while choosing from within a subset of religious parties on the basis of the issues of the campaign or party leader evaluations. Even when the same factors influence the selection of options in both stages, it is possible that they have an impact in different ways. In past research, some scholars assumed that the same factors shape consumer choices in both stages. Others argued that in the consideration stage non-compensatory rules are used, whereas in the choice stage compensatory rules are adopted (Gensch, 1987; Roberts, 1989; Roberts and Lattin, 1991, 1997; see also Dhar and Kim, 2006). If voters use different rules when creating a consideration set than when making the final choice, this underlines the relevance of making the distinction between those phases. The value of applying such models to electoral choice can only become visible when consideration set models are applied to study voting behaviour to test these and other hypotheses.

If sequential decision making is indeed widespread among voters, it is imperative to learn more about the processes of selecting considered alternatives and making a final choice. Elections are still the most important collective political ritual in modern democratic societies. They greatly affect the distribution of power and the fate of nations. The signals sent from voters to the political system at the time of elections can have strong effects, even if those voters are low on information (Verba and Nie, 1972). It matters what exactly is being signalled to the political system, which depends on whether votes are based mainly on habit, loyalty, ideology, protest, strategy, campaign issues, or support for a certain leader. This is why we need to have good models for explaining individual voting behaviour. The central argument in this symposium is that the existing models of voting fall short in one important way, namely the neglect of stages in the decision making process. That is why the articles put together in this special symposium apply consideration set models in different electoral contexts to answer a variety of research questions about the consideration set model approach.

In the remainder of this introductory paper, we first discuss the theoretical foundations and methodological challenges that underlie these articles. Next, we briefly summarise the applications of consideration set models of electoral choice in the other symposium articles.

## 2. Theoretical foundations of consideration set models of electoral choice

### 2.1. General principles of a consideration set model of choice

The choice process of voters as presented in the articles in this symposium reflects general principles about how people make decisions. When people choose from a set of alternatives, they can do this in two ways. One possibility is to immediately select the chosen alternative from the whole set of available options. For example, an individual could make an inventory of the positive and negative characteristics of all alternatives and then select the one with the best overall score. Another possibility is to decide in stages. The simplest form would be a decision in two stages, in which the set of available alternatives is first limited to a smaller number of viable options, while in the next stage the final choice is made within that set. Such a sub-set of viable options has been referred to as *consideration set* (Bettman, 1979; Roberts and Lattin, 1991; Shocker et al., 1991).

In the example of the restaurant at the start of this paper, two stages

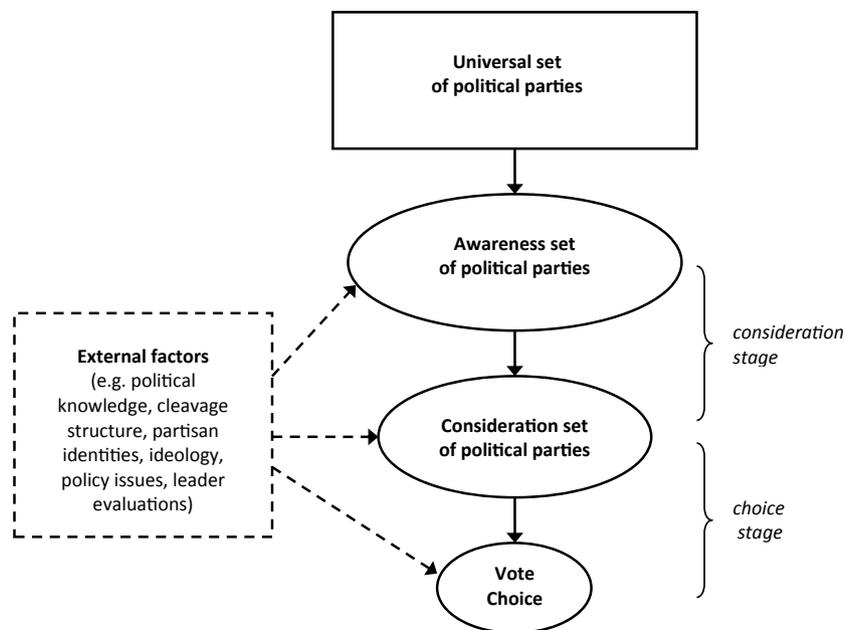


Fig. 1. A consideration set model of voting. This figure visualizes the decision making process by voters, which starts with the context of all political parties that participate in an election (universal set) and ends with a vote choice.

can be distinguished: the formation of the consideration set and the ultimate choice. Some scholars distinguish more stages. The underlying idea is that the initial consideration set may be made smaller before the final choice is made – e.g., first the person decides to have seafood, then decides to have fish, and then chooses salmon. Shocker et al. (1991) thus distinguish between a *consideration set* (or *evoked set*) and a *choice set*, where the latter is defined as the sub-set of alternatives from which the ultimate choice is directly made.

This perspective builds on earlier theories about decision making (Simon, 1955) and consumer behaviour (Howard and Sheth, 1969) and shows similarity with the *elimination by aspects* theory of choice (Tversky, 1972). What the latter theory adds to the picture, is the idea that the process by which alternatives are excluded happens on the basis of subsequent criteria. In our example, the person might eliminate meat dishes on the basis of his moral principle to not eat meat, opt for fish instead of other seafood on the basis of price, and finally choose salmon because of a preference for its taste. In that case, personal moral principles and price would be the basis to eliminate choice options and the final choice would be made from the resulting sub-set on the basis of taste preference. There is no fixed number of rounds of elimination in the theory. This may vary between different choice contexts, and for the same choice context the number of elimination rounds may differ between people. A process of elimination (by aspects, or otherwise) is not the only way in which consideration sets can be formed. A consideration set can also be formed by *including* instead of *excluding* choice options (Yaniv and Schul, 1997; Levin et al., 1998). In theory both options are possible, as well as a mixture of both.

Several scholars have emphasized that another concept is also crucial to understand the choice process. The selection by the individual does not start with the set of all alternatives available (referred to as *universal set*), but with the set of alternatives the individual knows or which come to mind (Nedungadi, 1991). The latter is referred to as *awareness set*. The distinction between awareness set and consideration set links up to the distinction between recognition and evaluation (Gigerenzer and Goldstein, 2011). The importance of making this distinction may depend on the behaviour focused on, as the discrepancy between universal set and awareness set can vary between contexts.

The model that results when these concepts are combined, involves a hierarchy of nested sets from which the choice results (for a visual representation, see Shocker et al., 1991). The starting point is the

universal set of choice options, which comprises all available options. The alternatives that a person knows constitute the awareness set, which thus is a sub-set of the universal set. The selection of viable alternatives leads to the formation of the consideration set out of the awareness set, which in turn is further limited to the choice set. Out of this set the ultimate choice is made and the behaviour results.

## 2.2. Applying the principles to electoral choice

The consideration set model was developed in the context of consumer behaviour, but it can also be applied to voting behaviour. When citizens become aware that a new election is coming up, for some it is immediately clear which party or candidate they will support. This could be due to a strong psychological attachment with one particular party or because they have developed a voting habit. For other citizens, however, this may not be clear from the start of the campaign. For them voting requires a conscious decision about for whom to vote at some moment before they are in the polling booth – or at least, for very late deciders, before they tick a box or push a button – and this decision could be made in stages. The consideration set model of electoral choice views voting behaviour as the result of a two-stage decision process: voters first limit the number of alternatives to a smaller set of parties (or candidates) that they consider to vote for, and when the moment of voting gets closer they select one party or candidate (whatever the ballot requires) from this consideration set. In the resulting model there are two stages, namely one in which the consideration set is formed out of the awareness set (consideration stage), and one in which the ultimate choice is made out of the consideration set (choice stage). Fig. 1 visualizes the resulting model. The model assumes that political parties are central in the election, but it can easily be modified for candidate-centred elections by replacing ‘political parties’ by ‘candidates’.

The model depicted in Fig. 1 deviates from the previously discussed model in one significant way: it does not distinguish between consideration set and choice set. The main reason is the parsimony of the model. It is possible that citizens form a consideration set that is limited to fewer choice options – perhaps several times – before the final choice is made. However, it is not necessary for individuals to proceed in more than two stages. Furthermore, the number of stages that they go through may vary from person to person. For these reasons, we consider a model that incorporates a universal set, an awareness set, a

consideration set, and the final choice the most widely applicable and parsimonious model to describe the choice process. The resulting model is easy to explain and intuitively appealing: people can relate to this consideration set model as a map of any decision process. This simplified model also has another advantage: it poses lower requirements on the data collection in empirical research, as it is easier to identify a consideration set at a specific point in time than to identify the changes in the consideration sets and determining the composition of the choice set from which the final choice was made, which will not be done at the same moment by all voters.

To reach a satisfactory level of understanding of voters' choice process, identifying the composition of the different sets among voters is not sufficient. The next question is which factors shape those sets and the ultimate choice. In our model, we do not specify these factors, but merely acknowledge that there are factors that influence which parties are included in the awareness set or consideration set, and which determine the ultimate vote choice from this set. The main reason to not specify those factors (although the figure lists some potential examples), is that whereas we expect the nature of the choice process to be universal, the precise factors that influence consideration set formation and vote choice may vary between elections. For instance, in some political systems the cleavage structure of society may be the basis for forming consideration sets, whereas in other political systems ideology may perform this function. In some elections leader evaluations may be important, whereas in other elections they may not be. Theories about those factors are therefore better formulated at a lower level of applicability than the general level that we focus on. Yet the primary candidates for a key role in the consideration stage are presumably ideology and policy preferences: research on voting has shown that if voters hesitate between two or more parties, or if they like two or more parties equally well, the major common factor is ideological similarity (see e.g. Van der Eijk and Franklin, 1996; Rekker & Rosema, 2018).

Although the articles in this symposium focus most strongly on consideration sets, the distinction between universal set and awareness set can also be relevant in elections, as voters might not always be aware of all the parties or candidates for which they can vote. Especially for analysing the electoral success of new parties this is relevant: if they do not reach the awareness set, they are unlikely to enter the consideration set and ultimately gain votes at the polls. The model furthermore shows that changes across time in consideration sets can in theory occur due to changes in the universal set of options from which voters can choose. In some elections such changes in 'the supply side' may be particularly relevant.

An important characteristic of the consideration set model of choice is the assumption that the sets are fully nested (Shocker et al., 1991). So, the model ignores the possibility that people choose an alternative that was not included in the consideration set, while also ignoring the possibility that people consider a choice that is impossible because it is not part of the universal set. In practice, however, that can happen. For example, in elections voters sometimes consider a party – or even intend to vote for it – that does not participate in that specific election. This may apply, for example, when national parties do not participate in elections at another level (e.g. municipal elections) without voters being aware. There are also other ways in which the choice menu may be restricted and exclude options that voters wish to vote for, such as candidates in two-round systems who failed to make the second round (Pierce, 2003), or in mixed electoral systems small parties might only run for the list vote and have no candidate for the single member district vote (Benoit et al., 2006). Although one could include such possibilities in a theoretical model, a drawback would be that the model becomes less parsimonious. We therefore believe that it is appropriate to ignore these possibilities in the theory and adhere to strict presumptions regarding how choice, consideration set, awareness set and universal set are nested in each other. In empirical analyses, however, one should bear in mind, and hence allow for the possibility, that

people may not always obey the rules of the theoretical model.

Several empirical questions can be derived from the preceding discussion. These include how many voters form a consideration set before making their final choice, when they are formed, how long this process takes, what the size of consideration sets is, how stable consideration sets are, what combinations of parties occur most frequently, and – perhaps most importantly – which factors influence which parties are included in the consideration set and how voters ultimately choose from within this set. A crucial question is whether these factors, or the strength with which they exert their influence, differ between the consideration stage and the choice stage. If there are differences, this would underline the importance of including consideration sets in studies of voting. If the relevant factors shape consideration sets and vote choice in identical ways, for reasons of parsimony one might exclude consideration sets. Their value would then 'only' be to create, or improve, the ability to study vote choice in the absence of vote decisions having been made, and for example explain the level of electoral volatility.

### 2.3. Consideration set models and other voting theories

The consideration set model of electoral choice links up well with various insights from past voting research, while at the same time being at odds with other research. As argued above, the notions of stable party identification shaping the vote (Campbell et al., 1960) and standing vote decisions (Key, 1966) seem to be at odds with the notion of consideration sets. Furthermore, also in Europe there are theories of voting that do not match well with this view on choosing. More specifically, in Western Europe the notion of cleavage-based voting has long been one of the most popular theories of electoral choice. Following Lipset and Rokkan (1967), many scholars have argued that party systems build on deep divisions in society based on factors such as religion and social class. For each segment of society there was one specific political party that linked up to it. This means that for many voters there was only one viable option, namely the party representing 'their segment'. A clear example is Catholics in the 1950s in the Netherlands, who voted in large numbers for the Catholic's People's Party (Lijphart, 1974). Against this background, it is understandable that for many voters the choice for a particular party was a matter of habit (Shachar, 2003).

The consideration set model may well account for this type of voting if one allows consideration sets to be equal to one. In fact, adopting the consideration set model and focusing on consideration set size leads to the question why for some voters there is only one viable option whereas for others there are more than one. Answering this question may contribute to our understanding of electoral behaviour. Indeed, the extent to which characteristics of voters or the political context influence the size of consideration sets may shed light on causes of electoral volatility. It is also possible to include the option of abstention in the model, as just one of the choice options that a voter has in addition to casting a vote for one of the alternative parties or candidates.

There are reasons to believe that consideration sets have become more relevant in the past decades and considering only one party throughout the whole election campaign period is no longer an accurate description of how the majority of voters choose. One reason is that electoral volatility has increased substantially. Many voters shift parties between elections, which suggest that long-term partisan loyalties have only minor impact on large proportions of the electorate of today (Mair, 2008). This is a consequence of the cleavage structures that have weakened, due to which the corresponding models no longer provide a good explanation of voting behaviour (see e.g. Irwin and Van Holsteyn, 1989, 1997). Furthermore, research has shown that many voters make their decision in the final days of the campaign (Van der Kolk et al., 2007). This makes sense if consideration sets comprising more than one party have become an important part of the choice process for many voters. Indeed, if one accepts that for undecided voters not all parties

are viable options, one implicitly embraces the concept of a consideration set.

The idea of voters engaging in a sequential decision making process resonates well with general discoveries within neuro-economics and political psychology. A step-wise narrowing down of alternatives may be seen as an effective, less cognitive demanding strategy for making choices in a complex information environment, and therefore more realistic than a model in which utility is calculated for each choice option on the basis of a long list of attributes for each option.

### 3. Methodological challenges

In order to apply consideration set models in the context of elections, three methodological issues need to be addressed: research design, measurement, and statistical modelling. A myopic look at the decision processes of voters calls for a specific type of data collection. With a cross-sectional design we will not be able to monitor the decision process across time. Panel studies that allow for the repeated measurement of voters consideration sets and its determinants are therefore required: first, to study carefully the early stages of the decision process where the consideration set is formed, and perhaps later modified; next, to learn about what factors influence the final choice from within the consideration set. The use of multi-wave panels is not new, as some of the first survey-based election studies already adopted this design (Lazarsfeld et al., 1944), but such designs are not the standard today.

The second issue is measurement. The crucial question here is how consideration sets of voters can be adequately measured. The most straightforward method is presumably via questions in survey questionnaires. Three methods can be distinguished, which have already been adopted in previous – sometimes unpublished – survey research. First, consideration sets may be identified by simply asking voters directly about the choice options that they consider, i.e. for which parties they consider to vote. Such questions can be asked either in pre-election surveys, inquiring which parties voters consider at that moment, or in post-election surveys, asking voters to recall what parties they considered in the run-up to the election. The former are preferable, since asking voters such questions after the election will lead to poorer data quality due to recall inaccuracy and pose serious endogeneity problems for the analysis, being measured after the behaviour to be explained. When voters are asked directly about their consideration sets, the question still is how the items should be phrased. We are not aware of any research that systematically analyses wording effects for such survey items, so this is a matter that we hope will be explored in future research.

A second option is to not ask voters to directly report their own consideration sets, but to construct them as researcher on the basis of information about voters' evaluations of individual parties using feeling thermometer ratings, like-dislike scales, propensity to vote scales, or comparable items. For example, Oscarsson et al. (1997) created two such measures of consideration sets, namely one measure that simply incorporated all parties that were evaluated positively on an 11-point rating scale and another more complicated measure that took into account the distances between parties on the rating scale. Van Holsteyn and Den Ridder (2008) created a measure of consideration sets by incorporating all parties that received either the highest rating given by a respondent on an 11-point feeling thermometer, or only 1 or 2 points less. These are some examples of the many ways in which researchers can use ratings of political parties to construct (expected) consideration sets. Future research may assess the validity of such alternative measures by comparing them with the aforementioned direct measures.

The third option for the measurement is to construct consideration sets without any information about self-reported consideration sets or ratings of the individual choice options, namely by statistically modelling vote choice as the result of a two-stage choice process in which consideration sets are estimated as an intermediate stage. Such models allow for different effects of independent variables on the consideration

set and the choice from within this set (Steenbergen and Hangartner, 2008; De Vries et al., 2009; Moral & Zhirnov, 2018).

Although in the absence of observational data about consideration sets the indirect measurement of the second or third approach might be justified, we consider direct observation a preferable method. Since we do not yet have scientifically validated equipment for mind reading, the straightforward method of observation is asking voters explicitly. To accurately construct consideration sets on the basis of party ratings seems virtually impossible. After all, it may well be that whereas a particular positive rating of an individual party is enough to consider voting for that party for one voter, for another voter it is not. So it is likely that with respect to consideration set formation ratings on other dimensions (like-dislike ratings, feeling thermometer scores, vote probability ratings) do not behave in identical ways across voters. To use the earlier analogy of a restaurant: if a person evaluates salmon with a score of 9 on a 0–10 rating scale and evaluates another type of fish with a score of 8, we cannot tell if this person would include both in the consideration set – some people perhaps do, whereas others do not. Therefore, manifest measures of consideration sets are to be preferred over latent measures. Future research should analyse which type of indirect measure appears most useful and accurate (how valid alternative measures are) and to what extent different methods lead to identical or different results.

The third methodological challenge concerns the statistical modelling of phased decision making. Especially for analysing the formation of consideration sets this requires other models than those commonly used for analysing a single categorical variable, such as vote choice. Studies of voting behaviour are not novel to the idea of altering the dependent variable. Analyses of propensity to vote measures, which are based on questions asking how likely it is that a person will ever vote for a particular party, have advanced our understanding of contextual and structural forces shaping electoral choice in multi-party systems (van der Eijk and Franklin, 1996). The techniques used to analyse such measures, like creating a stacked data matrix in which the units are voter-party dyads instead of voters, can also be applied to analyse consideration set formation (the online Appendix shows how a stacked data matrix with consideration sets is created). However, there is one fundamental difference between future vote probability measures and consideration set measures. In consideration set models each choice option is either considered or not considered, and hence this requires a dichotomous measure. Theoretically, there is no room for 'half' or 'soft' consideration, or any level of partial consideration. Either an alternative is included in the consideration set, or it is not included. Another difference concerns the time horizon: consideration sets are typically formed with respect to one specific election, whereas the widely used vote probability items ask about the chance of *ever* voting for each party rather than in an upcoming election.

A so-called stacked data matrix with voter-party dyads allows the use of advanced estimation techniques evolved to deal with discrete choices, such as binary logistic regression and conditional logistic regression. Although the nestedness of the data structure and the discreteness of choice models is associated with technical and methodological concerns, it opens up possibilities to estimate the choice probabilities for individual voters, while simultaneously analysing the traits of the decision-makers and the attributes of the alternatives. The latter can be voters' perceptions, but scholars can also introduce exogenous data about the alternatives (e.g. 'momentum in the polls' or 'coalition signals'). The models can also handle consideration sets of different sizes, and estimate alternative specific effects of determinants. The key requirements are that statistical models should be suitable for dichotomous variables and for voter-party dyads.

### 4. Applications in this symposium

The articles in this symposium represent some of the possible ways in which consideration set models can be applied in electoral research.

While the contributions all attempt to open up new avenues of research, at the same time they take a critical approach to the models, addressing the more general question whether and how electoral research can benefit from employing more complex models of decision making based on psychological theories of choice. The payoff for introducing more complexity in theoretical models – that also present new methodological challenges regarding study design, measurement, data management, modelling, and estimation – needs to be large enough to be worthwhile for students of electoral research. We believe that the selected articles demonstrate that consideration set models not only bring new perspectives and possibilities, but also generate important findings that we might not have made with standard models of vote choice. Let us discuss some of these.

In the next article in this issue, [Steenbergen and Willi \(2018\)](#) take a formal approach and use the consideration set model as a tool for analysing electoral competition on an aggregated level of party systems. They apply a consideration set model in order to develop new system-wide measures of party competition that tap aspects of parties' contestability and availability. They introduce a two-hurdle model taking the parties' perspective of first having to compete in order to be considered by voters, and then having to compete for the vote with other considered parties.

The following article by [Oscarsson and Oskarson \(2018\)](#) critically assesses the consideration set model by comparing it with traditional models of party choice. More specifically, they assess the relative effects of determinants of party choice that previous research labelled 'short term' and 'long term' at different stages of the decision process. Using survey data from Sweden in 2014, which were specifically designed for this purpose, they conclude that a consideration set model of sequential decision making tells a different story about the relative impact of long-term and short-term determinants than traditional voting models.

In their article, [Rekker and Rosema \(2018\)](#) analyse the stability of consideration sets and examine if these are more stable than vote intentions, suggesting that behind high levels of electoral volatility some kind of stability may be hidden. Results from a latent transition analysis with panel data from Sweden and the Netherlands indicate that voters commonly changed their vote intention, but mainly within the boundaries of relatively stable consideration sets that are moulded from core political orientations. In both countries consideration sets strongly reflected the ideological division between 'left' and 'right', while the populist radical right parties and the Christian parties formed separate categories.

Consideration set models can also be used to study campaign effects, as shown by [Steinbrecher and Schoen \(2018\)](#). They test hypotheses about how consideration sets relate to voters' reception of, and responses to, campaign messages with panel survey data from Germany in 2013. The results are mixed and do not lean unequivocal support to the expectations. For instance, the composition of voters' consideration sets did not condition the exposure of campaign communication and the evaluation of crucial campaign events as expected. The authors conclude that consideration set models are too generic or void of substance that pertains specifically to choice processes. It is still hard to derive testable hypotheses of how key attributes of consideration sets – such as size, content and stability – is expected to vary across time and contexts.

The final contribution to this symposium by [Fredén and Sohlberg \(2018\)](#) serves to advance the study of strategic voting by applying a consideration set model. The authors use survey data from Sweden in 2014 to show that voters' *insurance strategies* – i.e. incentives to defect to a coalition party that risks falling below electoral thresholds – are prevalent already in the process of forming consideration sets. They conclude that strategic concerns are thus more prevalent than acknowledged in the past and they call for more research into this topic by focusing on other countries and complement surveys with experimental methods.

We believe that these papers jointly contribute substantially to our insights into the decision making processes of voters, in particular the

sometimes important role of consideration sets. However, the papers not only answer several important questions, but also result in many new ones. Indeed, more research is needed to examine how consideration set models can be combined with other concepts and approaches. After all, these models are not fully at odds with previous research but are better conceived of as a way of looking at the same matter from a different angle. Furthermore, questions about the factors that influence the size and content of consideration sets remain. Knowing more about how, when, and why parties are selected or deselected for consideration, and what role the exposure and evaluation of political information plays, are important requisites for applying consideration set models to more myopic analyses of specific determinants of vote choice. We hope that other scholars will take inspiration from these contributions to do research into those matters.

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## Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.electstud.2018.08.003>.

## References

- Bengtsson, A., Hansen, K.M., Hardarson, Ó.T., Narud, H.M., Oscarsson, H., 2014. *The Nordic Voter: Myths of Exceptionalism*. ECPR Press, Colchester.
- Benoit, K., Gianetti, D., Laver, M., 2006. Voter strategies with restricted choice menus. *Br. J. Polit. Sci.* 36, 459–485.
- Bettman, J., 1979. *An Information Processing Theory of Consumer Choice*. Addison-Wesley, Chicago.
- Campbell, A., Converse, P.E., Miller, W.E., Stokes, D.E., 1960. *The American Voter*. Wiley, New York.
- Dalton, R.J., 2000. The decline of party identification. In: Dalton, R.J., Wattenberg, M.P. (Eds.), *Parties without Partisans: Political Change in Advanced Industrial Democracies*. Oxford University Press, Oxford, pp. 19–36.
- De Vries, C.E., Rosema, M., 2009. Taking voters' consideration set into consideration: Modelling electoral choice in two stages. In: Conference paper at ECPR General Conference, Potsdam, Germany.
- De Vries, C.E., Steenbergen, M.R., Hangartner, D., 2009. A Choice Set Modeling Approach to EU Issue Voting. Paper presented at the European Union Studies Association, Los Angeles, USA, pp. 23–25 (April).
- Dhar, R., Kim, E.Y., 2006. Seeing the forest or the trees: implications of construal level theory for consumer choice. *J. Consum. Psychol.* 17, 96–100.
- Fredén, A., Sohlberg, J., 2018. Coalition-oriented Strategic Voting for Smaller Parties under PR: a Consideration Set Model Approach. *Electoral Studies* in (this issue).
- Gensch, D.H., 1987. A two-stage disaggregate attribute choice model. *Market. Sci.* 6, 223–231.
- Gigerenzer, G., Goldstein, D.G., 2011. The recognition heuristic: a decade of research. *Judgment Decis. Making* 6, 100–121.
- Green, D., Palmquist, B., Schickler, E., 2002. *Partisan Hearts and Minds: Political Parties and Social Identities of Voters*. Yale University Press, New Haven, CT.
- Howard, J.A., Sheth, J.N., 1969. *The Theory of Buyer Behaviour*. John Wiley, New York.
- Irwin, G.A., Van Holsteyn, J.J.M., 1989. Decline of the structured model of electoral competition. *W. Eur. Polit.* 12, 21–41.
- Irwin, G., Van Holsteyn, J., 1997. Where to go from here? Revamping electoral politics in The Netherlands. *W. Eur. Polit.* 20, 93–118.
- Karlsen, R., Aardal, B., 2016. Political values count but issue ownership decides? How stable and dynamic factors influence party set and vote choice in multiparty systems. *Int. Polit. Sci. Rev.* 37, 261–276.
- Key, V.O., 1966. *The Responsible Electorate. Rationality in Presidential Voting 1936–1960*. Cambridge University Press, Cambridge.
- Lazarsfeld, P.F., Berelson, B., Gaudet, H., 1944. *The People's Choice: How the Voter Makes up His Mind in a Presidential Campaign*. Duell, Sloan and Pearce, New York.
- Levin, I.P., Jasper, J.D., Forbes, W.S., 1998. Choosing versus rejecting options at different stages of decision making. *J. Behav. Decis. Making* 11, 193–210.
- Lijphart, A., 1974. The Netherlands: continuity and change in voting behaviour. In: Rose, R. (Ed.), *Electoral Behavior: a Comparative Handbook*. The Free Press, New York, pp. 227–268.
- Lipset, S.M., Rokkan, S., 1967. Cleavage structures, party systems, and voter alignments: an introduction. In: Lipset, S.M., Rokkan, S. (Eds.), *Party Systems and Voter Alignments: Cross-national Perspectives*. The Free Press, New York, pp. 1–64.
- Mair, P., 2008. Electoral volatility and the Dutch party system: a comparative perspective.

- Acta Politic. 43, 235–253.
- Mayer, S.J., Schultze, M., 2018. The effects of political involvement and cross-pressures on multiple party identifications in multi-party systems – evidence from Germany. *J. Elections, Public Opin. Parties*. <https://doi.org/10.1080/17457289.2018.1466785>.
- Moral, M., Zhirnov, A., 2018. Issue voting as a constrained choice problem. *Am. J. Polit. Sci.* 62, 280–295.
- Nedungadi, P., 1991. Recall and consumer consideration sets: influencing choice without altering brand evaluations. *J. Consum. Res.* 17, 263–276.
- Oscarsson, H., Gilljam, M., Granberg, D., 1997. The concept of party set: a viable approach or just another way to slice the same cheese? In: Paper Presented at the Annual Meeting of the Swedish Political Science Association, Uppsala, Sweden, 5-7 October.
- Oscarsson, H., Holmberg, S., 2016. Svenska Väljare. Wolters Kluwer, Stockholm.
- Oscarsson, H., Oskarson, M., 2018. Sequential vote choice: a consideration set model of heterogeneous decision processes for party choice. *Elect. Stud in (this issue)*.
- Pierce, R., 2003. Modelling electoral second choices: thwarted voters in the United States, France, and Russia. *Elect. Stud.* 22, 265–285.
- Rekker, R., Rosema, M., 2018. How (often) do voters change their consideration sets? *Elect. Stud in (this issue)*.
- Roberts, J.H., 1989. A grounded model of consideration set size and composition. *Adv. Consum. Res.* 16, 749–757.
- Roberts, J.H., Lattin, J.M., 1991. Developing and testing of a model of consideration set composition. *J. Market. Res.* 28, 429–440.
- Roberts, J.H., Lattin, J.M., 1997. Consideration: review of research and prospects for future insights. *J. Market. Res.* 34, 406–410.
- Rose, R., Mcallister, I., 1986. Voters Begin to Choose: from Closed-class to Open Elections in Britain. London, Sage.
- Shachar, R., 2003. Party loyalty as habit formation. *J. Appl. Econom.* 18, 251–269.
- Schmitt-Beck, R., Partheymüller, J., 2016. A two-stage theory of discussant influence on vote choice in multiparty systems. *Br. J. Polit. Sci.* 46, 321–348.
- Shikano, S., 2003. Construction of choice sets and its influence on voting decision: application of the probabilistic choice set model for voter choice under two-ballot system in Germany and Japan. In: Paper Presented at the ECPR Joint Sessions of Workshops, Edinburgh, United Kingdom, 28 March–3 April.
- Shocker, A.D., Ben-Akiva, M., Boccara, B., Nedungadi, P., 1991. Consideration set influences on consumer decision-making and choice: issues, models, and suggestions. *Market. Lett.* 2, 181–197.
- Simon, H.A., 1955. A behavioral model of rational choice. *Q. J. Econ.* 69 (1), 99–118.
- Steenbergen, M.R., Hangartner, D., 2008. Political choice sets in multi-party elections. In: Paper Presented at the Workshop “The Politics of Change”. Amsterdam, The Netherlands, pp. 13–14 (June).
- Steenbergen, M., Willi, T., 2018. What choice sets can teach us about electoral competition: a two hurdle model. *Elect. Stud in (this issue)*.
- Steinbrecher, M., Schoen, H., 2018. Channelling attention and choice? Examining effects of consideration sets on electoral decision-making. *Elect. Stud in (this issue)*.
- Tversky, A., 1972. Elimination by aspects: a theory of choice. *Psychol. Rev.* 79, 281–299.
- Van der Eijk, C., Franklin, M., 1996. Choosing Europe? the European Electorate and National Politics in the Face of the Union. The University of Michigan Press, Chicago.
- Van der Eijk, C., Niemöller, B., 1983. Electoral Change in the Netherlands. CT Press, Amsterdam.
- Van der Eijk, C., Van der Brug, W., Kroh, M., Franklin, M., 2006. Rethinking the dependent variable in voting behaviour: on the measurement and analysis of electoral utilities. *Elect. Stud.* 25, 424–447.
- Van Holsteyn, J., Den Ridder, J., 2008. Verandering in continuïteit: houdingen en gedragingen van Nederlandse kiezers. *Bestuurskunde* 3, 39–46.
- Van der Kolk, H., Aarts, K., Rosema, M., 2007. Twijfelen en kiezen. In: Aarts, K., van der Kolk, H., Rosema, M. (Eds.), *Een Verdeeld Electoraat: De Tweede Kamerverkiezingen Van 2006*. Spectrum, Utrecht, pp. 211–234.
- Verba, S., Nie, N.H., 1972. Participation in America: Political Democracy and Social equality. Harper & Row, New York.
- Vassil, K., Solvak, M., Ehin, P., 2016. More choice, higher turnout? The impact of consideration set size and homogeneity on political participation. *J. Elections, Public Opin. Parties* 26, 78–95.
- Weßels, B., Rattinger, H., Roßteutscher, S., Schmitt-Beck, R., 2014. Voters on the Move or on the Run? Oxford University Press, Oxford.
- Wilson, C.J., 2008. Consideration sets and political choices: a heterogeneous model of vote choice and sub-national party strength. *Polit. Behav.* 30, 161–183.
- Yaniv, I., Schul, Y., 1997. Elimination and inclusion procedures in judgment. *J. Behav. Decis. Making* 10, 211–220.

### Suggested reading

- Horowitz, J.L., Louviere, J.J., 1995. What is the role of consideration sets in choice modeling? *Int. J. Res. Market.* 12, 39–54.
- Lijphart, A., 1999. Patterns of Democracy: Government Forms and Performance in Thirty-six Countries. Yale University Press, New Haven, CT.
- Oskarson, M., Oscarsson, H., Boije, E., 2016. Consideration and choice: analyzing party choice in the Swedish european election 2014. *Scand. Polit. Stud.* 39, 242–263.
- Paap, R., Van Nierop, E., Van Heerde, H.J., Wedel, M., Franses, P.F., Alsem, K.J., 2005. Consideration sets, intentions and the inclusion of “don’t know” in a two-stage model for voter choice. *Int. J. Forecast.* 21, 53–71.
- Pellikaan, H., De Lange, S., Van der Meer, T., 2007. Fortuyn’s legacy: party system change in The Netherlands. *Comp. Eur. Polit.* 5, 282–302.
- Rosema, M., 2006. Partisanship, candidate evaluations, and prospective voting. *Elect. Stud.* 25, 467–488.
- Rosema, M., Aarts, K., Van der Kolk, H., 2007. De uitgesproken opvattingen van de Nederlandse kiezer. In: Aarts, K., van der Kolk, H., Rosema, M. (Eds.), *Een Verdeeld Electoraat: De Tweede Kamerverkiezingen Van 2006*. Spectrum, Utrecht, pp. 165–188.
- Tsai, R.C., 2010. Structural equating modeling of approval data. *Behav. Res. Meth.* 42, 798–808.
- Van der Eijk, C., Niemöller, K., 1994. Election studies in The Netherlands: pluralism and accommodation. *Eur. J. Polit. Res.* 25, 323–342.
- Van Wijnen, P., 2001. Policy Voting in Advanced Industrial Democracies: the Case of the Netherlands 1971-1998. University of Twente, Enschede.