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Why friends and neighbors? Explaining the electoral appeal of local roots

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Abstract

Why do politicians with strong local roots receive more electoral support? The mechanisms underlying this well-documented ‘friends and neighbors’ effect remain largely untested. Drawing on two population-based survey experiments fielded in Britain, we provide the first experimental test of a commonly posited cue-based explanation, which argues that voters use politicians’ local roots (descriptive localism) to make inferences about politicians’ likely actions in office (behavioral localism). Consistent with the cue-based account, we find that a politician’s local roots are less predictive of voter evaluations when voters have access to explicit information about aspects of the politician’s actual behavioral localism. However, we also find that voters’ positive reaction to local roots is only partially explained by a cue-based account where voters care only about are the aspects of behavioral localism tested in this paper. Our findings inform a normative debate concerning the implications of friends-and-neighbors voting for democratic representation and accountability.

Keywords: candidate localism; candidate evaluations; friends and neighbors; conjoint analysis

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A persistent finding in political science is that politicians tend to receive additional electoral support in areas close to their place of birth or residence. While Key (1949) first documented this ‘friends and neighbors’ effect in the specific context of the Southern United States, subsequent studies have shown that it exists, not just elsewhere in the United States (Tatalovich 1975, Lewis-Beck and Rice 1983, Garand 1988, Rice and Macht 1987a, Rice and Macht 1987b, Bowler, Donovan and Snipp 1993, Gimpel et al. 2008, Meredith 2013a, Meredith 2013b), but also in a variety of other countries around the world, including Ireland (Gallagher 1980, Górecki and Marsh 2012, Górecki and Marsh 2014, Weeks 2008), Australia (Studlar and McAllister 1996), Canada (Cutler 2002, Blais et al. 2003), Britain (Arzheimer and Evans 2012, 2014), Estonia (Tavits 2010), Germany (Jankowski 2016) and Norway (Cox, Fiva and Smith 2016, Fiva and Halse 2016).

The electoral appeal of local roots raises important normative concerns. Key himself was troubled, arguing that elections in which a candidate can ‘gain support, not primarily for what he stands for or because of his capacities, but because of where he lives’ (Key 1949: 41) are unlikely to deliver policy representation and accountability for performance (see also Stokes and Miller 1962: 546). In his eyes, the existence of friends-and-neighbors voting ‘justifies a diagnosis of low voter-interest in public issues and a susceptibility to control by the irrelevant appeal to support the home-town boy’ (Key 1949: 37).

To know whether Key’s pessimistic assessment is valid, we need first to understand *why* the friends-and-neighbors effect occurs. Yet most existing studies focus on establishing the preference for a local politician rather than testing theoretical explanations for it. The only theory to be explicitly tested so far posits an *indirect* mechanism: that friends-and-neighbors voting arises not because voters actively consider local roots when evaluating politicians, but because voters tend to have more information about politicians with local roots due to the way such information is diffused through local social networks and local media (Bowler et al.

1993, Johnston et al. 2016). However, recent experimental evidence shows that voters still tend to prefer politicians with local roots to those without even when presented with the same amount of information about both (Campbell and Cowley 2014). This suggests that local roots have an important *direct* effect on voter evaluations.

This paper empirically evaluates an important potential explanation for the direct effect of local roots on voter evaluations of a politician: voters rationally use local roots as a low-cost cue for making inferences about a politician's 'behavioral localism', i.e. the extent to which the politician acts in line with the interests and wishes of the voter themselves, and others in their locality. This explanation is frequently suggested, but has not been explicitly tested (e.g., Gimpel et al. 2008, Tavits 2010, Jankowski 2016). If voters use local roots as cues, friends-and-neighbors voting does not in fact preclude policy representation or performance accountability (for a similar argument concerning party cues, see Lupia 1994). Of course, this is only the case to the extent that (1) local roots cues are accurate and (2) voters update their beliefs with more detailed information about a politician's behavior where it becomes available.

To assess this theoretical explanation, we draw on evidence from two population-based survey experiments fielded in Britain, where the evidence for friends-and-neighbors voting is clear (Arzheimer and Evans 2012, Arzheimer and Evans 2014, Evans et al. 2017, Campbell and Cowley 2014). Study 1 explicitly tests the cue-based explanation for the friends-and-neighbors effect. We use a paired profiles factorial vignette design, asking respondents to rate two hypothetical Members of Parliament (MPs) and randomly varying (1) whether each MP has weak or strong local roots and (2) the presence of additional explicit information about each MP's level of behavioral localism, characterized here in terms of an MP's constituency service and trustee/delegate role orientation. The cue-based account suggests that local roots become less predictive of MP ratings when respondents receive

information about the MP's behavioral localism. This is because respondents then no longer have to rely on local roots to make inferences concerning those aspects of MP behavior about which they now have explicit information. Our results are consistent with this expectation, and thus provide clear evidence for the cue-based account.

Nevertheless, we also find in Study 1 that local roots continue to have a notable effect on evaluations of a politician even in the presence of behavioral information. In Study 2 therefore we begin to examine whether this is because voters use local roots as a cue for aspects of MP behavior not mentioned in the treatments for behavioral localism used in Study 1. We do so, in Study 2, by drawing on a conjoint survey experiment where voters again evaluate MPs who vary in their level of local roots, but where voters also receive more extensive information about MPs' behavior and preferences, including party affiliation, ideology, policy interests, constituency service and role orientation. We find that even with this wide range of information about aspects of the MP's behavioral localism, local roots continue to have a positive impact on voters' evaluations of an MP. Thus, a cue-based account, where voters use local roots to make inferences about the set of MP attributes included in this experiment, can provide only a partial explanation for the friends-and-neighbors effect. This implies that voters are using local roots as a cue for a still broader set of MP attributes or that part of the friends-and-neighbors effect is explained by an alternative mechanism, which we discuss further below.

Local roots as a signal of behavioral localism

Such is the weight of evidence that local roots have positive electoral effects that some consider the friends-and-neighbors effect “a natural order, bordering on banality” (Pedersen, Kjaer and Eliassen 2007). Yet although many studies offer informed discussions of the likely

causes of the friends-and-neighbors effect, few provide evidence concerning possible explanations.

The most frequent explanation put forward in the literature is that, rather than having a preference for local roots, voters use the ‘localness’ of a politician (descriptive localism) to infer whether that politician will act in the substantive interests of the local community (behavioral localism) (Shugart, Valdini and Suominen 2005, Tavits 2010). Mansbridge (1999: 629), for example, argues that local roots signal ‘shared experience, which one might reasonably expect to promote a representative's accurate representation of and commitment to constituent interests’.

Voters may plausibly associate local roots with multiple aspects of legislator behavior. In the UK context, which we focus on here, three aspects of politicians’ behavior may be particularly strongly linked to local roots in voters’ minds: constituency service, role interpretation, and ideological congruence.

First, voters may infer that politicians with local roots are more likely to be good constituency servants. There is considerable evidence that British voters view MPs’ constituency service activities – case and project work aimed at helping individual or groups of constituents in their interactions with government (Cain, Ferejohn and Fiorina 1987) – as one of their most important roles (Vivyan and Wagner 2016, Johnson and Rosenblatt 2007, Campbell and Lovenduski 2015). Voters may believe that MPs with local ties are more emotionally connected to the constituency and better informed about constituents’ needs (Shugart et al. 2005).

Second, voters may expect politicians with local roots to listen more to local people when forming positions on policy. People prefer politicians to act as delegates rather than trustees (Carman 2006, Doherty 2013, Vivyan and Wagner 2016); if MPs with local roots have stronger ties to the area, they might be subject to stronger social pressures to act as

delegates. This may mean that ‘it is more credible for a candidate with local roots than for one without to claim to be a local servant in national decision-making’ (Tavits 2010: 217).

Third, voters may believe that politicians with local roots are more likely to share their ideological outlook. There is sizeable regional variation in political preferences in many countries (Rodden 2010). If voters assume that locally-rooted MPs have similar backgrounds and are therefore more likely to share their views, they may use local roots as a heuristic for ideological congruence. This logic might also lead voters to believe that an MP with local roots will share their policy priorities (Shugart et al. 2005, Tavits 2010).

In sum, local roots may serve as a low-cost cue that voters use to infer politicians’ likely behavioral localism (Popkin 1991). A testable implication of this theory is as follows: if a voter takes local roots into account because they serve as a cue for a politician’s likely behavioral localism, then the voter should take local roots into account *less* when they receive explicit information concerning one or more aspects of the politician’s actual behavioral localism. This is because the voter no longer needs to rely on local roots as a cue for the behavior about which they now have direct information. Our hypothesis is therefore that *the effect of descriptive localism is weakened when voters receive direct information about politicians’ behavioral localism.*

Alternative explanations for friends-and-neighbors effects could include that voters value the local-ness of their political representative in and of itself (Lewis-Beck and Rice 1983). Consistent with Key’s pessimistic assessment and prior research establishing the importance of group identities for political behavior (for a review, see Achen and Bartels 2016, chapter 8), this would suggest that friends-and-neighbors voting is driven by a voter’s psychological bias toward politicians from the same geographic “group” as themselves (Tajfel 1970, 1982). Such an account would predict that the effects of local roots on voter evaluations should vary positively with the strength of local attachments, rather than

depending on the presence or absence of information about behavioral localism. An alternative account posits that the friends-and-neighbors effect arises due to indirect mechanisms, either because voters receive more information about local than about non-local candidates due to the way electoral information diffuses through local social and media networks (Bowler et al. 1993, Johnston et al. 2016), or because local candidates are able to better mobilize local activists (Rice and Macht 1987b). Such an account does not involve information about a politician's local roots having any direct effect on voter evaluations of that politician.

Research design

To examine the cue-based account of friends-and-neighbors voting, we rely on population-based survey experiments fielded in the UK. Traditionally, party-based electoral competition was the key feature of elections in the UK, but there is increasing evidence of candidate effects. Despite lacking a residency requirement for its Westminster elections, there is a widespread acknowledgement within the political parties themselves that a 'local candidate' can be an electoral asset – hence claims of candidate localness are extremely frequently used as a campaign tool – and there has been a rise in the proportion of MPs with roots in their constituency (Rush 2001, Childs and Cowley 2011). Moreover, the existence of a friends-and-neighbors effect has been repeatedly demonstrated in recent observational (Arzheimer and Evans, 2012, 2014; Evans et al, 2017) and experimental studies (Campbell and Cowley, 2014) in the UK. We discuss the extent to which conclusions drawn from the UK are generalizable further in the conclusion.

We use an experimental approach because, although observational studies have undoubted benefits regarding external validity, an experimental approach has two important advantages for present purposes. First, it is difficult in observational studies to identify the

effect of local roots on voter support for politicians because politicians with local roots may be more likely to run (or to be selected as a party candidate) in certain strategic contexts (Shugart et al. 2005), and more likely to behave in ways that please constituents (Carozzi and Repetto 2016, Cox et al. 2016). In our experimental approach, local roots are exogenous by design. Second, accurately identifying the effect of information – i.e. what voters know about the behavior of a politician – is crucial for conducting a precise test of our hypothesis, yet it is difficult in observational studies to fully measure and control for the information voters are exposed to about a politician. Survey measures of media exposure or candidate knowledge contain measurement error. More importantly, to the extent that the indirect friends-and-neighbors mechanism proposed by Bowler et al. (1993) holds, voters’ actual levels of knowledge about a politician are likely to be endogenously related to a politician’s local roots because local politicians may accumulate more local media exposure. By providing information experimentally, we can ensure that what voters get told about a politician is uncorrelated with whether the politician has local roots. In addition, in observational studies different types of voter, depending on their local networks, might have access to more or less information about a politician, and this may account for heterogeneous reactions to local roots. An experimental approach is thus useful for isolating the influence of localism in a situation of controlled information provision.

Study 1

In our first study, we use a vignette experiment to test whether the presence of information concerning politicians’ behavioral localism conditions the effects of their local roots in the manner predicted by the cue-based account. The experiment was fielded in August 2016 to a sample of 5,203 participants, designed to be representative of the British adult population in terms of age, gender, social class and type of newspaper readership, drawn from the YouGov

online panel.¹ We asked respondents to evaluate hypothetical MPs based on short vignettes which varied in terms of (1) the strength of the MPs' local roots and (2) the quantity and quality of information regarding the MPs' behavior in office. If the cue-based explanation holds, then the experimental effect of the strength of local roots should be lower where voters have behavioral information and therefore do not need to rely on local roots to make inferences about an MP's likely behavior.

Each respondent was presented with two vignettes describing hypothetical Members of Parliament called Nick Cowley and Philip Campbell. We presented respondents with incumbent MPs so that we could inform respondents about what an MP does in office, i.e. their behavioral localism. Recent research suggests that paired vignette designs improve respondent engagement and external validity (Hainmueller, Hangartner and Yamamoto 2015). Our main focus in the experiment is on the first MP (Nick) and how varying his attributes affects respondents' relative support for him over Philip. The baseline preference for Nick compared to Philip is irrelevant to the study.

[Table 1 about here]

Our experiment takes the form of a 2×3 factorial design, described in Table 1 (and in Appendix A). The two local roots treatments vary only the strength of Nick's local roots. Nick either 'grew up and lives outside your local area' or 'grew up and lives in your local area'. This is realistic: in 2015, almost a third of MPs elected in the general election did not live in their constituency and historically, this is not an unusually high proportion (Norton and Wood 1993). Philip's local roots were fixed at a moderate level ('originally lived in another part of the country and moved to your local area five years ago') across conditions.

¹ Compared to a face-to-face survey, YouGov samples yield only small differences in the distribution of most key explanatory variables and in regression models for political decisions (Sanders et al. 2007).

The three behavioral information treatments vary whether respondents receive any information about the behavioral localism of both MPs and, where such information is provided, the nature of Nick's behavior. We operationalized behavioral localism in terms of two influential attributes (Vivyan and Wagner 2016): the relative amount of time the MP spends on constituency and national policy work; and whether the MP takes a trustee- or delegate-style approach in deciding on policy positions. Importantly, local roots plausibly serve as a heuristic for both attributes: voters could plausibly infer that MPs with local roots would spend more time on constituency service and/or listen more closely to constituents' views when deciding their policy positions. Respondents receiving the 'no behavioral information' treatment were told nothing about the behavioral localism of either Nick or Philip. Respondents receiving the 'low behavioral localism' treatment were told that Nick spends most of his time working on national policy-related matters in Parliament and adopts a trustee-style approach to policy representation. Respondents receiving the 'high behavioral localism' treatment were told that Nick spends most of his time working on constituency issues and that he adopts a delegate-style approach to policy representation. In the two latter treatments, Philip was characterized as moderate in terms of behavioral localism, spending a moderate amount of time on both constituency and national policy work and adopting a trustee-style approach to policy representation. In this experiment, our behavioral information treatments do not contain information about MP ideology, another potential attribute for which local roots are plausibly be used as a cue. This is because the primary purpose of the experiment was to detect whether some fairly minimal behavioural information reduces the effect of local roots, in line with the cue-based account.²

² Including information about MP ideology would also complicate measurement of whether a respondent is assigned to a high or low behavioral localism information condition: whereas it is reasonable to assume that all respondents would consider higher levels of constituency

We test our expectation by comparing the effect of local roots (the first varying attribute) across levels of behavioral localism (the second varying attribute). If the cue-based explanation holds, the effect of local roots should be weaker when behavioral information is provided, irrespective of whether this indicates high or low behavioral localism.

The vignettes in all conditions also contained background information about the MPs to create a reasonably realistic context where voters receive rounded information about MPs and thus need not pay attention to local roots or behavioral localism. The values of these additional attributes were fixed across experimental conditions. They were also chosen to be unobjectionable, which is important as these attributes should not affect the size of the treatment effects. This would potentially endanger the generalizability of our findings, although not the effectiveness of the experimental manipulation. We also included positive statements about the MPs' honesty and competence to ensure that voters did not dismiss either MP as completely undesirable. We did not include party labels but did tell voters in a preamble that both MPs were from the same party (information on partisanship and ideology is included in Study 2). As an example, a respondent in the 'strong local roots'/ 'no behavioral information' condition would have seen the following vignettes:

Nick Cowley is 46 years old. He grew up and lives in your local area. Before becoming involved in politics he was an accountant. He is widely regarded as clever, hard-working, and straight-talking. In terms of policies, he is interested in health and pensions. He spends on average 4 days of a working week working on local constituency issues and the remaining 1 day reviewing and working on

service and a constituency delegate role orientation as constituting higher levels of MP behavioral localism, reactions to information about an MP's ideology will depend on the respondents' own ideological preferences.

national policies in Parliament. When considering policy matters, he mainly thinks about his constituents' views. He studied biology at university. In his free time, he likes watching films and reading fiction. He is married with two children.

Philip Campbell is 53 years old. He originally lived in another part of the country and moved to your local area five years ago. Before becoming involved in politics he was a teacher. He is widely regarded as diligent and honest. In terms of policies, he is interested in education and transport. He spends on average 3 days of a working week working on local constituency issues and the remaining 2 day reviewing and working on national policies in Parliament. When considering policy matters, he mainly thinks about his own personal views. He studied physics at university. In his free time, he likes running and going to the theatre. He is married with three children.

We asked respondents: ‘On a scale ranging from 0 to 10, where 0 means very unhappy and 10 means very happy, how happy or unhappy would you be to have each person as your Member of Parliament?’³ Our dependent variable, Y_i , is respondent i 's *relative rating* of Nick:

³ We could also have asked respondents to choose between the two MPs. However, a reduction in the estimated effect of local roots when behavioral information is provided might then occur simply because such information has a ‘crowding out’ effect. For example, constituency-focused MPs could be so well liked by respondents that they are almost always selected over the moderate alternative regardless of local ties. Using ratings reduces the risk of this type of mechanical effect. We report a simulation of a binary choice in Appendix B.

the 0-10 rating of Nick minus that of Philip.⁴ We expect the magnitude of the effect of local roots to be lower among respondents who receive information about the MPs' behavioral localism. We therefore estimate the following model via OLS:

$$Y_i = \alpha + \beta_1 D_i^{local} + \beta_2 D_i^{info} + \beta_3 (D_i^{local} \cdot D_i^{info}) + \varepsilon_i \quad (1)$$

where D_i^{local} indicates whether the respondent received the strong local roots treatment (1) or not (0), D_i^{info} indicates whether a respondent received *any* information about MPs' (high or low) behavioral localism (1) or not (0), and ε_i is an error term. The cue-based explanation of friends-and-neighbors voting predicts that the provision of behavioral information reduces the effect of the strong local roots treatment. Thus β_3 should be negative.

We also test whether the effects of local roots are attenuated differently when an MP exhibits high or low levels of behavioral localism by estimating the following model:

$$Y_i = \alpha + \beta_1 D_i^{local} + \beta_2 D_i^{low} + \beta_3 D_i^{high} + \beta_4 (D_i^{local} \cdot D_i^{low}) + \beta_5 (D_i^{local} \cdot D_i^{high}) + \varepsilon_i \quad (2)$$

where D_i^{low} and D_i^{high} indicate low behavioral localism and high behavioral localism, respectively. Parameters β_4 and β_5 compare the effect of local roots in the presence of each of these two behavioral localism treatments to those in the absence of any behavioral localism information. Again, we expect both parameters to be negative and statistically significant.

Table 2 presents estimates of equations 1 and 2 with and without controls for pretreatment measures of: gender, age (18-24, 25-49, 50-64, 65 and above), education (Levels 1/2, Level 3, Level 4/5, No qualifications/Other/Unknown, according to the International Standard Classification of Education) and social grade (AB, C1, C2 or DE).⁵ We use robust standard errors.

⁴ Support for the cue-based explanation is stronger if we use the raw 0-10 ratings of Nick as the dependent variable; the results are presented in Appendix B.

⁵ In Appendix C we perform randomization and balance checks using these respondent variables.

[Table 2 about here]

In all models, the main effect of the local roots treatment is positive and significant: when respondents receive no information about behavioral localism, Nick's relative rating increases (relative to Philip) when he is characterized as having strong rather than no local roots. The negative and significant interaction term in Models 1 and 2 shows that, in line with the cue-based account of friends-and-neighbors voting, the positive effect of local roots on Nick's relative rating is attenuated when voters receive *any* information about the behavioral localism of the two MPs. The negative and significant interaction coefficients on both interaction terms in each of Models 3 and 4 shows that the positive effect of local roots is attenuated both when respondents are told that Nick is high in behavioral localism and when they are told that he is low in behavioral localism.

Based on Model 4, Figure 1a presents the predicted value of Nick's relative ratings for different combinations of the local roots (y-axis) and behavioral localism (panels) treatments. Comparing the same dot across panels shows that, conditional on a given level of local roots, Nick's relative rating is always higher when he is characterized as high in behavioral localism (bottom panel) compared to when he is characterized as low in behavioral localism (second panel) or when voters receive no behavioral localism information (top panel). The difference between the two dots in each panel is the treatment effect of local roots for each behavioral information condition.

[Figure 1 about here]

Figure 1b plots these treatment effects directly to show more clearly how they vary by behavioral information condition. Having local roots increases Nick's relative rating by 0.76 points when respondents receive no behavioral localism information (top panel). This effect is reduced by around a third when respondents receive behavioral localism information: to

0.45 when Nick is presented as low in behavioral localism (second panel), and to 0.52 when Nick is presented as high in behavioral localism (third panel).

This experiment thus provides evidence that, consistent with our expectation, the effects of local roots on voter evaluations of politicians are reduced when voters receive direct information concerning behaviors about which they might otherwise use local roots as a cue. Furthermore, we tested whether a voter's reaction to MP local roots depends on the voter's local political context and found little evidence to support such a claim.⁶ Note, however, that although information about behavioral localism accounts for a substantial portion (around a third) of the baseline effect of local roots, the effect of local roots is still positive and significant in every row of Figure 1b. Thus, being local still has a positive impact even when voters know a reasonable amount about a politician's behavioral localism.

Study 2

In Study 1 local roots continued to have a positive – albeit diminished – effect on voter evaluations of a politician even in the presence of explicit information about key aspects of the politician's behavioral localism. This may be because there are other salient aspects of behavioral localism which are not mentioned in the Study 1 treatments and for which voters are using local roots as a cue.

We present evidence concerning this possibility by drawing on the results of a conjoint analysis survey experiment (Hainmueller, Hopkins and Yamamoto 2014). In this experiment we again asked respondents to consider pairs of politicians who varied in their level of local roots. However, in contrast to Study 1, respondents in this experiment (a) always received information about the behavioral localism of the politician and (b) received

⁶ In Appendix D we test whether a voter's reaction to MP local roots depends on the voter's local political context; we find little evidence to support such a claim.

information about *additional* (and plausibly salient) aspects of the politicians' behavioral localism, including information on the politicians' partisanship and their political preferences. Because of (a), this experiment does not directly test the cue-based account's prediction that the impact of local roots varies conditional on the presence or absence of information about behavioral information. Rather, this experiment is informative because of (b): it shows for the first time whether the effect of politician local roots on voter evaluations persists, or is instead 'explained away', when voters have immediate access to the richer set of information about a politician's behavioral localism examined here.⁷ If the effect persists to a substantial degree in this experiment, this provides evidence against the notion that local roots simply act as a cue for the broader set of politician attributes considered here. This would mean that local roots serve as a cue for a still broader set of politician attributes, or that the cue-based theory may only provide a partial account of the friends-and-neighbors effect, with the remainder explained by alternative mechanisms relating to in-group bias or an intrinsic preference for descriptive representation.

The survey experiment was fielded to 1,719 respondents between 4 and 5 February 2015, again through YouGov. After a short introduction, we asked respondents to choose between a pair of hypothetical MPs. Each MP was characterized by six attributes, each of which varied randomly across two to four possible levels. MPs differed in whether they had

⁷ Note that this is distinct from the contribution of previous observational studies which cannot show whether voters react positively to local roots because they lack information about the behavioral localism of the candidate or because they possess that information but still value local roots for another reason. It is also distinct from the contribution of previous experimental studies (e.g., Campbell and Cowley 2014) which only test the effect of local roots in the presence of a more limited set of information about politician behavioral localism (which does not include constituency service, role orientation or politician ideology).

local roots and also in the depth of any local roots. We included four attributes to capture behavioral localism. First, we provided information on how MPs allocated time to constituency work and national policy work, but with a greater variation in focus than in Study 1. Second, we provided information on role orientation, in which we specified whether each MP paid more attention to his or her own personal views (trustee), to those of the constituents (delegate) or those of the party when thinking about national policy. Third, moving beyond Study 1, to capture the policy preferences potentially signaled by local roots, we captured ideological congruence by providing information on the party of the MP and whether the MP was a centrist or more extreme member of their party. To capture policy emphasis, we described the main political interests of the MP as either education and health policy or economic policy and taxation; in the UK, the former are more local than the latter, as they are related to debates concerning local schools and hospitals. Finally, we also varied the gender of the MP in order to make the profiles more realistic. The precise wording used is presented in Appendix E. A screenshot is shown in Figure 2. MP attribute values were assigned randomly and independently. For our outcome variable we asked respondents: ‘Based on this information, which ONE of these two MPs would you prefer to have as your MP?’⁸ A response was required, with no ‘don’t know’ option. Respondents were presented with a total of five choice tasks.

[Figure 2 about here]

For each respondent, we have two observations per choice task, one for each hypothetical MP they are presented with. Hence, we have $1,719 \times 2 \times 5 = 17,190$ observations. Our quantity of interest is the *average marginal component effect* (AMCE) for

⁸ Unlike in Study 1, ‘crowding out’ is less of a concern in Study 2, as all respondents received the same amount of information about MPs. Hence, the simple binary choice question should not be problematic for Study 2.

each value of the MP attributes. The AMCE is the effect on the probability of an MP being chosen of a particular value of an attribute compared to a baseline value of that attribute, averaging over all possible values of all other attributes and all attributes of the other MP included in the choice task (Hainmueller et al. 2014). Since our design employs completely independent randomization, we can estimate AMCEs using simple differences-in-means obtained via OLS models where the predictors are dummy variables for the values of the attributes. Standard errors are clustered by respondent.⁹

Figure 3 shows the population AMCE estimates for each level of each attribute, relative to the baseline level of that attribute. The bars represent corresponding 95% confidence intervals.

[Figure 3 about here]

For local roots, the baseline value is an MP who lives outside the constituency. The three other attribute levels are whether the MP moved to the local areas five years ago, twenty years ago, or whether the MP grew up and lives in the local area. MPs with these three attribute levels all have some minimal level of local roots and are clearly preferred to MPs who live outside of the constituency: those MPs with at least a minimal level of local roots are between 10 and 13 per cent more likely to be chosen by respondents in the choice tasks.

Note that, like the previous experiment, the conjoint analyses setup gives respondents the opportunity to ignore a characteristic if they deem it unimportant relative to other choice attributes. Yet the magnitude of the local roots effects are among the largest across all attributes in the experiment. Thus, in line with Study 1 it seems that British voters have a substantial residual preference for an MP with some local roots, even in a context where they have clear information about other attributes of the MP for which local roots act as a proxy

⁹ In Appendix F we show that the experiment satisfies a series of standard conjoint analysis diagnostics.

and where they receive the same level of information about MPs with local roots as those without local roots.¹⁰ In Appendix G we present indicative evidence that respondents' strength of local identification only weakly influences friends-and-neighbors voting.

In terms of the *depth* of an MP's local roots, MPs who moved to the local area twenty years ago or grew up and live in the area were both slightly more likely to be preferred by respondents than MPs who moved to the area around five years ago. However, these differences are not statistically significant and are small in magnitude (between 2.5 and 3 per cent) compared to the differences between MPs who live elsewhere in the country and all other types of MPs. In other words, if an MP has some minimal level of local roots and if other relevant information about the behavioral localism of the MP is available, voters do not attach much additional value to an MP having particularly deep local roots.

Because MPs in Study 2 are characterized by multiple attributes whose levels vary independently, we can model interactions to test whether the effect of local ties is conditional on the level of other attributes. When we perform F-tests for interactions between MP local ties and each remaining attribute in the experiment, we find that none are significant at the 0.05 level. This is consistent with the cue-based account, which posits that what matters for the predictive power of local roots is the presence or absence of behavioral information – not the nature of that information once it is present.

Discussion and conclusion

¹⁰ In Appendices H and I we examine the effects of party label and ideological proximity. Appendix H shows a similar pattern of effects whether the MPs are from the same- or different-parties. Appendix I shows that when we control for the interaction between the party/ideology treatment and respondent ideology, the average effects of MP local roots remain substantively unchanged from those reported above.

Many researchers have speculated that voters use politicians' local roots as a cue to make inferences regarding their likely behavior or character, and that this mechanism is central to explaining the persistent cross-national friends-and-neighbors voting phenomenon. In this article, we provided the first experimental test for this claim. Consistent with this cue-based explanation, Study 1 showed that voters' place less weight on a politician having local roots when they also receive information about the politician's level of behavioral localism. Empirically, providing information about politician constituency service orientation and constituency policy representation reduced the effect of local roots by about a third.

That said, Study 2 showed that even if voters are provided with a rich array of information about politicians' behavior and ideological positioning, the effect of local roots remained positive and notable. In this sense, voters' positive reaction to local roots is not fully explained by a cue-based account where voters care only about are the behaviors and attributes considered in this paper. What might account for the local roots effects that we have observed but which are left un-explained by the particular mechanisms considered in this paper?

First, it may be that voters use local connections to make inferences about other politician behaviors and attributes in addition to those tested in this paper. For example, voters may also use local roots as a cue for trustworthiness. As Gimpel et al. (2008) argue, "trust is founded on the basis of common or shared interest" (234), and voters may perceive politicians with local roots as more socially invested in their community. Future research could extend the experimental designs used in this paper to test whether voters are using local roots as a cue for additional politician attributes, perhaps by asking respondents to rate politicians on various dimensions (such as trustworthiness and accessibility), and comparing the effects of local roots on these different dimensions. It could also further test the cue-based account by examining whether voters in different political systems use politician local roots

as a cue for different behavioral attributes depending on which ones are most salient in that system. Whilst the cue-based account should be generalizable in the sense that the key underlying logic of the account – that voters use politician local roots to make inferences about likely politician behavior – does not vary across countries, we may still find differences in how this manifests itself. American voters, for example, might be more likely than British voters to use local roots to make inferences about a legislator’s likely commitment to ensure pork-barrel spending in their region (a behavior which is less salient in Britain because of the lack of influence individual legislators can have on budget allocations).

Second, friends-and-neighbors voting may arise because voters exhibit an in-group bias towards local candidates and an out-group bias against non-local candidates. In Appendix G, for example, we present preliminary evidence from Study 2 that, contrary to an identity-based account, respondents’ strength of local identification only weakly conditions the friends-and-neighbors effect. However, further research on this is clearly needed. In particular, more detailed and fine-grained measures of identities as well as experiments that prime local identities could provide further insight (see, e.g., Huddy and Khatib 2007).

Third, still other mechanisms may also explain parts of the effects of local roots seen in our experiments. For example, it could be that voters perceive politicians with roots in the area they represent as simply more legitimate than politicians who do not have such roots, in the sense that it is more “appropriate, proper and just” (Tyler 2006, 376) for people to be represented by a person from their local area. One way future research might test a mechanism such as this could be to examine whether the effect of local roots persists when voters are asked to evaluate politicians who are explicitly described as representing constituencies quite different to the one in which the voter lives.

It is important to restate that the evidence in this paper solely concerns the *direct* effect that local roots have on voter evaluations of a politician. By design, our experimental

approach precluded an *indirect* effect of local roots, such as potential network, campaigning, mobilization and name recognition effects. Doing so allowed us to better isolate and assess the cue- and identity-based accounts, which have so far remained untested in the friends-and-neighbors literature. In other words, we can be sure that the effect of friends-and-neighbors voting is not solely due to indirect effects. Equally, however, it should be borne in mind that indirect effects may of course take on significant importance in real elections, and future friends-and-neighbors research would ideally attempt to study direct and indirect mechanisms alongside each other, to assess their relative importance. Research on real electoral races – whether observational or experimental – may well be crucial, since it is difficult to see how in a survey experiment one could adequately and realistically induce some of the indirect effects discussed above, many of which involve processes that evolve over multiple social interactions over a relatively long period of time.

We began this article by outlining the normative debate surrounding the implications of friends-and-neighbors voting for the quality of voter decision-making. Key was skeptical: to him, this phenomenon indicated the impact of irrelevant considerations. In contrast, we have shown that cue usage is part of the reason why voters support candidates with local roots. Whether this is to be welcomed depends on the accuracy of the cue, which depends in turn on the extent to which locally-rooted MPs do in fact engage in behavioral localism more than others. Recent work on Estonia (Tavits 2010), Norway (Fiva and Halse 2016) and Italy (Carozzi and Repetto 2016) shows that local roots affect the way MPs behave in office. Cross-national evidence also indicates that locally-rooted MPs are more independent from their party (Tavits 2009, Tavits 2010). Yet, locally-rooted MPs may also shirk their duties if voters use local roots as a cue rather than evaluating MP behavior. The normative implications of our findings on friends-and-neighbors voting are thus nuanced and highlight

the need for further work examining not just voter decision-making but also politician behavior.

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References

- Achen, C. & L. Bartels. 2016. *Democracy for Realists: Why Elections Do Not Produce Responsive Government*. Princeton, NJ: Princeton University Press.
- Arzheimer, K. & J. Evans (2012) Geolocation and voting: candidate-voter distance effects on party choice in the 2010 General Election in England. *Political Geography*, 31, 301-310.
- (2014) Candidate geolocation and voter choice in the 2013 English county council elections. *Research and Politics*, 1, 1-9.
- Blais, A., E. Gidengil, A. Dobrzynska & N. Neil (2003) Does the Local Candidate Matter? Candidate Effects in the Canadian Election of 2000. *Canadian Journal of Political Science/Revue canadienne de science politique*, 36, 657-664.
- Bowler, S., T. Donovan & J. Snipp (1993) Local Sources of Information and Voter Choice in State Elections. *American Politics Quarterly*, 21, 473-489.
- Cain, B., J. Ferejohn & M. Fiorina. 1987. *The Personal Vote: Constituency Service and Electoral Independence*. Cambridge, MA: Harvard University Press.
- Campbell, R. & P. Cowley (2014) What voters want: reactions to candidate characteristics in a survey experiment. *Political Studies*, 62, 745-765.
- Campbell, R. & J. Lovenduski (2015) What should MPs do? Public and parliamentarians' views compared. *Parliamentary Affairs* 68, 690-708.
- Carman, C. J. (2006) Public preferences for parliamentary representation in the UK: an overlooked link? *Political Studies*, 54, 103-122.
- Carozzi, F. & L. Repetto (2016) Sending the pork home: Birth town bias in transfers to Italian municipalities. *Journal of Public Economics*, 134, 42-52.
- Childs, S. & P. Cowley (2011) The politics of local presence: is there a case for descriptive representation? *Political Studies*, 59, 1-19.

- Cox, G. W., J. H. Fiva & D. M. Smith (2016) The Contraction Effect: How Proportional Representation Affects Mobilization and Turnout. *The Journal of Politics*, 78, 1249-1263.
- Cutler, F. (2002) The simplest shortcut of all: sociodemographic characteristics and electoral choice. *The Journal of Politics*, 64, 466-490.
- Doherty, D. (2013) To Whom Do People Think Representatives Should Respond: Their District or the Country? *Public Opinion Quarterly*, 77, 237-255.
- Evans, J., K. Arzheimer, R. Campbell & P. Cowley (2017) Candidate localness and voter choice in the 2015 General Election in England. *Political Geography*, 59, 61-71.
- Fiva, J. H. & A. H. Halse (2016) Local favoritism in at-large proportional representation systems. *Journal of Public Economics*, 143, 15-26.
- Gallagher, M. (1980) Candidate selection in Ireland: the impact of localism and the electoral system. *British Journal of Political Science*, 10, 489-503.
- Garand, J. (1988) Localism and Regionalism in Presidential Elections: Is there a Home State or Regional Advantage. *The Western Political Quarterly*, 41, 85-103.
- Gimpel, J., K. Karnes, J. McTague & S. Pearson-Merkowitz (2008) Distance-decay in the political geography of friends-and-neighbors voting. *Political Geography*, 27, 231-252.
- Górecki, M. A. & M. Marsh (2012) Not just 'friends and neighbours': Canvassing, geographic proximity and voter choice. *European Journal of Political Research*, 51, 563-582.
- (2014) A decline of 'friends and neighbours voting' in Ireland? Local candidate effects in the 2011 Irish 'earthquake election'. *Political Geography*, 41, 11-20.

- Hainmueller, J., D. Hangartner & T. Yamamoto (2015) Validating vignette and conjoint survey experiments against real-world behavior. *Proceedings of the National Academy of Sciences*, 112, 2395-2400.
- Hainmueller, J., D. J. Hopkins & T. Yamamoto (2014) Causal Inference in Conjoint Analysis: Understanding Multi-Dimensional Choices via Stated Preference Experiments. *Political Analysis*, 22, 1-30.
- Huddy, L. & N. Khatib (2007) American Patriotism, National Identity, and Political Involvement. *American Journal of Political Science*, 51, 63-77.
- Jankowski, M. (2016) Voting for locals: Voters' information processing strategies in open-list PR systems. *Electoral Studies*, 43, 72-84.
- Johnson, C. & G. Rosenblatt (2007) Do MPs have the 'Right Stuff?'. *Parliamentary Affairs*, 60, 164-9.
- Johnston, R., M. Wickham-Jones, C. Pattie, D. Cutts & H. Pemberton (2016) Friends and neighbours voting revisited: The geography of support for candidates to lead the UK's Labour party. *Political Geography*, 55, 1-9.
- Key, V. 1949. *Southern Politics*. New York: Alfred A Knopf.
- Lewis-Beck, M. & T. Rice (1983) Localism in Presidential Elections: The Home State Advantage. *American Journal of Political Science*, 27, 548-556.
- Lupia, A. (1994) Shortcuts versus encyclopedias: Information and voting behavior in California insurance reform elections. *American Political Science Review*, 88, 63-76.
- Mansbridge, J. (1999) Should Blacks Represent Blacks and Women Represent Women: A Contingent 'Yes'. *Journal of Politics*, 61, 628-657.
- Meredith, M. (2013a) Exploiting Friends-and-Neighbors to Estimate Coattail Effects. *American Political Science Review*, 107, 742-765.

- . 2013b. Heterogenous Friends-and-Neighbours Voting. University of Pennsylvania.
Working paper.
<http://www.sas.upenn.edu/~marcmere/workingpapers/HeterogeneousLocalism.pdf>.
- Pedersen, M., U. Kjaer & K. Eliassen. 2007. The Geographical Dimension of Parliamentary Recruitment – among Native Sons and Parachutists. In *Democratic Representation in Europe: Diversity, Change and Convergence*, eds. M. Cotta & H. Best, 160-190.
Oxford: Oxford University Press.
- Popkin, S. 1991. *The Reasoning Voter: Communications and Persuasion in Presidential Campaigns*. Chicago, Illinois: Chicago University Press.
- Rice, T. & A. Macht (1987a) Friends and Neighbors Voting in Statewide General Elections. *American Journal of Political Science*, 31, 448-452.
- (1987b) The Hometown Advantage: Mobilization or Conversion. *Political Behavior*, 9, 257-262.
- Rodden, J. (2010) The Geographic Distribution of Political Preferences. *Annual Review of Political Science*, 321-40.
- Rush, M. 2001. *The Role of the Member of Parliament Since 1868: From Gentlemen to Players*. Oxford: Oxford University Press.
- Sanders, D., H. Clarke, M. Stewart & P. Whiteley (2007) Does Mode Matter for Modeling Political Choice. *Political Analysis*, 15, 257-285.
- Shugart, M. S., M. E. Valdini & K. Suominen (2005) Looking for Locals: Voter Information Demands and Personal Vote-Earning Attributes of Legislators under Proportional Representation. *American Journal of Political Science*, 49, 437-449.
- Stokes, D. & W. Miller (1962) Party government and the saliency of Congress. *The Public Opinion Quarterly*, 26, 531-546.

- Studlar, D. & I. McAllister (1996) Constituency activity and representational roles among Australian legislators. *The Journal of Politics*, 58, 69-90.
- Tajfel, H. (1970) Experiments in intergroup discrimination. *Scientific American*, 223, 96-102.
- (1982) Social psychology of intergroup relations. *Annual Review of Psychology*, 33, 1-38.
- Tatalovich, R. (1975) 'Friends and neighbors' voting: Mississippi 1943-73. *The Journal of Politics*, 37, 807-14.
- Tavits, M. (2009) The Making of Mavericks. Local Loyalties and Party Defection. *Comparative Political Studies*, 42, 793-815.
- (2010) Effect of Local Ties On Electoral Success and Parliamentary Behaviour. *Party Politics*, 16, 215-235.
- Tyler, T. R. (2006) Psychological Perspectives on Legitimacy and Legitimation. *Annual Review of Psychology*, 57, 375-400.
- Vivyan, N. & M. Wagner (2016) House or home? Constituent preferences over legislator effort allocation. *European Journal of Political Research*, 55, 81-99.
- Weeks, L. 2008. Candidate Selection: Democratic Centralism or Managed Democracy. In *How Ireland Voted 2007*, eds. M. Gallagher & M. Marsh, 48-64. London: Palgrave.

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Table 1. Design of experimental vignettes, Study 1

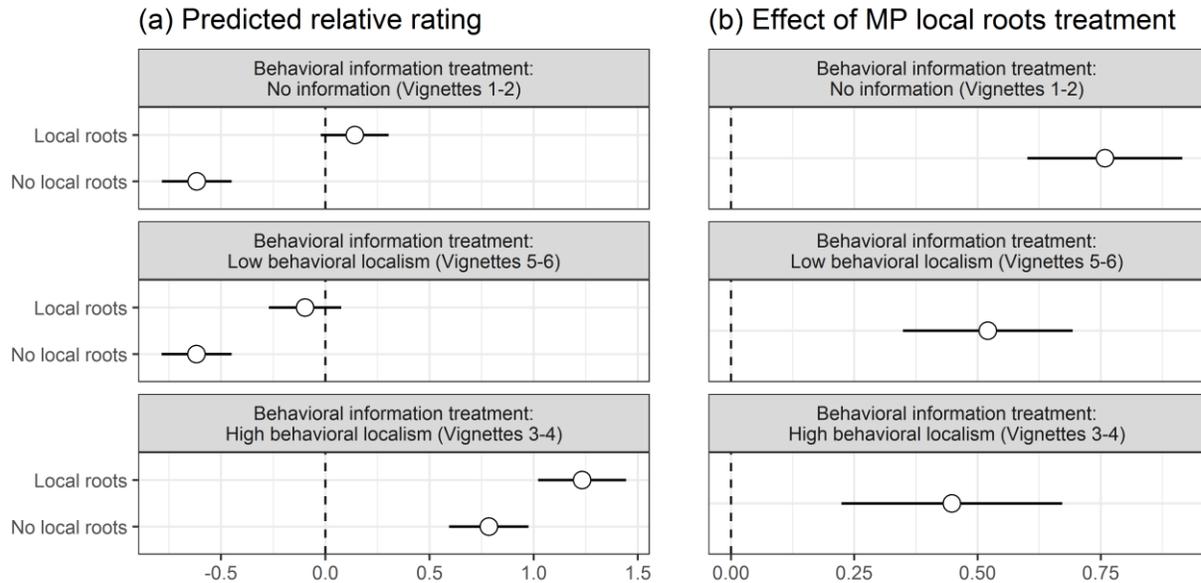
		No behavioral information	High behavioral localism	Low behavioral localism
No local roots	Nick	<p>Vignette 1</p> <p>Local roots: “grew up and lives outside your local area”</p> <p>Behavior: Nothing</p>	<p>Vignette 3</p> <p>Local roots: “grew up and lives outside your local area”</p> <p>Behavior: “spends on average 4 days of a working week working on local constituency issues and the remaining 1 day reviewing and working on national policies in Parliament. When considering policy matters, he mainly thinks about his constituents' views”</p>	<p>Vignette 5</p> <p>Local roots: “grew up and lives outside your local area”</p> <p>Behavior: “spends on average 4 days of a working week reviewing and working on national policies in Parliament and the remaining 1 day working on local constituency issues. When considering policy matters, he mainly thinks about his own personal views”</p>
	Philip	<p>Local roots: “originally lived in another part of the country and moved to your local area five years ago”</p> <p>Behavior: Nothing</p>	<p>Local roots: “originally lived in another part of the country and moved to your local area five years ago”</p> <p>Behavior: “spends on average 3 days of a working week working on local constituency issues and the remaining 2 day reviewing and working on national policies in Parliament. When considering policy matters, he mainly takes into consideration his own personal views”</p>	<p>Local roots: “originally lived in another part of the country and moved to your local area five years ago”</p> <p>Behavior: “spends on average 3 days of a working week working on local constituency issues and the remaining 2 day reviewing and working on national policies in Parliament. When considering policy matters, he mainly takes into consideration his own personal views”</p>
Strong local roots	Nick	<p>Vignette 2</p> <p>Local roots: “grew up and lives in your local area”</p> <p>Behavior: Nothing</p>	<p>Vignette 4</p> <p>Local roots: “grew up and lives in your local area”</p> <p>Behavior: “spends on average 4 days of a working week working on local constituency issues and the remaining 1 day reviewing and working on national policies in Parliament. When considering policy matters, he mainly thinks about his constituents' views”</p>	<p>Vignette 6</p> <p>Local roots: “grew up and lives in your local area”</p> <p>Behavior: “spends on average 4 days of a working week working on local constituency issues and the remaining 1 day reviewing and working on national policies in Parliament. When considering policy matters, he mainly thinks about his constituents' views”</p>
	Philip	<p>Local roots: “originally lived in another part of the country and moved to your local area five years ago”</p> <p>Behavior: Nothing</p>	<p>Local roots: “originally lived in another part of the country and moved to your local area five years ago”</p> <p>Behavior: “spends on average 3 days of a working week working on local constituency issues and the remaining 2 day reviewing and working on national policies in Parliament. When considering policy matters, he mainly takes into consideration his own personal views”</p>	<p>Local roots: “originally lived in another part of the country and moved to your local area five years ago”</p> <p>Behavior: “spends on average 3 days of a working week working on local constituency issues and the remaining 2 day reviewing and working on national policies in Parliament. When considering policy matters, he mainly takes into consideration his own personal views”</p>

Table 2. Relative ratings of MP Nick by local roots and behavioral information treatments in Study 1.

	Conditioning effect of <i>any</i> behavioral localism information		Separate conditioning effects for <i>high</i> and <i>low</i> behavioral localism	
	(1)	(2)	(3)	(4)
Intercept	-0.412 ^{***} (0.057)	-0.661 ^{***} (0.128)	-0.412 ^{***} (0.057)	-0.664 ^{***} (0.125)
Local roots	0.755 ^{***} (0.080)	0.759 ^{***} (0.080)	0.755 ^{***} (0.080)	0.758 ^{***} (0.080)
Behavioral localism information	0.683 ^{***} (0.078)	0.691 ^{***} (0.079)		
Behavioral localism: High (vs. no info)			1.395 ^{***} (0.098)	1.402 ^{***} (0.098)
Behavioral localism: Low (vs. no info)			-0.007 (0.085)	-0.0002 (0.086)
Local roots X Behavioral info.	-0.253 ^{**} (0.110)	-0.257 ^{**} (0.110)		
Local roots X High behavioral localism			-0.311 ^{**} (0.140)	-0.311 ^{**} (0.139)
Local roots X Low behavioral localism			-0.233 [*] (0.119)	-0.238 ^{**} (0.119)
Controls for voter characteristics?	No	Yes	No	Yes
Observations	5,203	5,203	5,203	5,203
R ²	0.036	0.046	0.107	0.116
Adjusted R ²	0.036	0.044	0.106	0.114

Note: All models estimated via OLS. Dependent variable is respondent relative rating of MP Nick (the 0-10 rating of Nick minus that of Philip). *p<0.1; **p<0.05; ***p<0.01.

Figure 1. Effects of local roots conditional on behavioral information treatments (Study 1)



Note: Column (a) shows the predicted relative rating of MP Nick (MP Nick rating minus MP Philip rating) as the MP local roots treatment varies and with all control variables held constant at their modal value in the sample. The top panel shows predicted values when respondents receive no information about MP behavioral localism. The second panel shows predicted values when respondents receive information about MP behavioral localism and Nick is revealed to be low in behavioral localism. The third panel shows predicted values when respondents receive information about MP behavioral localism and Nick is revealed to be high in behavioral localism. For each of the same behavioral localism conditions, the panels in column (b) show the estimated treatment effect of MP Nick having local roots. Estimates are calculated from Model 4 in Table 2. Dots indicate point estimates. Lines denote 95% confidence intervals.

Figure 2. Example screenshots from survey experiment (Study 2)

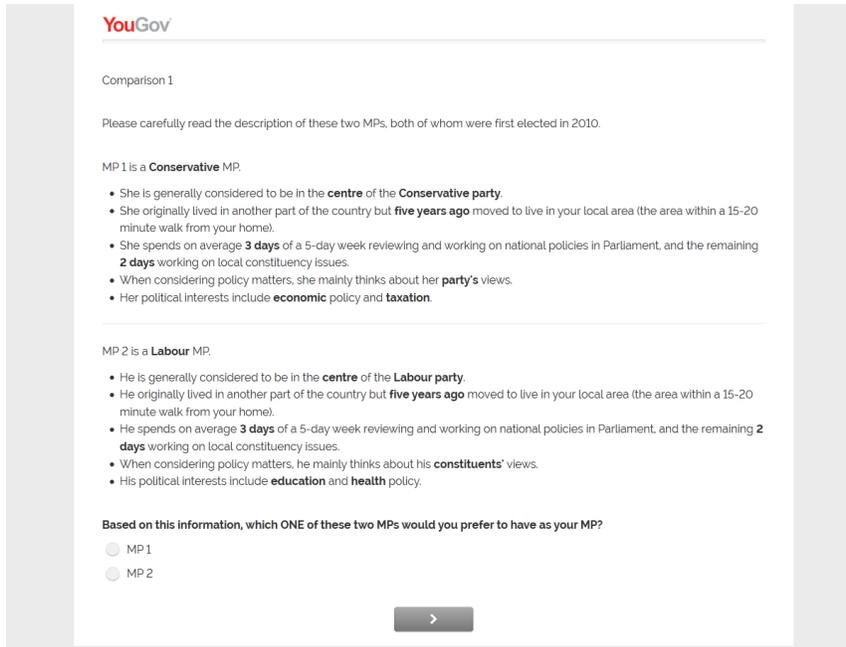
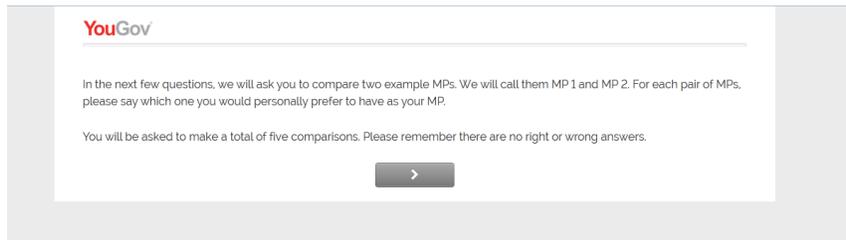
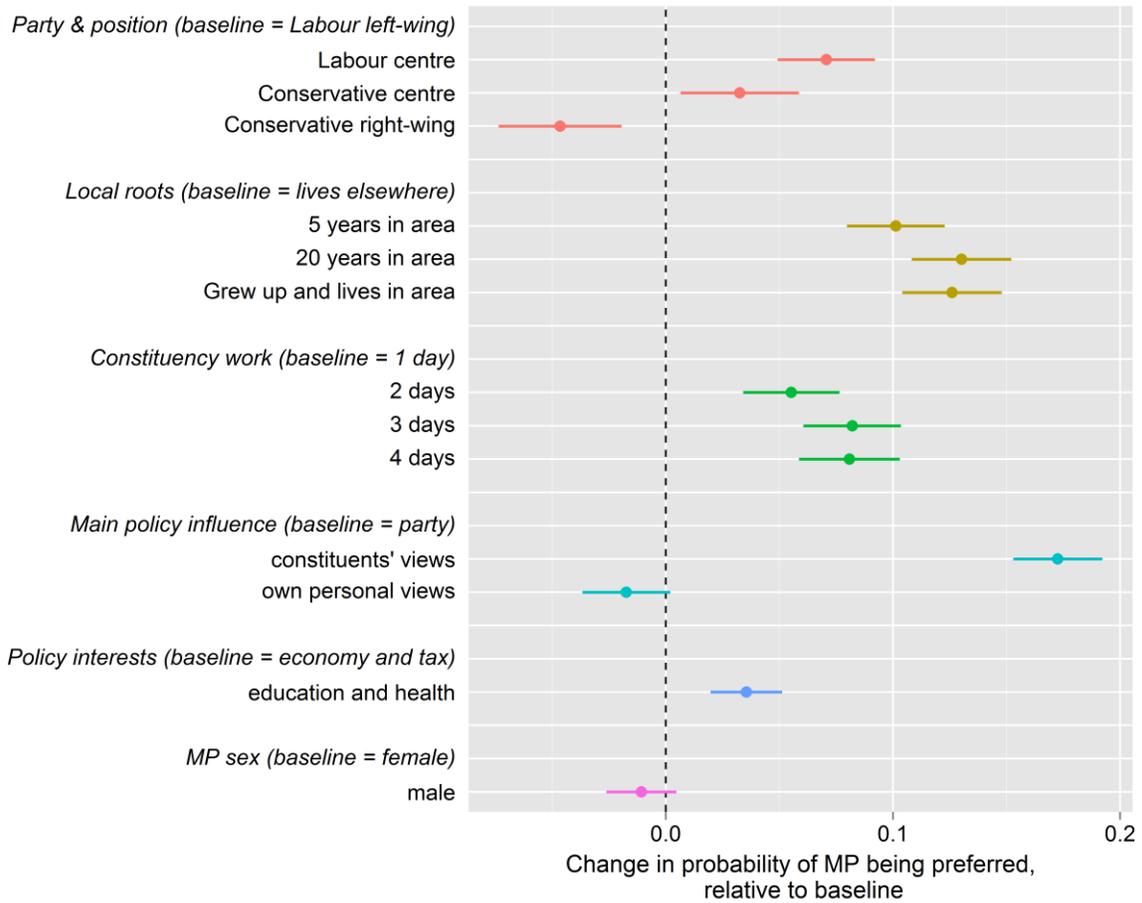


Figure 3. Estimated average marginal component effects (AMCEs), all MP attributes



Note: Points show the average marginal component effect (AMCE) of each MP attribute level compared to the baseline level of the attribute, estimated via OLS regression with standard errors clustered by respondent. Bars show 95 per cent confidence intervals.