

Projection in Directional Voters

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Abstract

This paper considers how the nature of issue projection bias is affected by directional issue voting. To date, projection has only been researched in terms of proximity-based issue voting. I explore how projection differs in directional voters. Toward this goal, I present two studies, which compare how directional and proximity voters place candidates on issue scales. Results from a survey and a lab experiment provide support for differential projection effects in directional voters.

Vote choice is one of the most widely studied outcomes in American politics. The conventional view is that issue positions are the key linkage between voters and candidates, with voters supporting the candidate whose policy stances are closest to their own. However, the empirical record reveals a complicated relationship between issue positions and candidate evaluations. For starters, voters may not always favor the candidate whose positions are most proximate to their own. Alternative issue voting theories have emerged, among which the directional theory of voting (Rabinowitz and Macdonald 1989) is the most prominent. According to directional theory, people prefer extreme rather than proximal candidates. A more serious challenge to proximity models relates to the implied causal relationship between issue positions and candidate evaluations. Projection theory states that voters impute agreeable positions onto liked candidates rather than voting for the candidate who shares their issues stances (e.g., Conover and Feldman 1982). Although both theories have to do with the fundamental question of *how* voters judge candidates, the implications of projection have not been considered in the context of the directional model. The present study offers a first examination of how a well-documented psychological bias (i.e., projection) operates under different types of issue voting, with an emphasis on directional voting.

The directional model posits that a voter's expected utility from a candidate is based on two factors: the directional congruence between the voter and a candidate and the extremity of a candidate's position. Voters perceive positive utility from candidates on their own side of the neutral point of an issue scale and negative utility from those on the opposite side. They also perceive higher utility from directionally compatible candidates that take *more*, rather than less, extreme issue positions. Thus, directional theory predicts that a moderate conservative

voter would prefer the most extreme candidate on the conservative end of the spectrum, while proximity models predict that this same person would prefer a moderate conservative. The directional model of voting has important implications for projection. Because directional voters favor candidates with more extreme issue stances, directional voters will project extreme (as opposed to proximal) issue positions onto liked candidates.

Current research suggests that some, but not all, voters choose candidates based on directional criteria (Tomz and Van Houweling 2008; Claassen 2009). Existing studies focus narrowly on preferences over candidates, which is to be expected given that directional voting is fundamentally a theory of the vote choice. However, a broader question remains as to whether directional utility might represent a trait relevant to other aspects of voting; namely, the perception of candidates. Demonstrating directional effects in new domains would bolster existing supportive evidence for the theory, and potentially expand its scope.

The analyses presented in this paper are tailored toward identifying the potential effects of directional voting on the perception of candidate issue positions. I present two studies indicating that projection effects are different in directional voters. First, survey evidence shows that directional voters perceive liked candidates to be more extreme than proximity voters do. Next, an experiment designed to manipulate projection provides clarifying evidence that the initial observational result is due to projection rather than some other difference between directional and proximity voters.

Projection Under the Directional Model

The notion of proximity voting dates back to the last century (e.g. Davis, Hinich, and Ordeshook 1970; Hotelling 1929; Black 1948; and Downs 1957). The key assumptions of this

school of thought are, first, that voters know the position of their own policy stances relative to those of candidates for elected office, and, second, that voters favor the candidate whose positions are closest to their own. Various empirical studies demonstrate vote patterns consistent with the proximity model (Jessee 2009; Alvarez and Nagler 1995; Erikson and Romero 1990; Schofield et al. 2004), though the direction of causality has been debated. It is difficult to determine whether voters evaluate candidates based on the issues (issue voting), or if pre-existing evaluations determine how voters perceive candidate positions (projection).

Projection occurs due to the basic need for mental consistency (Kinder 1978, Visser 1994), and can occur when an individual holding a preexisting evaluation of a candidate is asked about the candidate's stance on some issue. In such cases, psychological pressures drive people to selectively perceive the issue stances of liked candidates to be similar to their own. Projection effects have been supported through numerous empirical tests (Granberg and Brent 1974; Kinder 1978; Meier and Campbell 1979; Miller et al. 1976; Page and Brody 1972; Page and Jones 1979; Sherrod 1971; Conover and Feldman 1982; Conover and Feldman 1989; Visser 1994; MacDonald and Rabinowitz 2007; Merrill, Grofman, and Adams 2001). A few common patterns emerge in these studies. First, to date every analysis of projection assumes (either explicitly or tacitly) a proximity utility function. That is, projecting voters selectively perceive the positions of liked candidates in a manner that maximizes their expected utility under the proximity model. Second, although projection effects are generally found in these studies, there is some disagreement over their size.¹ Last, projection effects are asymmetrical. Assimilation effects, the projection of proximate positions onto liked candidates, are generally stronger than

¹See Kinder (1978) and Visser (1994) for examples of strong projection effects. See Conover and Feldman (1989) and Merrill and Grofman (1997) for examples of relatively weak projection effects.

contrast effects, the projection of distal positions onto disliked candidates (Conover and Feldman 1982, Conover and Feldman 1989, Merrill, Grofman, and Adams 2001). Consequently, the present analysis focuses exclusively on assimilation effects, which tend to be more pronounced.²

The development of projection literature and its acceptance of proximity utility makes sense. Much of the research on this topic was conducted prior to the emergence of more recent, alternative theories, and the issue voting literature has become more diverse as new conceptions of the vote have emerged. Prominent among these revisionist models is directional voting (Rabinowitz and Macdonald 1989).³ This theory posits that most voters do not see issues in the precise nature assumed by the proximity model. Instead, voters perceive issues in a diffuse manner, comprehending only rudimentary notions of direction and attitude strength of candidates (Rabinowitz and Macdonald 1989; Listhaug, Macdonald, and Rabinowitz 1994). Under this conception, a voter's expected utility from a candidate is based on two factors mentioned earlier – directional concurrence and extremity.

Directional theory has received mixed support in empirical tests. Its supporters offer several survey analyses showing a stronger fit to data for their model than the proximity model (Rabinowitz and Macdonald 1989; Macdonald, Rabinowitz, and Listhaug 1998; Macdonald, Rabinowitz, and Listhaug 2001; Listhaug, Macdonald, and Rabinowitz 1994). Others, though,

² Additionally, assimilation effects are of greater theoretical interest in relation to issue voting functions. Contrast effects are unlikely to differ between directional and proximity voters since the respective models make identical predictions regarding utility for candidates on the opposite side of the issue scale compared to the voter's position.

³ This paper considers only proximity and directional theory. However, other alternative conceptions of issue voting have been advanced in recent decades (e.g. Grofman 1985, Merrill and Grofman 1999, Matthews 1979). A more comprehensive treatment would test for projection as it relates to some or all of these alternative models of issue voting. However, practical constraints make such an extension unfeasible in the current study. When the term "non-directional" appears henceforth, it is in reference to proximity voting.

have pointed out that the directional model's advantage disappears using different methodological conventions (Westholm 1997, 2001; Lewis and King 1999; Pierce 1997). Recent experimental studies have helped to disentangle the confused state of survey research on the topic. These studies suggest that some, though not all, voters use the directional rule (Tomz and Van Houweling 2008, Claassen 2009).

Regardless of issue voting function, the underlying motivation for projection is to avoid undesirable perceptions of a disliked position for a favored candidate. However, directional and proximity voters must apply different procedures to preserve the desired correspondence between favorable candidates and positions. Projection can occur when there is gap between a voter's ideal candidate position on an issue and their perception of the candidate's actual position. Recognizing the difference between directional and proximity voters in terms of their ideal issue points reveals why projection should be different between these two groups. As previously discussed, the proximity utility function increases with the closeness of a candidate's position, while directional utility increases with the (directionally matched) extremity of a candidate's position. Projection operates as a corrective measure to obtain greater utility when a favored candidate holds a sub-optimal issue position, and it is only beneficial to the extent that the projected position is a favorable one. Thus, voters must refer to their own conception of a candidate's ideal position on an issue in order to decide which position to project. This leads to the following hypothesis:

- ❖ When projection occurs among directional voters, the resulting perception of a candidate's issue stance will be more extreme than when projection occurs among non-directional voters.

Exploring this hypothesis will advance our understanding of issue voting and cognitive biases in various ways. At a fundamental level, the presence or absence of directional projection speaks to the breadth of directional theory itself. If certain voters do actually consider the issues based on directional utility, it stands to reason that related behaviors should also be linked to directional criteria. If there is no evidence of directional considerations in other, intuitively related behaviors, it may be necessary to reconsider whether directional voting patterns represent a distinctive characteristic among some portion of the population as opposed to a misinterpreted anomaly. On the other hand, if directional projection is supported, the theoretical logic underlying the hypothesis might be applicable beyond the current focus. It is conceivable that directional utility might affect psychological biases more broadly. For instance, the confirming or disconfirming quality of bits of candidate-related information might differ among those who desire extreme issue stances rather than proximal ones. This, in turn, would affect information processing and the occurrence of motivated reasoning. Additionally, support for the directional projection hypothesis would encourage investigation into whether other alternative voting functions (see footnote 3) affect projection and psychological biases differently.

Study 1 - Survey Evidence

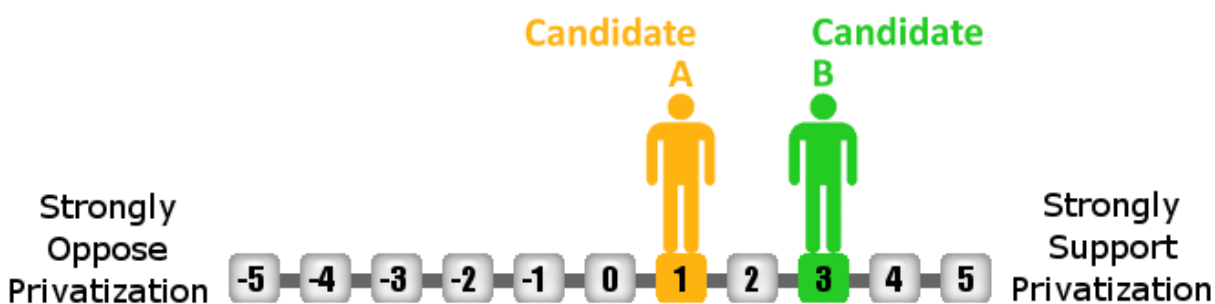
A reasonable starting point to test for differential projection patterns is to simply compare the perceptions of candidate positions of directional voters to those of proximity voters. A potential challenge with this approach is that survey data generally cannot distinguish which specific respondents are affected by projection. However, a few assumptions can lend meaning to patterns in observational data, and allow for meaningful examination of directional

and proximity voters as groups. First, it is presumable that, for a given issue and candidate, some proportion of the population employs projection, even if the specific individuals who project cannot be identified. That is, we may not be sure who is projecting, but some are. Second, we should expect no difference in perceptions of candidate issue positions between directional and proximity voters who are not biased by projection. The information and circumstances determining each voter's issue perceptions may vary in a number of unknowable ways, but there is no obvious reason why those with directional utility would systematically perceive candidates differently *except through projection*. Accepting these conditions, any aggregate differences in perceptions observed as a function of directional voting can be attributed to the group of projectors in the population.

In order to test the effect of directional voting on perceptions of candidate issue positions, several questions pertaining to Social Security privatization were included in the November 2010 Cooperative Congressional Election Study (CCES) administered by YouGov/Polimetrix. The sample of 1,000 adults was drawn from a nationwide internet panel. While other data sources lack desirable features for examining issue voting (e.g. in terms of response categories, consistency, or coverage), the CCES items discussed here were designed with the analytic challenges of the current topic in mind.

Chiefly among these concerns is distinguishing directional from proximity voters. This information is employed as a measured variable in the analyses to follow. Because conventional survey questions pertaining to the issue stances of respondents and candidates are usually ill-suited to identifying specific individuals who vote directionally, I adapt a recent innovation from experimental issue voting studies (Tomz and Van Houwelling 2008, Classen 2009). First,

subjects reported their own position on an 11-point (negative to positive five) issue scale concerning Social Security Privatization. End points were labeled “strongly oppose privatization” on the left, and “strongly support privatization” on the right. Next, subjects participated in a task designed to signal whether they used directional voting criteria for this issue. Subjects chose between two hypothetical candidates situated with distinct issue positions on the government services scale. Candidate placement varied based on response to the previous question concerning self-placement on the issue, such that one candidate was preferable based on proximity utility, while the other took a position preferable by directional criteria. For example, a possible set of candidates shown to someone who self-placed at one (slightly in favor of privatization) is shown below:



Directional voters would be expected to choose the relatively extreme candidate (B). Each subject was presented with two sets of hypothetical candidates. The measure of directional voting in this study is the number of times each person selected the directional candidate instead of the proximity one (either zero, one, or two times). Approximately half of the sample preferred the directional candidate in both trials. Although the proportion of directional voters is larger than previous studies report, the pattern is consistent with research suggesting that the prevalence of directional voting may vary across issue domains (Classen 2009).

The outcome of interest is perception of candidate positions on the Social Security issue scale. Earlier in the survey, subjects rated a number of public figures on thermometer scales, including Barack Obama, the incumbent House of Representatives member in their district, and both incumbent Senators. Later, subjects were asked about the position of the official they rated most favorably, and asked to place that person on the Social Security issue scale. This approach is appropriate because voters are most likely to employ projection for well-liked candidates.

The dependent variable in the multivariate model is a folded (0-5) version of the candidate placement variable, such that higher values represent more extreme perceptions of the assigned official's Social Security stance. Table 1 displays ordered probit estimates predicting perceived candidate extremity as a function of directional voting. As expected, the model predicts that directional voters perceive the assigned official's stance on Social Security to be more extreme than non-directional voters ($p < .10$, two tailed). In more substantive terms, the model estimates translate to an expected increase of approximately 8% in the probability of placing the official at an extremity level of either 4 or 5.

[Table 1 about here]

Though the size of the estimated effect of directional voting is relatively small in this model, note that the aggregate nature of the directional category likely attenuates the results. Of actual interest is the subset of directional voters who are projecting positions onto the candidate. However, identifying specific individuals whose judgment is affected by projection at a given moment is generally unfeasible. As a result, both projectors and non-projectors are grouped together. Under the assumptions outlined previously, the observed effects can be

attributed to those in the directional category who project, but it cannot be determined who or how numerous these respondents are. The theory of directional projection I adopt in prior sections would suggest that were it possible to isolate directional projectors from the non-projectors in this category, the effect on extremity of issue placement would grow considerably.

With respect to the weaknesses of the observational study, I also fielded an experiment designed to encourage projection in some participants. Though still impossible to affirmatively identify specific instances of projection, the separation of subjects into groups with differential *rates* of projection lends greater analytic leverage.

Study 2 - Experimental Evidence

Design Overview

Study 1 provides initial evidence of differences in the way directional and proximity voters perceive candidates, yet relies on assumption to attribute the observed differences between directional and non-directional voters to projection. Study 2 was designed to exogenously manipulate projection, thus providing a more direct path to examining its role.

An appropriate design must accomplish similar measurement tasks as the previous study. As before, the questionnaire must provide means to identify directional voters, as well as measure subject perceptions of candidates on some issue position. Additionally, the treatment must increase the likelihood of projecting among the treated when these measures are collected. The 2x2 separation of directional vs. non-directional and high vs. low projection groups will provide a means of testing perceptual differences in directional voters, and whether these differences can be credibly attributed to projection.

To meet the design requirements discussed here, I administered a manipulation intended to induce projection in subjects randomly assigned to the treatment condition. The study took place in November 2011 in an experimental laboratory at [XXXXX] University, and was administered via computer. Subjects were undergraduate students enrolled in political science courses. Those who completed the study received extra credit for their participation.

Directional voters using a hypothetical candidate choice task similar to that of study 1. Instead of Social Security, the issue scale in the experiment focuses on the more generic issue of government service provision. The left/right end points were labeled “Govt should provide many fewer/more services.” After self-locating on the issue scale, subjects were asked to choose between two candidates arrayed on the scale to distinguish directional from proximity voters. The measure of directional voting is dichotomous, scored 1 for those who chose the directional candidate.

As before, this study also focuses on projection pertaining to liked candidates. Prior to the main portions of the experiment, participants rated two elected officials – President Barack Obama and Florida Junior Senator Marco Rubio – on matching favorability scales. This choice of candidates was intended to provide both Republican and Democratic subjects with an identifiable, nationally relevant official who enjoyed strong popular support among co-partisans. The approval questions used a five-point scale, ranging from “Strongly Approve” to “Strongly Disapprove.” For the rest of the experiment, subjects received questions pertaining to whomever they evaluated more favorably.⁴

Inducing Projection

⁴Subjects who evaluated both candidates equally favorably were assigned Obama (n=88).

The intent of the experimental manipulation was to increase the likelihood of projection within a randomly assigned treatment group. Depending on whom each participant evaluated more favorably in the approval questions, treated subjects took part in a mood priming activity concerning either Obama or Rubio. This task was presented to the treatment group after the hypothetical candidate choice, while control subjects did not receive this item, and instead skipped to the next part of the experiment. The manipulation was an open-ended response question with the following prompt:

"People may hold favorable, unfavorable, or mixed attitudes toward the elected officials representing them in government. We would like you to think of the things, if any, that [President Barack Obama/Senator Marco Rubio] has done during his time in office that have made you feel **favorable** toward him. In the space provided below, please write down the one thing that has made you feel **most favorable** toward [Obama/Rubio]:"

Immediately following the treatment, subjects reported their perception of either Rubio or Obama's position on the government services issue scale, the outcome of interest.

The treatment prompt and the act of typing out favorable memories were designed to stimulate subjects' affect toward Obama or Rubio. To the extent that the treatment was successful, treated subjects should have been prone to projection due to the moderating quality of affect on the relationship between perceived candidate issue positions and feelings of discomfort. That is, highly favorable feelings toward a candidate increase the distress associated with perceived issue disagreement. Thus, the desire to project ideal positions should be greater in treated subjects, who are primed to think about their pre-existing positive evaluations, than in control subjects, whose level of affect toward their assigned candidate

should remain at normal levels of salience. This difference should be reflected when subjects subsequently place Obama/Rubio on the issue scale.

The expected result of directional projection is that the perceived issue stances of liked candidates will be made more extreme. The key dependent variable in the analyses to follow is a measure of extremity derived from the candidate placement item. Values of this variable depend on the government official assigned to each subject. Extremity measures the liberal side of the issue scale (the "more services" side) for subjects assigned to Obama, and the conservative end of the scale ("fewer services") for those assigned Rubio. The final scoring equals the distance of candidate placement from the midpoint of the scale (5). For instance, an Obama placement at 8 and a Rubio placement 2 would both be scored 3. Subjects who placed their assigned candidate at the midpoint, or anywhere on the "wrong" side of the scale (i.e. the conservative side for Obama, or the liberal side for Rubio) received scores of 0.⁵

The key hypothesis, stated in operational terms, is:

- ❖ Treated, directional subjects perceive Obama/Rubio to be more extreme than non-treated subjects or non-directional subjects.

Results

Table 2 summarizes the main treatment effects, separated by Obama/Rubio assignment and directional voting. Rows contain difference of means t-tests between control and treatment. The bottom section of the table restricts the tests to subjects assigned Rubio, while the center section contains tests of Obama subjects. The top section pools the two subsamples. Beginning at the top, the difference between non-directional, control and non-

⁵ The results presented are robust to alternative dependent variable coding schemes, such as assigning negative values to placements on the wrong side of the scale.

directional, treated subjects in the pooled Obama/Rubio group is negligible. Average placement in the treatment group was .2 points less extreme than in the control group. Treatment effects are more pronounced among directional voting subjects. Here, treated subjects place their assigned candidate .51 points more extreme than untreated subjects. Though substantively interesting, this effect does not reach conventional thresholds of statistical significance. Despite the considerable effect size, standard errors are inflated due to the small portion of subjects who are classified as directional voters.

[Table 2 here]

Moving to the bottom two sections of Table 2, a more nuanced account of the treatment effect emerges. Interestingly, there is sharp distinction in the magnitude of effects between Obama and Rubio subjects. Within both groups, the difference between non-directional, control and non-directional, treated subjects remains inconsequential. However, the treatment effect among directional subjects assigned to Obama is sufficiently large to reach high levels of significance. On the other hand, the effect among Rubio subjects is virtually non-existent. This disconnect between subjects assigned to the different elected officials makes sense in the context of projection theory. Projection is only expected to occur when a voter develops strong affect toward a particular candidate or political object. In the case of Marco Rubio, not only had he been part of the national political scene for a shorter duration than Barack Obama, he also was likely much less visible to subjects than Obama. Thus, while Obama supporters presumably developed strong connections to him from several years of national prominence, the case is less plausible for Rubio, who was in his first senatorial term during the

study. This might explain why the task designed to prime affect had more impact on Obama supporters than Rubio supporters.

Going beyond mean effects, Table 3 displays the results of an ordered probit model predicting extremity. The variable labeled “directional” is a dichotomous indicator of whether the subject chose the directional candidate in the hypothetical candidate task. The product of this variable and the treatment indicator forms a binary indicator of subjects who were both directional and treated (“Treatment X Directional”). The models control for self-placement on the government services issue scale in order to produce estimates of the key effects holding pre-treatment issue preferences constant. This variable is equal to the subject’s self-placement position rescaled from -5 to +5, with midpoint zero. The models also control for subject approval scores for the assigned candidate. This is necessary because, as previously discussed, more favorable evaluations should relate to higher levels of projection. Because the treatment should prime previously formed evaluations, it is important to hold the level of prior evaluation constant when making comparisons between treatment and control.

Results for Obama and Rubio subjects are again presented separately. According to the hypothesis, treated, directional subjects should place Obama/Rubio more extremely than non-directional and/or non-treated subjects. The key term in these models is the interaction of treatment and directional voting. The estimates display a pattern similar to that discussed so far. The interaction term is highly significant and positive in the Obama model, indicating that treated, directional subjects are expected to perceive Obama's issue stance as more extreme than the model’s reference category of non-directional, untreated subjects. Although the effect is insignificant for Rubio subjects, it obtains significance in the pooled model. As expected, the

treatment variable, by itself, is insignificant in all models. Surprisingly, directional voting (without treatment) had a significant, negative effect in both the pooled and Obama only models. This effect seems to be driven by subjects assigned to Obama, as there is no discernible effect in the Rubio only model. This unexpected effect is not incompatible with the main hypothesis. However, because of its presence, it is imperative to demonstrate that the observed treatment effects within directional voters is due to treated subjects imputing extreme positions onto candidates, rather than directional, control subjects placing candidates less extremely than normal.

[Table 3 here]

To explore this issue, I use posterior simulation to calculate predicted probabilities of subjects placing their assigned candidate at different levels of extremity. Probabilities are generated using the Obama only model, though the general patterns hold for the pooled candidate model, as well. Figure 1 displays these probabilities in graphic form. The x-axis represents the range of possible values of extremity, while the y-axis represents the predicted probability that a subject places Obama at the given x-axis value. Approval is held at 4 (moderately high approval), and self-placement at 1 (slightly liberal). Each of the four relevant conditions (non-directional, control; non-directional, treatment; directional, control; and directional, treatment) is represented by a separate line. The directional, treatment line is most critical to the hypothesis. In general, its height is relatively low at less-extreme placement ranges of the x-axis, and higher at the more extreme ranges. Compared to the other conditions, the probability of perceiving Obama to be extreme at levels of 3 and above is higher in the directional, treatment condition than any other. The main hypothesis predicts this pattern.

Subjects in the directional control condition are least likely to perceive Obama as extreme. Non-directional voters in both control and treatment conditions are predicted to place Obama at extreme values with probability between the lows of the directional, control group and the highs of the directional, treatment.

Conclusion

Projection and directional voting are both phenomena that pose unique analytic difficulties. The studies presented here complement one another in offering two separate approaches to a challenging topic. Study 1 shows in a national sample that directional and proximity voters perceive candidate positions differently. However, this analysis cannot effectively isolate the specific effect of those who project within the directional category. The experiment of study 2 improves on this situation by encouraging certain subjects to employ projection. This strategy affords greater confidence that the observed differences in candidate placement between directional and non-directional voters are due to projection rather than something else.

Although the scope of inquiry is limited to a few different candidates and issue domains, the results provide initial evidence that perceptual biases are affected by directional voting. While previous studies tend to treat projection as a straightforward process of rearranging a candidate's views to approximate one's own, the patterns discussed here suggest that additional factors can influence the ultimate perception of candidate issue positions. The current research focused on directional voters, whose issue ideal points are typically more extreme than voters characterized by proximity utility. The differential (i.e. more extreme) patterns of projection for directional voting reflect this distinction in both studies. Thinking

more broadly, my findings highlight the inadequacy of presuming strict proximity criteria whenever voters project. Instead of a uniform effect, projection might better be thought of as a general tendency of voters to ascribe onto candidates the positions they most desire them to hold. To the extent that these “most desirable” criteria vary between voters, so too will patterns of projection. Thus, any other variables besides issue position utility that affect one’s candidate ideal point should also affect projection

Finally, the expression of directional utility in perceptual biases expands our thinking on the theory of directional voting itself. Identifying directional patterns in domains other than candidate preference serves to bolster existing evidence on the theory. Specifically, my theory and findings suggest that directional utility may be a trait within certain voters leading to common and distinctive patterns along a variety of political behaviors. Determining whether this notion is true will require additional analysis, which could proceed along a number of routes. For example, if directional utility is akin to a trait, we might expect it to relate to other traits (e.g. personality, cognitive, or biological) that are known to influence decision-making. We would also expect to see additional downstream effects of directional utility on the processes through which individuals perceive and judge the political world — for instance, affinity toward extreme messages, processing information about liked or disliked candidates as it relates to extremism, receptivity to compromise, or other patterns related to preferences for extreme rather than measured positions. Continued study of the relationship between directional utility and political thought will serve to improve our understanding of both subjects.

**Table 1. The Effect of Directional Voting
on Candidate Issue Perceptions**

Directional	.153 *
	(.080)
Thermometer Rating	.018 **
	(.003)
Age	.007
	(.005)
Interest	.159
	(.112)
Ideology	-.098 *
	(.042)
Ideological Extremity	-.077
	(.066)
Education	.034
	(.051)
Log-Likelihood	-380.5
χ^2	51.38
N	235

Source: 2010 CCES

Note: Coefficients are ordered probit estimates (cutpoints omitted, standard errors in parentheses). ** $p < .05$, * $p < .1$ (two-tailed)

Table 2. Summary of Treatment Effects

	Control	Treatment	Effect	N
<u>Extremity of Obama/Rubio Placement (0 - 5)</u>				
Non-Directional	2.25 (.09)	2.05 (.08)	-.20 (.12)	412
Directional	1.92 (.17)	2.43 (.24)	.51 (.29)	73
<u>Extremity of Obama Placement</u>				
Non-Directional	2.44 (.11)	2.27 (.10)	-.17 (.14)	253
Directional	1.77 (.23)	2.74 (.24)	.96 ** (.33)	41
<u>Extremity of Rubio Placement</u>				
Non-Directional	1.95 (.15)	1.71 (.13)	-.24 (.20)	159
Directional	2.13 (.27)	2.06 (.43)	.06 (.51)	32

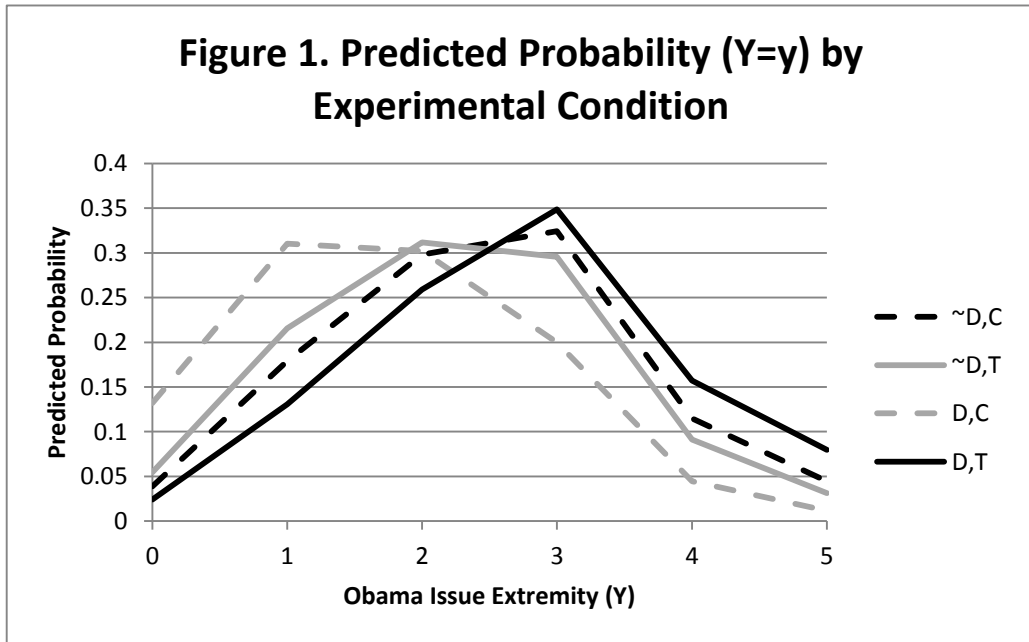
** = $p < .01$, * = $p < .05$ (two-tailed)

Note: The entries are means with standard errors in parentheses. The

Table 3. Effect of Treatment and Directional Voting on Extremity of Placement

	Obama/Rubio	Obama	Rubio
Treatment	-.165 (.103)	-.166 (.131)	-.220 (.167)
Directional	-.363 * (.189)	-.632 ** (.249)	-.063 (.294)
Treatment X Directional	.652 ** (.270)	1.043 ** (.363)	.216 (.411)
Self Placement	-.003 (.022)	.005 (.034)	-.099 ** (.039)
Approval	.131 ** (.063)	-.075 (.084)	.276 ** (.099)
μ_1	-.943 ** (.251)	-2.077 ** (.356)	-.077 (.371)
μ_2	-.083 (.250)	-1.078 ** (.346)	.768 ** (.375)
μ_3	.667 ** (.251)	-.252 (.343)	1.474 ** (.380)
μ_4	1.598 ** (.255)	.711 ** (.343)	2.429 ** (.397)
μ_5	2.229 ** (.265)	1.431 ** (.352)	2.921 ** (.416)
Log-Likelihood	-759.6	-446.1	-293.07
χ^2	10.6	10.0	18.2
N	480	291	189

Note: Coefficients are ordered probit estimates with the dependent variable coded 0-5, with 0 indicating Obama or Rubio placement at the midpoint of the issue scale, and 5 indicating placement at the most extreme point on the scale. The second column includes only respondents who rated Obama at least as highly as Rubio, while the third column includes only respondents who rated Rubio higher than Obama. The first column combines both groups. ** $p < .01$, * $p < .05$ (two-tailed)



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