Measuring Indifference: A Validity Test of Several Commonly Used Measures

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Abstract

Spatial models of voting predict that indifference about who wins elections will cause individuals to abstain from voting. Despite this strong theoretical expectation, empirical tests of the relationship between indifference and turnout offer contradictory results because no standard cross-national measure of indifference exists. Instead, the prior studies uses one of three competing measures. Each measure makes different assumptions about the relationship between individuals’ feelings of indifference and the ideological positions of the parties in the policy space, which raises questions about the validity of existing measures. I address this question by assessing the face and criterion-related validity of these measures. The resulting analysis yields overwhelming evidence in favor of the measure of indifference that utilizes information about the spatial locations of the parties closest to and farthest from the voter.

Keywords – Political Participation, Ideological Stance, Measurement, Citizens

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One of the longest-standing explanations for abstention in elections is indifference. Individuals who would receive the same utility regardless of which party wins an election have little incentive to vote for any party and, as a result, are expected to abstain from voting due to indifference. Merriam and Gosnell (1924) were one of the first to cite the importance of indifference, suggesting it was the most important cause of abstention. Thirty years later, Downs (1957) formalized the effect of indifference by including it as one of the three terms in his calculus of voting. Today, there are few studies of voter turnout that do not at least mention indifference as a factor in individuals’ turnout decisions.

Despite the long-standing theoretical importance of indifference, there is no standard cross-national measure of this concept. Survey questions exist which are meant to tap individuals’ feelings of indifference directly, but they are rarely asked on election surveys outside of the United States. This has prompted some researchers to create, what I term, spatial measures of indifference based on survey questions that ask respondents to place parties, or candidates, in the policy space. The problem with such measures is that researchers have developed three distinct methods for aggregating this spatial information. The validity of the resulting three measures is questionable because the three measures correlate poorly in contexts with multiple parties. Moreover, two of the three spatial measures of indifference suggest a logically inconsistent relationship between survey respondents’ perceptions of parties’ positions in the policy space and their expected feelings of indifference. Given the theoretical and empirical differences between these measures, one might expect that the choice of measure will affect the observed relationship between indifference and individuals’ turnout decisions. Therefore, in order to identify the effect of indifference on voter turnout, it is critical to identify which measure of indifference is most valid.
The following manuscript addresses this issue by assessing the face and criterion-related validity of the three spatial measures of indifference used in the literature. It starts by defining indifference and describing the various approaches to operationalizing this concept. Next, data from the Comparative Study of Electoral Systems (CSES) are used to demonstrate that substantively important differences exist between the three existing spatial measures of indifference. The remaining two sections assess the face and criterion-related validity of the three measures. The latter is tested using a laboratory experiment, where participants viewed hypothetical party systems and respond to a criterion question that tapped their feelings of indifference. The criterion-related validity is evaluated by comparing participants’ responses about their feelings of indifference with the three spatial measures of indifference.

In the end, the measure of indifference that uses information about the spatial locations of the parties closest to and farthest from the voter exhibits greater face and criterion-related validity than the alternative measures. This is an important and timely finding. It is important because only a few existing studies use this approach when measuring indifference. It is timely because research using the measures of indifference assessed here is on the rise. All but three of the studies that use these measures were published since 2000, with a third being published in the last five years. Furthermore, since the focus of the third module of the CSES is “meaningful choices” and ideological differences between parties have been identified by the CSES as important dimension of this concept (Schmitt and Wessels 2005), in the near future, we will almost certainly observe more research that uses the measures of indifference analyzed here.

Thus, the findings reported below not only help us interpret the results of previous research in this area, but they promise to improve the measurement of indifference in a significant body of future research on this topic. Better measurement of this important concept
contributes to the literature in three ways. First, and perhaps most obviously, it will clarify the relationship between indifference and voter turnout. Second, since the structure of the party system – and, hence, feelings of indifference – are partially determined by electoral systems, scholars will be better equipped to identify the (indirect) effect of electoral rules on voter turnout. Third, better measures of indifference will help scholars understand parties’ electoral strategies and assess whether or not parties’ strategies were optimal (Adams et al. 2005; Peress 2011). Strategic parties should choose policy positions that minimize the proportion of their supporters who feel indifferent relative to the proportion of the opposition’s supporters who feel indifferent. A valid measure of indifference is essential to assess if parties act in such a manner when choosing their position in the policy space.

**A Definition of Indifference**

Downs (1957) calculus of voting states that individuals will vote if their expected benefit from voting equals or exceeds the cost of casting a ballot:

\[
\text{vote iff } U(v_i) = pb_i - c_i \geq 0
\]

where \(U(v_i)\) is the utility citizen \(i\) obtains from voting, \(p\) is the probability citizen \(i\) will cast the decisive vote (making or breaking a tie), \(b_i\) is the relative utility citizen \(i\) receives from her preferred party winning over all alternatives, and \(c_i\) is the cost citizen \(i\) must pay to cast a ballot. Individuals are expected to cast a ballot if \(U(v_i)\) is positive and abstain if it is not.

In the present paper, the term of interest is \(b_i\). If all of the parties running in an election are equally, or nearly equally, close to an individual’s ideological position, then that voter

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1 Although the specific spatial model specified here emphasizes proximity, indifference would have a similar meaning under a directional framework (Rabinowitz and McDonald 1989).
expects to receive about the same amount of utility regardless of which party wins the election. In other words, the relative utility \((b_i)\) such an individual expects to receive from the party closest to her ideological position – her preferred party – winning the election over the alternatives will be small (Riker and Ordeshook 1973). Individuals who receive little relative utility are expected to abstain because their relative utility is insufficient to justify the cost of turning out to vote. Abstention from low relative utility is commonly referred to as *indifference*, and those who abstain due to indifference are labeled *indifferent* (Brody and Page 1973; Riker and Ordeshook 1973).

In many formal models, indifference is assumed to have little substantive effect on citizens’ voting decisions because citizens must be exactly equidistant from the parties to be indifferent, an unlikely scenario. Furthermore, the probability of being decisive is so small in large electorates that it outweighs all other factors in spatial models of voting, especially \(b_i\). Nonetheless, recent empirical evidence suggests that all of the variables in spatial models of voting affect individuals’ turnout decisions (Blais 2000; Blais et al. 2000), and even in the most basic spatial model, indifference is a commonly cited cause of abstention (Aldrich 1993).

**Measures of Indifference**

Individuals’ feelings of indifference are typically measured using survey data. Some surveys include questions that are meant to tap feelings of indifference directly. For instance, the American National Election Survey (ANES) typically includes an item that asks respondents whether or not they “care” which party wins the upcoming election. Riker and Ordeshook (1968), and others, use this item as a measure of indifference. Similarly, many rounds of the ANES include an item that asks respondents if there are any “important differences” between the Republicans and Democrats. This question is commonly used as a measure of indifference in statistical models of Americans’ turnout decisions (see, for example, Aldrich et al. 2011).
The problems with these direct measures of indifference are twofold. First, the validity of such items is questionable and, as far as I can tell, untested. This is especially true of the former item. Its focus on caring about the election outcome seems to combine two related concepts: indifference and alienation, or the feeling that no party adequately represents one's ideological position (Brody and Page 1973; Riker and Ordeshook 1973). The second problem is availability. These items are simply not asked on many election surveys outside of the United States. For instance, on the Swedish Election Survey (SES), one of the longest running election surveys outside of the United States, the former item was asked on only two rounds of the survey, and the latter item was asked on only four. Even in the CSES, the former item was not asked on any of the first three modules and the latter item was asked only on the third.

These two problems have forced researchers to rely on indirect measures of indifference. I refer to these as *spatial* measures of indifference because they rely on survey respondents’ perceptions of the policy space. Such measures utilize survey respondents’ placement of themselves and the parties in the policy space to operationalize indifference. Using this information, researchers calculate indifference \( I_i \) as the distance between the positions of individuals’ preferred and non-preferred parties in the policy space relative to their own positions:

\[
I_i = |P_i - P_{p1}| - |P_i - P_{\bar{p}1}|
\]

where \( P_i \) represents a respondent’s ideal point, \( P_{p1} \) is the position of the party closest to her ideal point (i.e. her preferred party), and \( P_{\bar{p}1} \) is the position of the party, or parties, not closest to her ideal point (i.e. her non-preferred parties). According to equation 2, respondents with a smaller \( I_i \) have stronger feelings of indifference.

There are a number of problems with the ways in which the extant literature
operationalizes equation 2. To start, existing approaches assume a linear relationship between the difference in parties relative spatial positions and individuals’ feelings of indifference, when, at least in theory, there should be some diminishing marginal returns from proximity. Leighley and Nagler (2013) assess the effect of indifference on turnout using both linear and non-linear measures of indifference and find there is essentially no difference between the two measures.

Another concern with existing studies is that they ignore the problems associated with missing data and misreporting. However, both of these phenomena might make individuals look more indifferent than they actually are. In particular, individuals who rank all of the parties the same will look indifferent. Such individuals may be indifferent (some of the almost certainly are). Alternatively, they may simply not know enough about the parties’ ideologies to rate them or be unengaged in either politics or the survey. The latter group of individuals introduces measurement error into all existing measures of indifference. One way to control for measurement error that results from such misreporting is to control for it using a binary variable that takes a value of one whenever a respondent ranks all parties the same or ranks them all in the middle of whatever scale one is using.2

The problems noted in the previous paragraph are consistent across the existing literature. However, another problem with spatial measures of indifference is that scholars operationalize the terms in equation 2 differently. For instance, the survey questions used to operationalize

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2 I use this approach in the analysis conducted in table 2 below. Although unreported, I find that misreporting has very little effect on the estimated effect of indifference, but this might be due to the large sample size.
respondents’ perceptions of the policy space differ substantially across studies. Most researchers rely on respondents’ overall evaluations of the parties, using questions that ask about either respondents’ self-placement and their placement of the parties on a left-right/liberal-conservative scale (Plane and Gershtenson 2004; Peress 2011), or respondents’ feelings towards each of the parties (Brody and Page 1973; Weisberg and Grofman 1981; Aarts and Wessels 2005; Johnston et al. 2007). However, there are a handful of researchers that use questions about respondents’ and parties’ positions on salient policy issues (Zipp 1985; Thurner and Eymann 2000; Hortala-Vallve and Esteve-Volart 2011). The use of different questions is motivated by researchers’ conceptualization of the policy space. Those who view the policy space as one dimensional typically rely on respondents’ placements of themselves and the parties on a left-right scale. Those who view the policy space as multi-dimensional rely either on respondents’ evaluations of policy issues or on their more general feelings of affect towards the parties.

Another, more grievous, difference is previous scholars’ interpretations of the non-preferred parties term ($P_{p1}$). In two-party systems, this is not an issue because there is only one non-preferred party. However, this term is complicated to interpret in multi-party systems. In

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3 Examples of these questions are provided in the online appendix.

4 Some might argue that indifference is unimportant in multi-party systems. Multi-party systems are likely to have two (or more) dimensions and are most often found in proportional electoral systems where coalition governments are common. According to this line of reasoning, in multi-party systems, either individuals are less likely to be indifferent or indifference is less likely to affect turnout, so there is no point in measuring indifference. Alternatively, one could view such
such systems, we do not know whether an individual will receive more utility from voting if there is some difference between all the parties’ ideological positions or if only a subset of the parties’ ideological positions matter (McKelvey and Ordeshook 1972). As a result, we do not know which parties to include when measuring indifference in multi-party systems, which has led to the creation of three competing measures.

One approach is to calculate the relative distance between the ideological position of an individual’s preferred party and the ideological position of the party second closest to that individual (\(P_{p2}\)) (Thurner and Eymann 2000; Plane and Gershtenson 2004; Aarts and Wessels 2005; Peress 2011):

\[
I_i = |P_i - P_{p2}| - |P_i - P_{p1}|
\]

(3)

I refer to this as the closest party method. Another approach is to calculate the relative distance between the ideological position of the individual’s preferred party and the ideological position of the party farthest from that individual (\(P_{pK}\)) (Brody and Page 1973; Johnston et al. 2007; Katz 2007):

\[
I_i = |P_i - P_{pK}| - |P_i - P_{p1}|
\]

(4)

I refer to this as the farthest party method. Yet another strategy is to use the difference between these two measures (Zipp 1985):

\[
I_i = (|P_i - P_{pK}| - |P_i - P_{p1}|) - (|P_i - P_{p2}| - |P_i - P_{p1}|)
\]

(5)

I refer to this as the closest-farthest parties method. Table 1 summarizes the use of these

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claims as testable hypotheses that can only be tested with a measure of indifference that is valid in multi-party systems.
measures in the literature.\textsuperscript{5}

[Table 1 about here]

**Substantive Differences between Spatial Measures of Indifference**

In two party systems, the measures in equations 3-5 all provide the same result, but in multiparty systems, these three measurement strategies each conceptualize indifference slightly differently. The closest party measure assumes that only the ideological positions of the two parties closest to individuals’ ideological positions factor into their calculations of indifference. As a result, under the closest party conceptualization of indifference, individuals are thought to be indifferent if they perceive that any two parties are closest to their position and close to each other’s positions. More individuals will be classified as indifferent under this conceptualization than any other (i.e. it is the most liberal measure). The farthest party measure assumes that only the parties closest to and farthest from individuals’ ideological positions factor into individuals’ indifference calculations. Under the farthest party conceptualization of indifference, then, individuals’ must perceive that all of the parties’ ideological positions are relatively close together to be considered indifferent. Consequently, the smallest number of individuals will be classified as indifferent under this measure (i.e. it is the most conservative). Lastly, the closest-

\textsuperscript{5} Previous versions of this manuscript derived a new measure of indifference that utilized survey respondents’ perceptions of all parties participating in elections – the \textit{all parties} method. It turned out that the all parties measure was very similar to the farthest party measure Only in party systems with more than five parties was there much difference between the two, but in such systems, many survey respondents have trouble placing all parties in the policy space. Thus, the only time such a measure is preferable is in contexts where missing data makes its validity uncertain.
farthest parties measure assumes that only the two closest parties and the farthest party factor into individuals’ indifference calculations. Thus, under the closest-farthest parties conceptualization of indifference, the relationship between parties’ perceived ideological positions and indifference is curvilinear, as all the parties move from the position most distant to the position most proximate to an individuals’ ideal point. Due to this curvilinearity, it is unclear how many individuals will be classified as alienated or indifferent under this measure, but the measure will always yield an estimate that is somewhere between those of the closest party and farthest party measures.

The choice between equations 3-5 is a non-issue in two party systems. In multiparty systems, though, deciding which of these measures to use is critical, and the decision becomes more important as the number of parties increases. This is illustrated in figure 1, which plots the bivariate correlation between the three combinations of these measures as the number of parties increases. When there are two parties, all three measures yield the same score for every respondent, so the correlation between each combination of measures is 1. However, as the number of parties increases, the correlations between these measures quickly decline. Just increasing the number of parties from 2 to 3 decreases the correlation between the closest and

\[ \text{\footnotesize 6 Data from the first three modules of the CSES is used to calculate these correlations (} n = 125,602). The three measures of indifference are calculated using questions tapping respondents’ affect towards the parties, and the number of parties is calculated based on the number of these affect questions that were asked in a given country. A detailed description of the data used from the CSES as well as summary statistics for those data is available in the online appendix. \]
farthest party measures to 0.64, the correlation between the closest and closest-farthest parties measures to -0.02, and the correlation between the farthest and closest-farthest parties measures to 0.46. The negative correlation between the closest and closest-farthest parties measures is notable because the correlation between those two measures is negative whenever the number of parties is greater than 2. Also notable is the fact that the correlation between the closest and farthest party measures of indifference decrease dramatically as the number of parties increases, reaching a low of approximately 0.25 when there are 8 parties.

[Figure 1 about here]

As one might expect, the substantive differences in these measures yield substantive differences in the effect of indifference on individuals’ turnout decisions. To demonstrate this fact, I estimated three random-effects probit models, where each spatial measure of indifference is individually regressed on voter turnout.\(^7\) The estimates from these models are reported in table 2. The results in the table demonstrate that there are substantively important differences in the effect of indifference on voter turnout. The effect of indifference according to the closest party measure, albeit statistically insignificant, is slightly positive, when the effect of indifference

\(^7\) Data from the first three modules of the CSES were used to calculate the estimates in table 2. In addition to the three measures of indifference, the following covariates were included in each model: alienation, a binary variable indicating identification with a party, age, income, education, a binary variable for gender, a binary variable for marital status, a binary variable indicating union affiliation, a binary variable indicating religious activity, a binary variable indicating rural residents, a measure of political sophistication, and binary variables for each election. The full results of these models are available in the online appendix.
should theoretically be negative. Although both of the other measures predict a statistically
significant, negative effect, the effect of the farthest party measure is approximately 40% larger
than that of the closest-farthest parties measure. One might argue that, even though the effect of
the farthest party measure has a substantially larger effect, its effect is still tiny at -0.006.
However, if, instead of the effect of a one-unit change, one estimates the maximum effect of
these variables – a 10 unit change –, the farthest party measure predicts that indifference
decreases the probability of voting by 0.05, and the closest-farthest parties measure predicts that
indifference decreases the probability of voting by 0.03.

The only other change between the models reported in table 2 is the effect of alienation.
Alienation is operationalized as the distance between the respondents and the party closest to him
or her in the policy space. The estimated change in the probability of voting associated with a
one unit change in alienation decreases by about a third when moving from the closest party to
the farthest party measure of indifference, from -0.018 to -0.012. Not only is the estimated of
indifference affected by the choice of indifference measure, but due to the correlation between
alienation and indifference, the estimated effect of alienation is affected as well.

[Table 2 about here]

In sum, there are important substantive differences between the three measures of
indifference currently used in the literature, and these differences lead to substantive differences
in the estimated effect of indifference on individuals’ turnout decisions. At the extreme, the
closest parties measure predicts no relationship between indifference and turnout, and the other
two measures predict that indifference has a large effect on turnout, with the farthest party
measure predicting a 40% larger effect than the closest-farthest parties measure. Thus, choosing
which measure of indifference is the most valid has substantively important implications for
understanding the relationship between indifference and turnout. The remainder of the
manuscript addresses this important topic by assessing the face and criterion-related validity of
the three spatial measures of indifference.

**Face Validity of Three Spatial Measures of Indifference**

A measure exhibits face validity if it appears to measure what it is supposed to measure. Hence, I evaluate the face validity of the three measures by assessing if the estimates they provide of individuals’ feelings of indifference match our expectations of when individuals should feel indifferent. To perform this evaluation, I introduce four hypothetical five-party systems in table 3. In each system, there are five parties and one hypothetical individual. Columns two through six provide the distance between the ideological positions of the five parties (i.e. $P_k$, where $k = 1, 2, \ldots, 5$) and the individual’s ideal point ($P_i$), or $|P_i - P_k|$. Across all 4 party systems, party 1 holds the same ideological position as the individual’s ideal point, denoted by the zero in every row of column 2. The remaining parties are either zero or three units from the individual’s ideal point. Columns 7-9 report the estimated level of indifference based on the calculations of the three spatial measures of indifference.

[Table 3 about here]

Recalling the definition of indifference above, an individual is classified as indifferent if multiple parties represent her ideological position equally well. Consequently, an individual should be the most indifferent when all of the parties are clustered at one point in the ideological space and the least indifferent when one party’s ideological position is close to one’s ideal point and all the other parties are clustered far from one’s ideal point. In terms of table 3, this means one should have the lowest score for indifference in party system 4 and the highest score for indifference in party system 1.

All three measures lead to the expectation that party system 4 has the highest level of
indifference, and two of the measures – the closest party and farthest party measures – predict that party system 1 has the lowest level of indifference. However, the closest-farthest parties measure estimates that party system 1 and party system 4 have the same level of indifference. This is clearly at odds with the definition of indifference elaborated above and suggests that the closest-farthest parties measure of indifference lacks face validity.

Next, looking at party system 2, the ideological positions of two parties are identical to the ideal point of the individual in question, and the remaining three parties are clustered 3 units away from the individuals’ ideal point. In this situation, despite having two parties the individual prefers equally, she might still vote to decrease the likelihood that one of her least preferred alternatives wins the election (Cox 1997). This is referred to as strategic voting, and there is substantial empirical evidence that individuals vote strategically. In the United States, for example, Abramson et al. (1995) find evidence that as many as 16-43% of minority party supporters vote strategically. The presence of strategic voting suggests that individuals should feel more indifferent in party system 4 than in party system 2. Moreover, whenever there are parties’ whose ideological positions diverge from the ideological position of one’s preferred party, by definition, relative utility is greater than zero because the individual will receive some benefit from one of the parties close to her ideological position winning over the more distant alternatives. This is further evidence that the individual should be more indifferent in party system 4 than party system 2.

The farthest party measure of indifference estimates indifference is higher in party system

8 Some studies suggest that strategic voting is more rare in other contexts (Alvarez and Nagler 2000; Blais 2002).
2 than in party system 4. The closest party measure, on the other hand, estimates that indifference will be the same across party systems 2 and 4. This contradicts the definition of indifference as well as empirical evidence in support of strategic voting. Hence, the closest party measure of indifference also lacks face validity.

In terms of face validity, then, the closest party and closest-farthest parties measures of indifference are the least valid, and the farthest party measure of indifference appears to be the most valid. The next section assesses the criterion-related validity of these measures.

**Criterion-Related Validity of Three Measures of Indifference**

A measure is considered to have criterion-related validity if it “can be used to infer or predict some criterion” (Christensen 2004: 186). Here, I assess criterion-related validity using a laboratory experiment. In the experiment, participants view a series of hypothetical party systems, where the number and ideological positions of the parties are systematically varied such that differences in the spatial measures used in previous studies are maximized across the party systems. For each party system, the participants are asked to answer the following criterion question:

In party system X, how similar are the political positions of the parties to each other? [answers range from 1 (not similar) to 7 (extremely similar)]

The spatial measure which correlates the most strongly with this criterion will be considered the most valid.

The participants were 194 students from a large university in the United States. They participated in approximately thirty elections per participant, yielding data for 5,788 elections.9 For a full description of the experimental design, please see the online appendix.

10 The data are from two experiments performed in the same course over two semesters. I have
Each participant spent approximately 30-60 minutes completing the study. For all of the correlations reported in this section, Somer’s D is used because the tables for this test are not square and the relationship is asymmetric (i.e. participants’ observations of the parties’ ideological positions lead them to feel indifferent). Somer’s D correlations higher than 0.40 are generally considered high and lower than 0.15 are generally considered low (Buchanan 1974). Furthermore, since the differences between the measures are more drastic as the number of parties increases, the results are stratified by the number of parties, which takes values of either 2 or 4.

For the analysis of criterion-related validity to be meaningful, the criterion must be valid indicator of individuals’ feelings of indifference. If the criterion measures are not valid, then the tests below are completely uninformative (Adcock and Collier 2001). To assess the validity of the criterion, in one version of the experiment, the number of parties was held constant at 2, so all the spatial measures of indifference were equivalent and equally valid. As a result, we would expect a high correlation between the criterion and the spatial estimate of indifference in this experiment if the criterion is valid. In the two-party experiment, the correlation between the criterion and the spatial measure of indifference is 0.55, which is a relatively high value for Somer’s D. Hence, the criterion question seems to be a valid measure of individuals’ feelings of indifference.

Table 4 provides the Somer’s D correlations between the three spatial measures of

analyzed each round of the experiment individually as well, and the substantive conclusions drawn from the data are the same whether analyzing each round individually or combining the data, as I do here.
indifference and the criterion measure of indifference by the number of parties. The second row represents two-party systems. Although the correlation decreased in this version of the experiment, it is still relatively high, at 0.41. The third row represents the correlation in four-party systems. The farthest party measure has the highest correlation with the criterion, at 0.32. The closest party and closest-farthest parties measures have slightly weaker correlations, at 0.27 and 0.20, respectively.

[Table 4 about here]

The simple correlations reported in table 4 provide some preliminary evidence in favor of the farthest party measure, but there are several threats to the validity of those correlations. For instance, since the positions of the parties vary randomly, alienation, a concept closely related to indifference, varies randomly across the elections. Randomization renders alienation almost orthogonal to the spatial measures of indifference, but due to the fact that the spatial measures of indifference are not perfectly correlated, randomization cannot completely eliminate the correlation between alienation and the spatial measures of indifference. Another concern is that repeated testing might be biasing the results. For example, respondents might learn to answer the questions in a way that favors the farthest party measure over the course of the experiment. A third concern is the external validity of the results in table 4. One might worry that student participants will respond to the experimental stimuli differently than non-students, who compose the majority of the electorate (Sears 1986). Similarly, a laboratory setting is substantially different than a real life election, which might reduce the generalizability of the results (Christensen 2004). I address each of these concerns in turn.
The Internal Validity of the Experiment

The first two concerns relate to the internal validity of the experiment. Each poses a confounding variable that might be driving the pattern indicated in table 4. To control for these confounding variables, I estimated several ordered probit models, where the criterion is the dependent variable and the covariates are a spatial measure of indifference, a spatial measure of alienation,\textsuperscript{11} and election fixed effects.\textsuperscript{12} For this analysis, the measure with the highest criterion-related validity is the one that improves the fit of the model the most. Since this is a non-linear model, fit is indicated by pseudo-$R^2$. The results of these models are reported in table 5.

[Table 5 about here]

Starting with the two-party elections, column 2 reports the results of a model excluding a measure of indifference, and column 3 reports the results of a model that includes a measure of indifference. Including the measure of indifference in the two-party models, increases the fit of the model from 0.04 to 0.12. This is a substantial increase in pseudo-$R^2$, which further indicates the validity of the criterion. The four-party models are reported in columns 4-7. In these models, the one with the farthest party measure fits the data the best, with a pseudo-$R^2$ of 0.08. This is following by the closest and closest-farthest parties measures, which have fits of 0.05 and

\textsuperscript{11} Alienation is operationalized as the distance between the participants’ ideal point and the party closest to that ideal point.

\textsuperscript{12} I have also estimated the model using an ordinary least squares model with participant fixed effects. The results are substantively the same as those reported here.
0.03, respectively. Thus, these results confirm those from table 5 and indicate the farthest party measure is the most valid.

As a further check on the possibility of time trends in the data, I estimated a separate ordered probit model for each election in which four parties participated. The dependent variable in each model was the criterion, and the independent variables were one of the spatial measures of indifference and alienation. Figure 3 illustrates the fit of these models. Although there is a lot of noise in the data, models with the farthest party measure of indifference fit the data best for the vast majority of elections. In fact, there are only two of the thirty elections where this is not the case. In election 14, the model with the closest party measure fits the data slightly better than the farthest party measure, and in election 21, the closest-farthest party measure fits the data slightly better than the farthest party measure. In sum, the experimental results described here provide strong evidence that the farthest party measure is the most valid of the three spatial measures.

[Figure 2 about here]

The External Validity of the Experiment

The other concern with the experiment is its external validity. There are two threats to external validity. The first is the use of students as the participants (Sears 1986). The average student is systematically different from the average member of the electorate: younger, more educated, from families with higher incomes, etc.\(^\text{13}\) As a result, students may react differently to the experiment than the members of the larger electorate. To ease this concern, I performed the

\(^\text{13}\) A comparison between the experiment participants and the United States’ electorate is provided in the online appendix.
experiment using a sample of participants recruited from a newspaper advertisement. The advertisement ran in the local newspaper of an urban area of approximately 100,000 residents in the United States. The experiment was identical to that described above, except that the number of parties could be either 2, 4, or 6 and the number of elections was reduced to nine.

Table 6 replicates table 5 using these new data. In general, the data from the non-student population is a little noisier than that from the student population. For instance, in the two-party elections, pseudo-$R^2$ is only 0.08 in the non-student population compared to 0.12 in the student population. The correlations in the four-party systems are also smaller. One consequence of this increased variance is that there is no meaningful difference between the closest and farthest party measures of indifference in four-party systems, although both of these measures are still clearly superior to the closest-farthest parties measure. In the six-party elections, though, the model with the farthest party measure clearly fits the data better than the other two, with a fit 50% higher than the closest party measure. Therefore, even when we assess the validity of these measures using a non-student sample, the farthest party measure remains the most valid.

[Table 6 about here]

The other concern related to external validity is the artificial environment created by the laboratory. The worry is that the results will not be generalizable outside of the laboratory setting. To ease this concern, I conducted an analysis similar to that in table 4 using data from the third module of the CSES. As mentioned previously, the most recent module of the CSES contains a question related to indifference:

During the election campaign, would you say that there were major differences between the parties [or candidates], minor differences, or no differences at all? [answers range from 1 (major differences) to 3 (no differences at all)]

As a robustness check, I used this question as a criterion and calculated the Somer’s D
correlation between it and the spatial measures of indifference for respondents of the third module of the CSES. Figure 3 illustrates this correlation for each spatial measure of indifference as the number of parties increases.\textsuperscript{14} The results illustrated in figure 3 largely confirm those from the experiments. Except in seven- and nine-party systems, the farthest party measure correlates more strongly with the criterion than the other two measures.\textsuperscript{15}

[Figure 3 about here]

**Conclusions**

Since the earliest studies of voter turnout, indifference has been cited as a source of abstention in elections, and variables measuring this concept are commonly included in models of voter turnout. However, since no measure of indifference is commonly accepted, three competing measures have arisen. Each of these measures offers a different interpretation of how individuals’ evaluate parties’ ideological positions. The purpose of this paper has been to evaluate the validity of these three measures. Specifically, I assessed the face and criterion-

\textsuperscript{14} See footnote 3 for details about the operationalization of these variables.

\textsuperscript{15} Notably, the correlation between the criterion and spatial measures is about half of that reported in the experiment above when the number of parties is 2. This could simply be because the CSES data are noisier than the experimental data, but it could also indicate a problem with the validity of this criterion. In either case, the results of the CSES analysis should be interpreted with caution, because due the observational nature of the data, some unobserved variable might be driving the correlations reported in table 2. This is less of a concern in the experimental data, since the parties’ positions are randomized.
related validity of the existing measures. These tests revealed overwhelming evidence in favor of, what I termed, the farthest party measure of indifference. Each test suggested that this measure is the most valid.

Returning to table 1, only three of the eleven studies that use spatial measures of indifference employ the farthest party measure. If we remove the two studies that are conducted in two-party contexts, we are left with six studies that use either the closest or closest-farthest parties measures, raising concerns about the conclusions reached in those studies. Four of these six were conducted in the United States, which eases some of these concerns, since third parties in the United States tend to be uncompetitive and probably have a minor impact on individuals’ election decisions.

More worrisome are the results reported by Thurner and Eymann (2000) and Aarts and Wessels (2005). These studies were conducted using data from European elections, where multiple, viable parties compete in each election. The conclusions reached by these two studies should be interpreted with caution. In Aarts and Wessels’ (2005) study, the effect of indifference, although statistically significant, is likely attenuated, and variables correlated with indifference, like alienation, might have artificially high coefficient estimates. Thurner and Eymann (2000) use a multinomial model to estimate individuals’ decisions about whether or not to vote and who to vote for simultaneously. As a result of this multinomial framework and the fact that indifference only enters into the turnout equation, the estimated effect of indifference is still likely to be attenuated in their study, but the other variables, like alienation, should not be affected by measurement error in the indifference variable.

In the future, researchers who use spatial measures of indifference in multi-party contexts should aggregate the spatial information using the farthest party measure of indifference. Doing
so will provide better estimates of the effect of indifferent as well as variables correlated with indifference and improve our knowledge of individuals’ voting decisions.
References


### Tables

<table>
<thead>
<tr>
<th>Author</th>
<th>Country(ies)</th>
<th>Election(s)</th>
<th>Number of Parties</th>
<th>Question Type</th>
<th>Measure of Indifference</th>
</tr>
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<tbody>
<tr>
<td>Brody and Page (1973)</td>
<td>United States</td>
<td>1968 Presidential</td>
<td>3</td>
<td>THERMOMETER</td>
<td>Farthest</td>
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<tr>
<td>Weisberg and Grofman (1981)</td>
<td>United States</td>
<td>1976 Presidential</td>
<td>2</td>
<td>THERMOMETER</td>
<td>-</td>
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<tr>
<td>Thurner and Eymann (2000)</td>
<td>Germany</td>
<td>1990 Legislative</td>
<td>7</td>
<td>7-POINT ISSUE</td>
<td>Closest</td>
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<tr>
<td></td>
<td>Britain, Denmark, Germany, Netherlands, Norway, and Sweden</td>
<td>Legislative (years depends on country)</td>
<td>4-14</td>
<td>11-POINT LIKE/DISLIKE</td>
<td>Closest</td>
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<td>Aarts and Wessels (2005)</td>
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<td>Hortala-Vallve and Esteve-Volart (2010)</td>
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<td>1972-2000 Legislative or Presidential (depending on the year)</td>
<td>2-3</td>
<td>7-POINT ISSUE</td>
<td>Closest</td>
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<tr>
<td>Katz (2011)</td>
<td>Brazil</td>
<td>2002 Presidential</td>
<td>3</td>
<td></td>
<td>Farthest</td>
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## Table 2 – Effect of Indifference on Turnout by Measure of Indifference

<table>
<thead>
<tr>
<th>Measure of Indifference</th>
<th>Closest Party</th>
<th>Farthest Party</th>
<th>Closest-Farthest Parties</th>
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<tbody>
<tr>
<td><strong>Coefficient Estimates</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Indifference</td>
<td>0.007</td>
<td>-0.033</td>
<td>-0.025</td>
</tr>
<tr>
<td></td>
<td>(-0.002 – 0.015)</td>
<td>(-0.043 – -0.058)</td>
<td>(-0.033 – -0.018)</td>
</tr>
<tr>
<td>Alienation</td>
<td>-0.101</td>
<td>-0.070</td>
<td>-0.085</td>
</tr>
<tr>
<td></td>
<td>(-0.110 – -0.092)</td>
<td>(-0.081 – -0.058)</td>
<td>(-0.095 – -0.018)</td>
</tr>
<tr>
<td>Δ in Pr(Turnout = 1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indifference</td>
<td>0.001</td>
<td>-0.006</td>
<td>-0.004</td>
</tr>
<tr>
<td></td>
<td>(0.000 – 0.003)</td>
<td>(-0.007 – -0.004)</td>
<td>(-0.006 – -0.003)</td>
</tr>
<tr>
<td>Alienation</td>
<td>-0.017</td>
<td>-0.012</td>
<td>-0.014</td>
</tr>
<tr>
<td></td>
<td>(-0.020 – -0.014)</td>
<td>(-0.014 – -0.009)</td>
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<tr>
<td>ρ</td>
<td>0.217</td>
<td>0.219</td>
<td>0.217</td>
</tr>
<tr>
<td></td>
<td>(0.163 – 0.284)</td>
<td>(0.164 – 0.287)</td>
<td>(0.162 – 0.284)</td>
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<td>Observations</td>
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<td>56,708</td>
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Table 3 – Indifference in Four Hypothetical Party Systems

| Party System # | Distance Between Party’s Ideological Position and an Individual’s Ideal Point (|P_i – P_k|) | Indifference by Measure |
|----------------|-------------------------------------------------------------------------------------------------|-------------------------|
|                | Party 1 | Party 2 | Party 3 | Party 4 | Party 5 | Closest | Farthest | Closest-Farthest |
| 1              | 0       | 3       | 3       | 3       | 3       | 3       | 3       | 0               |
| 2              | 0       | 0       | 3       | 3       | 3       | 0       | 3       | 3               |
| 3              | 0       | 0       | 0       | 0       | 3       | 0       | 3       | 3               |
| 4              | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0               |
**Table 4** – Correlation between the Criterion and Spatial Measures (Student Participants)

<table>
<thead>
<tr>
<th>Parties</th>
<th>Measure of Indifference</th>
<th></th>
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<tr>
<td></td>
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<td>Closest-Farthest</td>
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<tr>
<td>2</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
<td>965</td>
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<tr>
<td>4</td>
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<td>0.32</td>
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Table 5 – The Criterion Regressed on the Spatial Measures (Student Participants)

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<th>2 Parties</th>
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<th>4 Parties</th>
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<td></td>
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<tr>
<td>Indifference</td>
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<td>(0.35 – 0.47)</td>
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<tr>
<td>Alienation</td>
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<td>0.17</td>
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<td>(0.10 – 0.19)</td>
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Figures

Figure 1 – Correlation between Spatial Measures of Indifference by the Number of Parties
Figure 2 – Pseudo-$R^2$ by Election (Student Experiment)
Figure 3 – Correlation between the Criterion and Spatial Measures (CSES Data)