Two is Company, Three is a Crowd: Party labels and number of candidates as determinants of 'incorrect' vote choice.

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Abstract

Information-processing approaches to voter decision-making, and how 'correct' voters are, have been largely confined to the USA political system (Lau & Redlawsk, 1998; 2006). In a lab-based study based on the UK voting system, we tested the effects of increasing task complexity and one proposed heuristic, 'party label' on rates of voting in line with one's policy attitudes ('correct voting'). Increasing the number of candidates from two to three decreases correct voting rates. However, when participants had to choose between two candidates, rates of correct voting were higher when the party affiliation of the candidates was presented, with no effect when there were three candidates in the choice set. Implications of these results are discussed.

Keywords: politics; multi-attribute decision-making; voting; correct voting; political psychology.

Introduction

Information-processing approaches to examining voter decision-making have become popular in recent years (Lau & Redlawsk, 2001, 2006). Information processing accounts concern Multi-Attribute Decision Making (MADM), that is the selection of an alternative (or 'candidate') from a finite number of alternatives contained in a choice set, based on its attributes (e.g. policies, candidate personal information, campaign details). Such attributes may be exclusive to one alternative, or shared by alternatives in the choice set. While much of political science and political psychology research is concerned with *how* and *why* voters make their decisions (e.g. voting on partisan lines, policy issues), some researchers (e.g., Lau & Redlawsk, 1997) have been concerned with *how well* voters make decisions, and consequent implications for democracy and governments.

Democracy relies on the assumption that voters vote in line with their preferences and/or best interests; in order to empower a relatively small number of people to reflect and design society in line with those presumed preferences. If people are not accurate in their vote-decisions, the quality of democratic representation provided by the electoral system, and the legitimacy of elected governments and any decisions they make, are in question (see also, Lau, Patel, Fahmy, & Kaufman, 2013). In majoritarian democracies where marginal vote differences determine one party's overall control of government (e.g., UK, USA), inaccurate voting can lead to governments that aren't just unrepresentative, but opposed to the preferences of broad swathes (or even the majority) of the public.

Voting is the primary way that citizens influence their government, yet even freely chosen decisions can be misguided. The accuracy of voter decision-making can be considered in terms of the degree to which voters choose the candidate whose policies best represent their preferences – a '*correct vote*' (Lau & Redlawsk, 1997). Therefore the rate of electors voting correctly is a higher normative standard than turnout or voter accessibility by which to judge the health of democracies (Lau et al., 2013). Research conducted in the USA suggests greater *ability* (knowledge, or '*Political Sophistication*'), *experience* (age), and *effort* (motivation to vote correctly) are positively associated with higher rates of correct voting (CV) (Lau & Redlawsk, 2006, 2008). Lau et al. (2013) measured CV in 33 democracies by using Comparative Study of Electoral Systems (CSES) data to calculate 'utility scores' for party candidates, considering a correct vote as one for the candidate with highest utility, and comparing with survey respondents' reported vote choice.

Focusing on the results from the UK and the USA, Lau et al. (2013) calculated rates of CV to be higher in the USA (88% in 2004; 82% in 1996) than in the UK (79% in 1997; 78% in 2005). Across the entire analysis of 33 democracies, 10 factors were found to be associated with CV. We focus here on one of them, the number of parties in the election. Lau et al. (2013) reported that, across all 69 elections considered, there was a negative relationship between rates of CV and number of parties. The probability of casting a correct vote dropped from 79% to 57% when number of parties increase from two to nine. Such a result is of particular interest given the trend towards larger number of parties on offer in elections outside the USA. Further, in a lab-based study, Lau and Redlawsk (2001) found increasing candidate numbers was negatively associated with correct voting. Why should rates of CV decrease so dramatically as the number of candidates/parties increases?

One possible explanation is in terms of 'chance levels'. The chance of a voter choosing a party who matches her own interests simply is higher when there are two parties (as any voters choosing randomly will be correct 50% of the time) than when there are nine. Lau and Redlawsk (1997) find voters choose correctly better than chance when there are two candidates, and Lau et al. (2013) show above chance levels of CV across 69 elections where chance levels range between 27% and 37%. Another explanation is *task complexity*, which often requires decision-makers to

simplify choice-tasks through the use of various '*heuristics*' ('cognitive shortcuts'; Gigerenzer & Gaissmaier, 2011).

A seminal definition of the aim of heuristics is to reduce complex tasks to simpler judgmental operations (Tversky & Kahneman, 1974). Some researchers have suggested that heuristics can approximate, and even outperform, optimal decision-making strategies (e.g., Todd & Gigerenzer, 2011). While heuristics are usually effective, *"sometimes they lead to severe and systematic errors"* (p.1, Tversky & Kahneman, 1974), with heuristic success dependent on applying the appropriate heuristic given the environmental structure (or decision context), with misapplication leading to errors in accuracy (Todd & Gigerenzer, 2011).

Increasing the number of alternatives (herein, candidates) should increase the complexity of the task, and increase the reliance on heuristics (Bettman, Luce & Payne, 1998). Political decision-making is no exception, as Lau and Redlawsk (2001) find increasing numbers of candidates increased the use of 'political' heuristics, specifically *differing types* of political heuristics. In two candidate scenarios, for example, voters use the *viability* or likelihood of a candidate being elected; and *candidate ideology* in four candidate scenarios (Lau & Redlawsk, 2001).

We examine the possible effects of one political heuristic ('*party label*') on correct voting. Various authors have posited that partisan identity ('*party label*') acts as a heuristic in voter decision-tasks (e.g., Lau & Redlawsk, 2001; Rahn, 1993). Party labels are stereotypic schema with which voters can infer a large amount about those with a partisan label (e.g. Liberals are for high taxes, Republicans are anti-government). Party labels act as 'top-level' affective proxies; a pre-computed summary of affective reactions to all the schema's attributes (Lau & Sears, 1986). Application of party labels to candidates can easily lead to errors if the default attributes do not apply (e.g., if a pro-EU candidate runs for an anti-EU party). Despite participants choosing to access information informing them of the party to which a candidate belonged (to a greater extent than any other information), Lau and Redlawsk (2001) could not assess the importance of party label as a heuristic due to the uni-party design of their study. Voters were more likely (but non-significantly) to utilize *candidate ideology* as a heuristic, but it stands to reason that in the absence of candidate ideology, voters should infer it from the party label. Thus the party label heuristic is best studied in multi-party scenarios.

Present study: Lau and Redlawsk (2001) find increasing candidate numbers decreased correct voting, but in a uni-party scenario. We test this further in a UK setting with multi-party candidates. We test the potential influence of the party label heuristic on 'correct voting' by manipulating the presence of the party label. Our hypotheses are:

H₁: *That rates of 'correct voting' will decrease when candidates (alternatives) increase from 2 to 3.*

H₂: *That 'correct voting' will decrease when Party Label (party identity) information is available.*

H₃: *That H1 and H2 will be multiplicative effects, such that the effect of excluding Party Label will be greater in the 3-candidate condition, due to the enhanced task complexity.*

Method

Participant Information
Participants were native English speakers and eligible to vote in the UK local or parliamentary elections before enrolment in the study. 138 participants (78 female), aged 18-73 (μ= 27.12 years), were recruited in return for £4 remuneration. Participants were mostly single (71%); students (76%); self-identifying as 'White-British' (55%); and with an income under £10,000 per annum (53%).

Design
A 2x2 ('Number of Candidates' x 'Party Label') between-participants design was employed. Participants were randomly assigned to a 'Party Label Present' (PL_P) or a 'Party Label Absent' (PL_A) condition by the experimenter, and randomly assigned further by the software to either a 2 or 3 candidate condition within that block. The latter randomisation led to some imbalance in cell sizes (2Can-PL_A: 35; 3Can-PL_A: 34; 2Can- PL_P: 41, 3Can-PL_P: 28)

The 2-candidate condition consisted of simulated candidates representing the UK's main political parties, the Labour Party and the Conservative Party [Lab/Con]. The '3-Candidate' (3-Can) condition also included the Liberal Democrats [Lib]. Each candidate had 21 policies that could be accessed during the campaign stage. The party association of the candidates was either explicitly presented (PL_P) or not (PL_A). 'Party Label' and 'Number of Candidates' were the only variables manipulated in this study. There were, however, a number of additional scales included (e.g., 'Need for Cognition', UK Civics Test questionnaire). These are not the focus of the current paper and will not be discussed further, aside from mentioning where in the procedure they were included.

Participants indicated their vote choice at the end of the trial by choosing one of the candidates, or opting for 'None of the Above' or 'Abstain/Spoil'.

Materials
Dynamic Process Tracing Environment (DPTE): The experiment was carried out using the Dynamic Process Tracing Environment software (Lau & Redlawsk, 2006)[1]. DPTE is designed to simulate the ebb & flow of information during actual election campaigns, and examine how voters obtain, process, and evaluate the information they encounter. Stimulus items (i.e., candidate policies) are

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[1] http://dpte.polisci.uiowa.edu/dpte/DPTE.html

presented during '*flow stages*'. Participants are told that item boxes will appear with summary 'headlines' along with the candidate's name, and they have to click on an item to read and learn more about that item if they wish. Participants are also informed that information continues to 'flow' in the background, even while reading an open item, as to mimic the flow (and opportunity-cost) of information over time in a real campaign.

The order of items was randomised, with each item appearing twice during the experiment. The time between an item appearing at the top of the 'flow screen' and exiting at the bottom was 15 seconds. Participants could click on any item currently visible in the 'flow screen'. The 'flow stage' automatically terminated after the disappearance of the last stimulus item.

Candidate Party Label: Party-identifying information for candidates in PL_P conditions was imparted by putting party logos and party-branded colour theme (i.e. Red= Lab, Blue=Con, Yellow= Lib) on stimulus items (e.g. a red rose and red border for Labour candidates), and explained before the voting task. In PL_A conditions logos were absent, and all stimulus item borders were grey.

Constructing the Candidates: Male-only names were used to control for effects of candidate gender on vote-choice. Names were chosen from the 3 most common UK first and surnames on the 2007 UK Electoral Roll, and randomly allocated. This was then checked against the list of MPs in the House of Commons to check that such politicians did not already exist.

Candidate Policies (Attribute Items): Candidate policies were taken from the relevant party manifesto from the 2010 UK General Election (Manifesto Project, 2013; BBC News, 2010), and prioritized based on public attitude polls asking voters to rank the importance of policy-categories just prior to the time of the experiment (e.g., when asked "*Which of the following do you think are the most important issues facing the country at this time?*", 77% of the public reported [the] 'Economy'; YouGov, 2013a). 21 stimulus items for each candidate were constructed based on these policy categories (e.g. for 'Economy', policies on 'Jobs' were used, e.g., "[Labour will] *guarantee people aged 18-24 a job, work experience or training place if they are unemployed for more than six months*"), and controlled to be similar in word length, complexity and informational content. Each policy was assigned a value between 1-7, based on its position in a political 'left-right' continuum, with up to 7 possible options for that policy (e.g. on Deficit: Lab, Lib, and Con received 2, 4 or 5 respectively; for higher education fees, 1= 100% Government Funded, and 7= 100% Tuition Fees).

Procedure

The study was conducted in individual lab cubicles at UCL.

Participants first read an introductory message consisting of an overview of the study's main stages, and requirements for each one. Upon continuing, participants completed three questionnaires measuring their '*political sophistication*' – not the focus of the current paper.

After completion of the questionnaires, participants were presented with instructions on the software's operation, and the experimental voting task, before proceeding to engage in a practice trial featuring two candidates (Ken Livingstone & Boris Johnston), with four stimulus items per candidate. After completion of the practice experiment, participants proceeded to the main experiment. Upon making their vote choice, participants completed a further 3 questionnaires – not focused on in this paper - as well as completing a policy attitude survey relating to the 21 policy attributes that appeared for each candidate (21 questions), before being debriefed as to the purpose of the experiment and paid.

Results

Vote Choice

The Labour candidate was the most popular in our experiment (60.4% of votes), followed by Conservative (19.4%), Liberal Democrat (8.6%), None of those on ballot (8%) and Abstain/Spoil (3.6%).

We examined the relationship between Vote Choice and *Number of Candidates*. The moderate relationship between these variables was significant, χ^2 (4, N= 139) = 12.84, p = .012, ϕ_c= .304. This is as expected: a lack of a 3rd (LibDem) candidate in 2-Candidate conditions will create a significant effect, as there will be no LibDem votes. There was no relationship between Vote Choice and *Party Label*, χ^2 (4, N= 139) = 2.648, p= .618, $\phi_{c=}$ .138.
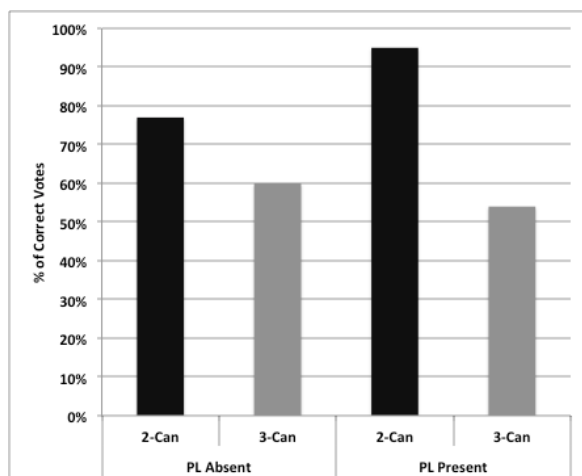
Correct Voting (CV)

The Measure: Lau and Redlawsk's 'normative naïve' measure of correct voting (1997) is an objective determination of whom a participant *should* have voted for, based on their own reported preferences. Our measure was in the same 'normative naïve' spirit, but with some notable differences. We do not use or include group endorsements or candidate pictures, nor do we weigh policy categories by participants' judgments of importance. Further, we do not rescale participants' (dis)agreement with candidates to a simple -1/+1. Participants' policy preferences are compared with each candidate's policies using their responses to the policy attitude survey. The overall distance between their preferences and the policies offered by candidates are calculated using the Euclidian calculations[2] for the distance (d) between two points in (n) dimensions:

$$d(\mathbf{p},\mathbf{q}) = d(\mathbf{q},\mathbf{p}) = \sqrt{(q_1 - p_1)^2 + (q_2 - p_2)^2 + \cdots + (q_n - p_n)^2} = \sqrt{\sum_{i=1}^{n}(q_i - p_i)^2}.$$

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[2] While this differs from the Rabinowitz and MacDonald (1989) directional method typically employed, empirically the two are usually indistinguishable, with Lau et al. (Note 37, 2013) in agreement.

p_i and q_i represent a participant's and candidate's position respectively on policy i. These positions are given by participants' responses to the 21 question policy attitude survey and the candidates' values for each policy on the 'left-right' continuum. An end-product value of '0' between a candidate and a voter indicates a perfectly proximal (overlapping) preference-distance, with an increasingly positive (due to the squared difference) value reflecting relative distance away from each other. For example: if a person scores '1' for Candidate A, and '2' for Candidate B, and '6' for Candidate C, we can say A is closer to B, and B is closer to A than C. *Determining the Correct Choice:* From the above calculations, we already have a ranked objective measure of whom a participant should have voted for (e.g. A, as A<B<C). If a participant voted for the most proximal candidate available to them in the 'election', it was deemed a 'correct' vote, otherwise they voted 'incorrectly'. In the event of a participant being equally close to two or more of the candidates, a vote for either of them was treated as voting 'correctly'.

Analyses: Participants who chose 'Abstain' or 'Don't Know' (N=16) were eliminated from subsequent analyses. The proportions of participants voting correctly in each condition are shown in Figure 1.

Figure 1: % of correct votes per condition. Abstentions & 'Don't know' removed.

A logistic regression confirmed the significant effect of number of candidates on correct voting (β= -.88, p= .000). The effect of Party Label did not reach significance (β = .355, p= .160), with the trend suggesting people were more likely to vote correctly in the presence of party labels than in their absence. The interaction term approached significance (β = -.474, p= .06). The significant effect of number of candidates would of course be expected even if participants were choosing candidates at random, due to the fewer options available in the 2-Candidate condition. We therefore compared rates of CV to chance levels in these conditions, collapsing across party label conditions. 87% of participants voted correctly in the *2-candidate condition* (significantly greater than the 50% expected by chance, p = .000), whilst the 57% of participants voting correctly in the *3-candidate condition* did not differ significantly from chance levels (33%; p= .489). Thus, the influence of increasing the number of candidates on levels of CV cannot be explained solely on the basis of a difference in chance levels. Note that we are not claiming that participants *are* choosing randomly in the 3-Can condition; simply that based on their own reported policy preferences they choose the correct candidate no better than if by chance.

As the interaction term approached significance, in light of H3, we analysed the effect of $PL_{P/A}$ for 2 vs. 3 candidates separately (on the legitimacy of planned simple effect tests in the absence of a significant overall interaction, see Howell, 1997, p. 415). In the *2-Can* condition there was an effect of Party Label on CV, χ^2 (1, 69)= 4.514, p= .034, ϕ_c= .256, where CV increases from 77% to 94% when there are 2 candidates and PL is present. However, there was no significant effect of PL on CV in the *3-Can* condition, χ^2 (1, N= 54)= .186, p= .667, ϕ_c= -.059.

Discussion

In discussing our findings, we refer back to our original hypotheses:

H1: *That increasing the number of alternatives (candidates) in the vote-choice task will significantly decrease rates of 'correct voting'.*

Our analysis showed a strong relationship between CV and Number of Candidates. Indeed, we showed that in 3-Candidate conditions, voters chose the candidate who best represented their policy levels at a level no better than chance. One might expect CV to increase with larger numbers of vote-choice alternatives, due to increasing alternatives to choose from, and the ability of those identifying as Liberal Democrat to choose their preferred party. However we know from findings in decision-making research that increasing the numbers of alternatives in a choice set increases the difficulty of the choice task (Johnson & Payne, 1985), due to increased information search requirements. This subsequently leads to the use of different decision-making strategies, which can result in different choices being made. It nonetheless seems striking that such a small increase to three alternatives leads to such a large effect on voters' ability to vote correctly (87% to 57%), given in real-world elections increases from two to *nine* alternatives decrease correct voting from 79 to 57% respectively (Lau et al., 2013). Contrary to Lau et al.'s (2013) results from real-world elections, we find participants *do not* do better than chance in a controlled laboratory-based study when there are 3 alternatives in the choice set. Further research is required to better understand the effects of additional candidates on CV.

H2: *That having partisan identification information (candidate party labels) present will significantly decrease rates of 'correct voting'.*

H3: *That H1 and H2 will be multiplicative effects, such that the effect of excluding Party Label will be greater in the 3-candidate condition.*

We observed no overall support for H2, and in fact the trend is in the opposite direction. Given the marginally significant interaction term, and the predictions of H3, the effects of Party Label are best discussed separately for the 2-candidate and 3-candidate conditions, whilst recognizing that the interaction term did not quite reach conventional levels of significance. Consequently, our discussion is tentative, but we suggest that future research is needed to examine the effects of additional parties/candidates in the presence/absence of party labels.

H3 was not supported. Although the interaction term approached significance, the pattern of results was not as predicted. We did not observe Party Label having any effect on the rates of correct voting in the 3-candidate condition. In the two-candidate condition, the reverse of our hypothesis was observed; CV rates actually *increased* when party labels were present (from 77% to 94%).

As discussed in the Introduction, heuristics are typically employed because they (usually) guide decision makers to appropriate decisions; the Party Label heuristic is one such heuristic (Lau & Redlawsk, 2001). The fact that CV increased when use of this heuristic was possible, suggests the heuristic was well adapted to the task demands in the two-candidate condition. It furthermore suggests that our participants had a reasonable understanding of the relative policy positions of these two parties, which are, after all, diametrically opposed in the British political system. Thus, Party Label is able to act as an efficient affective proxy to enhance the decision making process.

The fact that this result did not hold in the three-candidate condition could be explained in one of two ways. Firstly, participants might not have used party label as a cue to guide their decisions. This is plausible, but seems unlikely given the demonstrated ubiquity of its use as a political heuristic (e.g., Lau & Redlawsk, 2006; Rahn, 1993), and that heuristics should be expected to be utilised more with larger choice sets, especially when candidates may be more ideologically similar, thus increasing task difficulty (e.g., Gigerenzer & Gaissmaier, 2011; Lau & Redlawsk, 2006). Alternatively, participants might have been using the party label, but it did not confer a beneficial effect on the correctness of their voting (as a group). This could occur if participants' understanding of the policies of the Liberal Democrat, Conservative, and Labour parties are not well delineated between all three (given the beneficial effect of Party Label in the two-candidate condition, this predominantly suggests confusion over the relative standpoint of the Liberal Democrats in comparison with the

each of the other two parties). Such a possibility is supported by past research in multi-party political systems. Schmitt (1995) showed that voters are not good at matching European parties to their issues, and Kritzinger and McElroy (2012, p. 184) find that "*British voters can hardly agree on any party position*". Even considering voter party-identification (PID; a stable identity based on one's values/issue preferences), this may not be related (entirely) to one's own true preferences. PID is correlated with parental PID, at least in initial electoral choices (Niemi & Jennings, 1990), and PID may not be updated in light of negative changes in party positions, even strengthened (Redlawsk et al., 2010). If voters use Party Label to match with PID, the weakening of the relationship between PID and underlying preferences might be attenuating the possible informational benefit invoked by party labels.

Refining Correct Voting: CV is a complex concept, and measurable in multiple ways (Lau & Redlawsk, 1997). The conclusions presented here reflect the measure that we chose. The degree to which these are robust across different potential measures is yet to be seen, and worthy of investigation. One issue not considered in the present study was the relative importance (weighting) of each policy item to voters, an issue that we are addressing in subsequent research. While this is potentially a limitation of the current study, within judgment analysis equal-weight models have been shown to approximate the performance of optimally weighted decision models (Dawes, 1979). It may, nevertheless, be the case that a single issue dominates a participants' preference, and we were unable to assess that in the current study. It is also debatable whether weights should be created from participants judging policy importance independently (Lau & Redlawsk, 2006), or in relation to each other, an issue to be addressed in future research.

In real-world voting with multiple parties and candidates, strategic voting concerns (e.g. electability; Blais & Gschwend, 2011) complicate things further. This is highly unlikely to have been a concern in the present study, as our election scenarios stressed candidates were equally 'tied in the polls'.

Conclusion and Implications: We have investigated correct voting in a multi-party electoral context outside of the USA, using in-lab experiments and participants' own self-reported policy preferences. Even when the increase in the available candidates choice set is minimal (2 alternatives to 3 alternatives), voters seem unable to correctly identify the candidate that overall best matches their own reported preferences; with partisan labels aiding when the choice set is small, but having no effect on the ability to vote correctly as the choice-set size increases.

Given the prevailing trend in non-USA countries towards increasing the number of parties on offer, and the UK's comparatively high party tribalism (YouGov, 2013b), these findings are highly concerning for the idea of democracy.

Why is the gold standard for elections 'free and fair', but not 'accurate'? Should a government elected with high turnout, but with low voter 'correctness', be preferable to one where few vote but with high accuracy?

Acknowledgements

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