**Multi-dimensional measures of state legislative district ideology**

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Paper presented at the Annual Meeting of the Western Political Science Association in

San Diego, CA, 2016.

**Introduction**

 How do we measure the policy preferences of citizens within state legislative districts and why is this important? Voter representation has been considered an important research area throughout the field of American politics, especially when considering the link between citizen preferences and legislative behavior at both the national and state levels. Due to the nature of our political system that involves indirect representation, it is logical to assume that elected officials adhere to the preferences that encompass the district he or she represents. One might assume that the representative, in fear of losing his or her elected seat, would mirror their voting behavior to the preferences of the district (Jewell 1983, Kuklinski 1978). Likewise, one might expect that the constituents within a district would elect an official who, ideologically, was on par with that district, ensuring that the districts interests were maintained (Kuklinski 1978).

 However, logic does not necessarily mirror reality, leading some scholars to argue that elected officials act based on other factors such as the impact of partisanship on legislators leading some to explore the nature of dyadic and partisan models of representation (Masket and Noel 2012).

In this article, we build upon a long tradition of using election returns on ballot propositions as a source of information to measure citizen preferences in state legislative districts. We first explore the strengths and weaknesses of two distinct approaches to using direct democracy results to measure citizen preferences. We then develop a measure that builds off the strengths of each approach to test the impact of citizen preferences on legislator voting. This paper is the beginning of a larger project that will include several different issue positions across multiple states and localities.

 In this preliminary study, we begin by examining policies related to women’s issue in North Dakota. We choose this state and these issues for the first stage of this project precisely because it is an unusual selection. Although North Dakota is among the top states in the usage of the initiative process, it is rarely the focus of academic research. Furthermore, the selection of women’s issues makes for an interesting case study because women’s issues are generally associated with more liberal parts of the country. We begin by examining past research on the use of direct democracy data to measure citizen preferences. We then develop our model and measures for the study of citizen preferences and legislator behavior on women’s issues in North Dakota. Finally, we discuss future areas for this line of research.

**Approaches to measuring citizen preferences**

 Scholars have used election returns on ballot propositions to estimate citizen preferences in one of two ways. The first approach employs only those ballot measures for which both the public and the legislature vote on the exact same piece of legislation such as a referral. The second approach uses all ballot measures placed before the voters to find underlying ideological dimensions, often by exploratory factor analysis, to capture the citizen preferences broadly defined. In this section, we explore both approaches before developing a hybrid approach.

 The use of ballot propositions to estimate citizen preferences has a long history in political science. Arneson (1927) studied 25 ballot measures in Ohio from 1912 to 1926. This study was limited to only those pieces of legislation for which there was both a vote of the people and a roll-call vote of the legislature. It matched district votes on these legislative and citizen referenda to the votes by the legislators from these respective districts. The results found some evidence to suggest that citizen preferences matched and explained legislator voting on these measures under certain circumstances especially when the legislator voted in opposition to the legislation. White (1938) reported a replication of Arneson’s work but on ballot measures during the depression era. The impact of citizen preferences was greater on legislative behavior in support of legislation than in opposition to legislation. White concluded that during economic stress, the system might be more responsive to demands for change as opposed to the risk adverse sentiments of the public.

 Later studies moved from the question of whether citizen preferences and legislator behavior were more in sync during different stages of the business cycle towards the more fundamental question of whether representatives actually represent the views of their constituents. An early study of this question is the study of daylight savings time legislation in Wisconsin by Crane (1960). Crane found a strong link between how a legislator voted on the proposed switch to daylight savings time and the votes of their constituents.

 Smith (2001) uses a similar approach to study “counter-majoritarian” bills. These are bills that were considered by the legislature in an effort to directly overturn the results of a previous decision by the voters through direct democracy. This study looked at bills designed to overturn the will of the voters on issues of campaign finance, sexual orientation, and abortion. He found evidence to suggest a link between citizen preferences and legislator voting on two of the three measures even after controlling for the effects of other potential explanatory factors such as member party, member sex, term limits, and the competitiveness of the member’s previous election.

One benefit of using legislator and citizen’s votes on the same piece of legislation to explore questions of representation is the narrowness of the question. Legislators and citizens are asked to vote on the same piece of legislation and it is easy to see if legislators act in accordance with citizen preferences. There are some problems, however. For legislative referrals, some members may not be motivated solely on whether they believe the bill should pass but whether they should let the voters decide. To the extent that this practice occurs, the vote by legislators and the vote by citizens are not actually measuring behavior on an identical question. While the link between the two observed behaviors is still strong, it is not quite the direct link it may appear to be at first glance.

 The second approach is to use election returns to develop a more general ideological scale. Kuklinski and Elling (1977) used California referenda and initiative data from the 1968-1972 general elections to determine issue dimensions in each of the legislative districts. Using exploratory factor analysis, he found three identifiable issue dimensions: *contemporary liberalism, taxation, and government administration*. He uses these measures to test the linkage between popular will and roll call votes before the legislature.

 Meskat and Noel (2012) use referenda data in California for their measure. By limiting the data to referenda measures, the authors rely on only specific policy issues that both legislators and citizens were asked to consider. They use data to estimate the ideological positioning of the legislator relative to their constituents in order to identify those legislators who are more ideologically extreme than their districts.

This important and innovative work helps answer several questions about the ideological nature of legislative behavior; especially their measure of the deviance of legislator ideology relative to the district ideological preferences. In their discussion, they give the example of Lynn Daucher (an Orange County Republican) who was 0.4 units too liberal for her district. What their data cannot tell us, however, is if her legislative behavior was too liberal on social issues, taxation issues, environmental issues, women’s issues, or any combination of those and other policy areas. Therefore, while their approach provides important information about the overall ideological representation, it cannot speak to expectations for legislator voting on more specific policy areas.

 A different use of direct voting on policy issues was utilized by Gerber and Lewis (2004) who used an unusual data source to develop ideal points for voters in political districts in Los Angeles County based on an analysis of individual ballots cast on state propositions in the 1992 November election. They use factor analysis to develop a measure of district preference to distinguish more politically homogenous districts from heterogeneous districts. They find that the link between overall district preference and legislator behavior is most often based upon the legislator reacting to the preferences of fellow partisans in the district. This finding means that legislators from more ideologically homogenous districts better reflect the overall district preferences than those from more heterogeneous districts. Their use of factor analysis provides a more comprehensive approach to understanding ideological preferences; however, it is still silent on particular areas of policy. Furthermore, that type of data is not readily available in subsequent years or across states.

 Finally, Snyder (1996) uses exploratory factor analysis of voting returns on all California ballot propositions from 1974-1990 to determine underlying ideological dimensions. Snyder’s analysis suggests three distinct dimensions of citizen preferences in California: *Public Goods and Regulation, Income Redistribution, and Regional Conflicts.* Two of the dimensions are more generally ideological. The *Public Goods* dimension is based on citizen votes on measures related to parks and environmental concerns, education policy, AIDS policy, property taxes, crime, and various other issues of government reform and ethics. The *Income Redistribution* dimension includes votes on issues such as health benefits, social spending, labor policy, tax and spending limits, education spending, English only proposals, and even propositions described as aimed against the Democratic Party such as term limits, reapportionment, and legislative rules.

 The benefit of the direct approach is the tightness of the observed relationship between citizen votes and legislator votes however it is not very generalizable. The benefit of the kitchen-sink approach is that the measure can be used to test representativeness on a wider set of policy issues, however, the ideological measures are often so broad that they provide very little information about citizen preferences on particular issues.

 In this study, we employ an approach that is more generalizable than those using a direct link and more focused than those who use results of all ballot measures to find broad ideological tendencies. We explore the question of legislator representation of citizen preferences by examining data on cultural issues in North Dakota as a potential influence on legislator behavior on women’s issues. Similar to the approach by Kuklinksi (1977) and Snyder (1996), we employ factor analysis to identify commonalities in citizen preferences on issues, however we restrict the data to only those measures relating to cultural issues in North Dakota instead of using all of the ballot measures.

**Direct Democracy and Representation in North Dakota**

 The larger project for our current line of inquiry involves an examination of representation across several states and across several policy areas. We begin with women’s issues in North Dakota. In this section, we provide some background on direct democracy in North Dakota before exploring policy issues in each.

Although North Dakota has long been among the top five states in the number of ballot propositions, it is rarely the subject of academic studies. Most studies focus on California, Oregon, Colorado, and Washington. Furthermore, North Dakota is an interesting state for questions about the linkage between citizen preferences and legislative behavior. Unlike the other more heavily studied states, North Dakota has a citizen legislature, which should make the connection between citizen preferences and legislative behavior more likely.

 One study of direct democracy in rural America, found that its usage in these areas of the country experienced different ebbs and flows than what was witnessed in the west, especially California (Stambough et. al. 2007). They found that although rural America still maintains an active system of direct democracy that is consistent with its populist/progressive era roots, the growth in its usage has been slower than in the west. In fact, its usage seems to be more in line with the progressive era model of direct democracy as a check on governmental policies instead of the slightly different populist model as an active parallel legislature. For our purposes, that means that usage in a state like North Dakota is likely to have a system with enough ballot propositions to get a sense of voters’ collective preferences on an issue area but not necessarily several measures on a very specific policy area. This is in contrast to states like California or Oregon where it is likely to find several ballot measures that relate to very specific issues such as taxation, environmental issues, and other policy issue areas.

***Cultural and Women’s Issues in North Dakota***

 We test women’s issues in North Dakota because this presents an interesting case study in such a rural and more conservative state. Women’s issues are often viewed as part of a more liberal political agenda than people generally associate with North Dakota. In fact, in their examination of cultural differences in support of feminist issues, Bolzendahl and Myers (2004) determine that certain regions in the U.S. (the South and Midwest) are more conservative and thus, less supportive of feminist issues. This is explained by the regional socialization of the population toward more traditional views and ideas. Furthermore, the authors find people living in urban environments are more liberal than people living in rural areas as far as their policy positions including issues that are identified as feminist issues. The authors mention this is due to the urban population’s exposure to different ideas and opportunities.

 Other studies corroborate the expectation that people living in the southern region of the U.S. exhibit more conservative attitudes about women’s roles and rights (Hurlbert 1989; Rice & Coates 1995; Twenge 1997). Again, these attitudes are explained by the “conservative culture” that is prominent in this region of the country. As for rural America, research tells us that the culture war in the US is now being fought along urban versus rural lines. Moreover, the issues that urban dwellers may view as “settled a long time ago” are still being focused on in the rural areas, and the rural Americans have a more traditional view of these issues. These issues include abortion rights and women’s place in the workforce, issues that regularly get categorized as women’s issues (Mann 2006). Again, this research supports the expectation that those living in the rural areas take a more conservative stand on women’s issues due to a rural culture.

 Although North Dakota is not considered a southern state, research points to similarities between southern states’ attitudes about women-friendly state policies and the attitudes of some of the Plains states, including North Dakota (categorized in Weakliem & Biggert 1999). In their study of women-friendly policies throughout the U.S., Kimberly Cowell-Meyers and Laura Langbein (2013) found that North Dakota, like traditional southern states such as Alabama, Arkansas and Mississippi, did not adopt eight women-friendly state policies that make up the 8-policy index used to conceptualize women’s interests utilized in their study. The reason for North Dakota’s lack of women-friendly policy may be due to the percentage of female state legislative representation (the state regularly ranking in the bottom third over the past two decades as far as the percentage of state legislators who are female), state public opinion liberalism, the religious influence, rural traditional values (where according to the USDA over 50% of the population live in rural areas) or a combination of these factors. Because of these characteristics and the fact that North Dakota has a citizen legislature, we believe that it provides a unique and instructive location to study the link between citizen preference and legislator behavior.

**Testing the Link between Citizen Preferences and Representation**

 Our basic expectation is that voters’ preferences on policy issues help explain the policy voting of their elected representatives in the state legislature. Our model is based upon the one used by Smith (2001). In his study of the three counter-majoritarian measures in Colorado, Smith forwarded a model that stated that district characteristics and legislator characteristics explain legislator behavior on policy issues before the state legislature. The primary district characteristic of interest is how the citizens in a district voted on the policy issues brought before the legislature. His belief was that legislators act in accordance to the preferences of their constituents. In addition, he included other measures for district characteristics such as competiveness and measures for legislator characteristics such as sex, party identification, and even if the member was being term-limited in the next election.

***Data analysis***

 We utilize this model to understand legislative behavior on policy issues. We test the impact of citizen preferences about cultural issues on legislative behavior regarding women’s issues based upon the theoretical link between the two as discussed above. This environment provides an unusual and understudied type of political culture in which to study legislative actions on women’s issues. In order to test our hypothesis that citizen preferences impact legislative behavior, we test the following equation with the variables measured as discussed below.

*Support for Women’s Legislation = Citizen Preferences on Cultural Issues + District Vote for Barack Obama + Legislators Prior Vote Margin + Democratic Legislator + Legislator Conservatism + Female Legislator + End of Legislative Term*

*Dependent Variable—Support for Women’s Legislation*

 In our attempt to understand legislative support for women’s issues, we use information from the North Dakota Women’s Network (NDWN) to measure legislative support for such issues. Specifically, we use the organization’s legislative scorecard for the 2011 legislative cycle. We use 2011 because it is the session at the end of the redistricting period when there was more information about district preferences through the initiative process due to the previous series of elections within the same district boundaries.

 The North Dakota Women’s Network was formed as a result of actions by the North Dakota American Association of University Women to form a coalition of women’s organizations in the state to better advocate for women’s issues in state politics. Their legislative scorecards are at <http://www.ndwomen.org/publications-archive/>. Because we use citizen preferences based on ballot measures during the single redistricting period of the 2000s, we use the legislative scorecard for 2011 which is the last session of the redistricting period. The scorecard is based on legislator voting on 15 different pieces of legislation including education issues such as childcare for caregivers pursuing advanced degrees, health issues such as the establishment of a domestic violence fatality review commission and abortion regulations, and gender related tax and unemployment bills. The scale ranges from 0-100 with higher values indicating a more liberal voting record.

 We believe that the use of these scorecards is a solid measure of legislators’ support for women’s issues for multiple reasons. First, women’s issues include a comprehensive agenda of policies that relate to cultural factors from a variety of specific policy areas and the NDWN includes this broad understanding of women’s issues in their legislative scorecards. In fact, the policies covered by their scorecards ([www.ndwoemen.org](http://www.ndwoemen.org)) include votes on gender related economic, reproductive, educational, and security issues. The broad focus centered around a specific policy issue is consistent with the research goal discussed above of being broader than the direct-link approach such as Mesket and Noel’s (2012) use of referrals. It is also more specific than the complete exploratory factor analysis to broadly measure ideology such as in the study by Snyder (1996).

 Another advantage is that the interest group reports provide the researcher with a scale for actual legislative votes on a variety of issues instead of focusing solely on one or two issues. Furthermore, unlike some other cultural issues that might not be helpful for future cross state comparisons, women’s issues arise in each state. Finally, North Dakota presents an interesting case to study women’s issues because, unlike most of the states used in women’s policy research, it is primarily rural, not among the top states in terms of women’s representation in the state legislature, and primarily conservative.

*Independent Variables*

*Citizen preferences*

 As stated above, we measure citizen preferences by conducting a factor analysis of legislative district level election returns for ballot propositions focused on issues of cultural politics. During the period of study, 2004-2010, there were five ballot measures that dealt with various aspects of cultural politics. The measures included issues such as the definition of marriage, removal of gender discrimination from the state militia, father’s rights in custody matters, tobacco regulation, and hunting[[1]](#footnote-1). We conducted a factor analysis to capture any underlying dimensions of the vote data. The measures used were those measures that dealt with cultural issues and are presented in Table 1.

 By limiting our focus to cultural issues, we are able to identify underlying tendencies that could be used to explain preferences on an assortment of issues that are more cultural in nature than purely economic or government reform measures for example. As discussed above, this approach is more generalizable than the direct approach of using only those referrals that asked legislators and voters to approve the exact same policy and it is more focused than the pure exploratory factor analysis of every measure ever placed before the voters. The factor analysis of these five measures produced one factor loading with an eigenvalue over 2. All of the ballot measures loaded into the factor except for the one about automatic joint custody.

 The factor loading was saved and the resulting measure creates a scale of citizen preference on cultural issues with higher values indicating a more liberal position on cultural issues. The district with the highest value on this scale (2.11) is District 21 in one of the most densely populated areas of the state in the middle of its largest city, Fargo. The district with the lowest value on this scale (-1.63) is District 39, which is in the southwest corner of the state bordering both Montana and South Dakota in the most rural area of the state. Therefore, it is expected that this measure will have a *positive* relationship with legislator voting on women’s issues.

*Additional variables for district characteristics*

 In addition to *Citizen Preferences,* we include two additional variables for district characteristics. The first is a measure of district partisanship based upon the presidential two-party vote in the most recent election (2008 for the time frame of this study). This measure is often used as a surrogate for district partisanship (Abramowitz et al 2006). The use of a surrogate instead of actual partisan registration numbers by district is even more essential in a state such as North Dakota that does not have partisan voter registration. However, the variable only measures partisanship through the perspective of a national office and does not necessarily reflect state level partisanship. The variable is measured as the percentage of the two-party presidential vote received by Democrat Barack Obama in his election against Republican John McCain. If a relationship exists between this control variable and legislator voting on women’s issues, we should see a positive relationship.

 The final district characteristic considered is the competitiveness of the previous district election. We measured this as the percentage of vote between the winning candidate and the losing candidate with the highest vote total. For the state senators, this measure is simply the difference between the winning percentage and the percentage of the single loser from the other party. For the state representatives, however, it is just slightly different due to the voting system. In North Dakota, each House district elects two representatives simultaneously. Each party is permitted to nominate two candidates. Furthermore, each voter is permitted to vote for no more than two candidates but is not allowed to vote for a single candidate twice. By subtracting the percentage of the vote for the highest ranked losing candidate from the percentage of the vote each of the winning candidates, we are able to capture how close each winning candidate was to losing the election. Following the lead of Smith (2001), legislators from more competitive districts should be more likely to act in accordance to citizen preferences.

*Legislator Characteristics*

 Because past research suggests that legislator behavior is impacted by both characteristics of the districts and characteristics of the individual legislators, we also include variables measuring characteristics of the legislators themselves. In this study, we include measures for a legislator’s political party affiliation, political ideology, sex, and whether the legislator is up for reelection in the next election cycle. Past research also suggests a potential impact of legislators facing term limits; however North Dakota does not have legislative term limits.

 Legislator political party affiliation is included due to both the impact of personal party affiliation on support for women’s issues and to capture the party pressures within a legislative caucus. In fact, as partisan polarization has increased it is expected that partisanship will not only be a significant variable but that its presence as a control variable should make the effect of any other significant variables that much more interesting. For example, if *Citizen Preferences* has an impact on legislator behavior even after controlling for partisanship, then the findings will suggest that preferences help explain legislator deviations from party line voting on policy issues. For our study, legislator partisanship is measured as a dichotomous variable indicating whether the legislator identified as a member of the Democratic-NPL party[[2]](#footnote-2). Over the years, the Democratic Party has been more supportive of women’s issues (Reingold 2000; Tolbert and Steuernagel 2001). It is expected that Democratic members of the legislature will vote in support of women’s issues at a higher rate; thus it is expected that this variable will have a positive relationship with the dependent variable.

 Until recently, it was very difficult to measure state legislator ideology. However, recent work by Shor and McCarthy (2011) produced a measure for all state legislators that is similar to the d-nominate scores used to measure ideology of members of Congress. The variable is measured with higher values indicating a more conservative ideology. For reasons discussed above about ideology and women’s issues, it is expected that this variable will be negatively associated with support for women’s issues since research tells us liberal public opinion is a better predictor of support for women-friendly policies (Cowell-Meyers and Langbein 2009).

 Past research also explores the impact of legislator sex on voting for issues including women’s issues. The general belief is that women legislators are more likely to support legislation on women’s issues (Thomas 1991; Swers 1998; Thomas & Welch 2001; Bratton 2005), however some argue that the causal relationship disappears after taking party and ideology into account. For this study, we include a variable that indicates whether the legislator is female. If there is a relationship, the expected direction is a positive relationship between being a female legislator and support for women’s issues.

 The final legislator characteristic we include in the analysis is a dichotomous measure indicating whether the legislator is in the last portion of the legislative term. Some research suggests that proximity to election impacts the behavior of legislators as they prepare for reelection. This dynamic is one of the reasons that term limits is included in many analyses of state legislatures. Although term limits do not exist in North Dakota, the nature of their staggered terms creates an opportunity to test the impact of proximity to reelection. Each legislative district elects a single senator and two house members every four years. Half of the districts are elected in presidential years and the other half are elected in mid-term years which creates a legislature with half of its members four years away from the next election and half only two years away from election. We use a dichotomous variable indicating whether a legislator is in the last half of the term to capture any effects that proximity to election might have on behavior.

***Results for North Dakota Analysis***

 We estimated the equation listed above. After conducting factor analysis on the initiatives to construct our measure of citizen preferences, we saved that value and used it as the primary independent variable to test the equation listed above using OLS regression. Our analysis of North Dakota legislators’ support for women’s issues is presented in Table 3. All legislators are included in the same analysis. This decision was made because in North Dakota, there is no difference between the districts, term of office, or timing of elections between state senators and state representatives. As discussed above, the voters of any given legislative district are asked to vote for 1 senator and 2 representatives. All three of them will serve identical 4-year terms. Because of the nearly identical nature of the two chambers in North Dakota, researchers are able to combine them into one dataset to avoid any problems with conducting analysis on small sample sizes.

 The results presented in Table 3 support the expectations of this study. Citizen preferences on cultural issues are a predictor of legislator voting on women’s issues even after taking into account other influences such as partisanship and ideology. According to the results, legislators representing districts with a more liberal view on cultural issues are more supportive of women’s issues in the legislature than those who come from districts with more conservative citizen preferences. To illustrate the effect, we used the coefficient, held all the other variables constant, and computed the change in the support for women’s issues based upon being from a district at the 25th percentile (-0.79) versus being from a district at the 75th percentile of the scale (0.71). Holding all other variables constant, a representative from a 75th percentile district had a support score of approximately 7 points higher than those from the 25th percentile. These findings suggest that legislators’ deviations in party line voting on women’s issues are partially explained by citizen preferences on cultural issues.

 In addition to our primary independent variable of interest, the results show that two other variables attained levels of statistical significance. Two of the legislator characteristic variables, partisanship and ideology, are statistically significant and suggest relationships in the expected directions. The results on partisanship suggest that Democratic legislators are more supportive of women’s issues than are Republican legislators. After holding all other factors constant, Democrats scored approximately 37 points higher than Republicans on the measure of support for women’s issues. This result is consistent with the findings suggested by previous research discussed above.

 Ideology also seems to have an effect in the expected direction. Even after taking into account the impact of partisanship, more conservative legislators were less likely to support women’s issues while more liberal legislators were more likely to support women’s issues. Comparing the 25th and 75th percentile scores within each party, more liberal Democrats scored 3.57 points higher on the women’s policy scale than the more conservative Democrats. More liberal Republicans scored 4.97 points higher on the scale than did the more conservative Republicans. Combined with the results above, these findings suggest that deviations in straight party voting on women’s issue legislation can be explained by the legislators’ personal ideology and by the preferences of the citizens in their respective districts. These findings provide support for the belief that legislative behavior is based upon influences that fit with both the *trustee and delegate* models of representation.

 The remaining variables failed to attain acceptable levels of statistical significance. The most interesting of these null results is the one for legislator sex. Although there is some literature that suggests women legislators take more liberal positions on women’s issues, other literature suggests that much of that effect falls away after taking partisanship and ideology into account. Furthermore, recent research on the rise of a contemporary cohort of distinctly more conservative, Republican female governors suggests that the previous expectation of women office holders being more liberal than their male counterparts may be outdated (O’Regan and Stambough 2014).

***Conclusion and Future Research***

 With this research, we investigate a classic question, *Do Representatives Represent*? We build from past studies that use election returns on ballot measures to estimate citizen preferences by utilizing an approach that is more directed than those that use all measures and more generalizable than those that match legislator voting and citizen preferences on specific referenda. We use this measure to predict legislator behavior on women’s issues in North Dakota and find evidence to suggest that citizen preferences do help us explain how legislators vote even after taking into consideration important factors such as partisanship and ideology.

 These findings provide evidence that the classic alternatives between the *trustee* and *delegate* models of representation are both helpful in understanding legislator behavior. Legislators appear to be influenced by forces such as partisan constraints, their personal ideological leanings, and the preferences of their citizens on policy issues. This study was only on one policy area in only one state. However, the study adds to our understanding by exploring a rarely researched state such as North Dakota.

 The rural nature of the state and the existence of a citizen legislature are unique among most of the studies of direct democracy and representation. For example, many of the previous studies of this question explore data from California legislative districts. The contrast on many legislative characteristics between North Dakota and the most frequently studied state of California could not be greater. At the last census, the population of California was approximately 37 million. North Dakota’s population was approximately 670, 000. To put this difference into perspective for legislative politics, the average California State Senate and Assembly districts contain approximately 931,000 and 465,000 people respectively while the average legislative district in North Dakota contains approximately 13,700 people. To further illustrate this point, in 2010, the highest voter turnout in a North Dakota State Senate election was only 8,401 votes in District 47. On the low end, incumbent Senator Carolyn Nelson (District 21) comfortably won reelection by receiving 1,785 votes to her opponent’s 1.433 votes. It is likely that the link between California state legislators and their hundreds of thousands of constituents is fundamentally different than the link between North Dakota legislators and their less than ten thousand constituents.

 The next stage of this research is to expand it to several states and across several issue areas. Another advantage of this approach to measuring citizen ideology is that we are not limited to studying only the frequently studied political bodies such as Congress or state legislatures. Using election return data at the precinct level, it is possible to test the impact of citizen preferences on the behavior of elected officials for city offices and even special districts. This approach can potentially enhance our understanding of representation at many understudied levels of government.

Table 1: Direct Democracy Measures in North Dakota on Cultural Issues, 2004-2010.

|  |  |  |
| --- | --- | --- |
| Measure | Election | Percent Voting Yes |
| Definition of Marriage as one man and one woman | General, 2004 | 73.23 |
| Removes age, gender, and residency language from reserve and militia membership  | Primary, 2006 | 73.36 |
| Mandate Joint Custody of children in case of divorce absent clear evidence of unfit parenting | General, 2006 | 45.59 |
| Establish a Tobacco Prevention Fund | General, 2008 | 53.94 |
| Ban on fenced hunting of big game animals | General, 2010 | 43.39 |

Table 2. Factor Analysis for Citizen Preferences on Cultural Issues.

|  |  |  |
| --- | --- | --- |
| Measure | Factor Loading | Rotated Loading |
| Definition of Marriage as one man and one woman | -0.8894 | -0.9258 |
| Removes age, gender, and residency language from reserve and militia membership | 0.4165 | 0.3073 |
| Mandate Joint Custody of children in case of divorce absent clear evidence of unfit parenting | -0.0994 | 0.0543 |
| Establish a Tobacco Prevention Fund | 0.6970 | 0.5748 |
| Ban on fenced hunting of big game animals | 0.9188 | 0.9189 |

Eigenvalue for Cultural Factor: 2.30438. No other factor had an eigenvalue over 1.0.

% of Total Variance explained by Cultural Factor: 88.94

LR Test: Chi2(10) = 339.10; Prob > Chi2 = 0.000

Table 3. Impact of Citizen Preferences on Cultural Issues on Legislative Voting on Women’s Issues in North Dakota, 2010.

|  |  |  |
| --- | --- | --- |
| Variable | Coefficient | Standard Error |
| Citizen Preferences on Cultural Issues | 4.72 | 1.39\*\* |
| Democratic Legislator | 37.64 | 4.89\*\* |
| Legislator Conservatism | -13.08 | 3.99\*\* |
| Female Legislator | 1.60 | 3.67 |
| District Vote for Democratic Presidential Candidate, 2008 | -0.07 | 0.12 |
| Last Legislative Session of 4 year term | 2.29 | 2.26 |
| Prior Vote Margin | 0.02 | 0.04 |
| Constant | 42.77 | 7.20\*\* |

N=140;

R-square 0.81

Prob > F = 0.0000

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1. Longer descriptions for the measures and the election results are included in the Appendix. [↑](#footnote-ref-1)
2. The Democratic Party in North Dakota is officially the Democratic-NPL Party. [↑](#footnote-ref-2)