**Appendix 1: Pre-Test Information**

We conducted a pre-test of our email communication with N=84 undergraduate participants from a large university in the South. Undergraduate students are, generally, unlikely to send emails to their lawmaker, but our sample of students includes political science, public affairs, and political communication majors. Students with these majors tend to have higher levels of political engagement compared to other types of students. Eighty-percent of the student sample indicated they were very interested, interested, or somewhat interested in politics, and 75% indicated they had contacted an elected representative via email at least one time.

Our pre-test of the message asked participants in a survey to read the email and then to make assessments about the likely sex, party, and ideology of the sender. We wanted to be sure that the letter could have come from any type of citizen and that the issue did not cue the race, gender, or social class status of the hypothetical constituent. We found that nearly 50% of participants thought the letter writer was a woman and nearly 50% identified the letter writer as a Democrat. We also asked participants to rate how likely it was that someone in their home communities would write a letter such as this one. Our goal was to make sure the letter could conceivably come from any community in the U.S. Eighty-percent of participants in the pre-test indicated that a person from their community could, hypothetically, contact their elected representative about the transportation infrastructure in their communities.

|  |
| --- |
| **Table A1: Perceived Characteristics of the Letter Writer** |
| % Female Letter Writer | 52% |
| % Democratic Letter Writer | 53% |
| Letter Writer Ideology (1-7) | M=3.67 |

We also asked participants to imagine that they were a staff member working in a state legislator’s office whose job it was to respond to constituent communication and to rate how likely it is that they would rate the letter as a priority. Most participants rated the letter as very important or important, and indicated that it was fairly likely the legislator would provide a response to the letter. Many of the staff members of state legislative offices are recent undergraduates from public affairs and political science programs. It is reasonable to assume that one day the participants in our study could be in the position of responding to constituents.

|  |
| --- |
| **Table A2: Evaluation of the Content of Communication** |
| Letter Priority: A great deal, a lot, or a moderate | 46% |
| Letter Importance: 1-7 scale | M=4.17 |
| Likelihood of Response: 1-7 scale | M=3.67 |
| Letter from Community: Very Likely or Somewhat Likely | 80% |

**Appendix 2: Ethical Considerations**

**Implied Consent Process**

All legislators received an email sent from the authors’ email account informing them that they are included in the study. We sent the consent information to all lawmakers in January 2018 approximately 1 month before we began fielding the study. We include both a screenshot (on the following pages) of the actual email message sent to all state legislators for whom we were able to obtain email addresses as well as the typed text (below) of the approved consent form we used with all identifying information removed for the purposes of the blind peer review.

We reviewed how other audit studies of elite populations, especially state legislators, handled ethical issues such as informed consent in making our decisions, and found that the vast majority do not use any form of consent because state legislators are not considered vulnerable groups, (see e.g., (Butler and Broockman 2011, Broockman 2013, Kalla, et al. 2017)). Note, as we prepared for our audit study in the fall of 2017 we set up our study to conform to the norms and best practices at that time. We recognize that the standards and guidelines have shifted from when we conducted our original study (see e.g., . We chose to inform state legislators of the study because of the small amount of deception involved and to be as transparent as possible, and below we explain how we informed legislators of their participation in the study. Below, we describe the procedures, as approved by the IRB at the principal investigators’ institutions used to conduct the study.

The study informed the research participants, in this case all state legislators for whom we could obtain email addresses, through an implied consent form sent via email. The consent form was approved through our institutional IRB’s, and we obtained approval to waive the requirement for obtaining signatures from the research participants. This form is called an implied consent form because we are not obtaining physical signatures from the participants in person. We have several reasons for requesting the waiver for obtaining signatures. First, it is not practical or logistical to obtain physical signatures from 7,500 state legislators. Second, our study does not include an online survey component that asks legislators to read a consent form and click that they read the form in lieu of physically signing a form, which is the standard protocol for survey experiments. In fact, we collect no information about the legislators which is not public data, the only information we collect is their responsiveness to our email query, and our analysis of the responsiveness of this message—but these analyses include no identifying information about the individual legislators (see below for our description of how we managed our data in such a way that preserved the anonymity of the state legislators). Third, the study poses no more than “minimal risk of harm to subjects and participants.” This is the standard used to assess waivers for obtaining signatures in human subjects research set forth by the Department of Health and Human Services. The minimal risk of harm is because we are not storing or making available individual information about the state legislators connected with their responsiveness or the substance of such as response, we are only presenting aggregate data in our analyses. In other words, we are not able to say that specific Legislator X from a specific state responded or did not respond.

All state legislators are included in the study unless they contacted us asking to opt-out. Twenty-one state legislators, or less than 1%, responded asking we remove them from the study, and we removed those email addresses. There were 9 female and 12 male legislators who opted for removal the study, and there were no systematic patterns in the states represented by these lawmakers, their partisanship, or other characteristics.

The study includes minimal amount of deception as we say that the email will come from a citizen but will in fact come from a fictitious person with a fictitious email account. This is the only deception involved in the study. The deception is necessary because we seek to observe the behaviors of state legislators as though they were responding to an actual constituent. For the sake of internal validity, we needed the communication to be constant across state legislators, something that we would not be able to control if we were to obtain the text of the actual correspondence of state legislators (see e.g., (Lowande, et al. 2019)). The deception is necessary for internal validity, and to ensure that any variation in responses from state legislators is based on characteristics *other than* the text of the message. We made sure (see Appendix 1) that the email communication resembled typical emails that state legislators receive from constituents, and that the email did not place inordinate demands on the legislator’s time so as not to take away from their duties as representatives.

To protect the anonymity of participants, after we received the email responses, we assigned each state legislator a number, and we removed the state legislator names and emails from the responses in our main file used for analyses. The file linking the state legislator names to their assigned numbers was stored in a separate file on a physical hard drive kept in a locked cabinet in one of the principal investigator’s offices. The main file used in our analyses did not have the legislator names, only numbers used to identify each observation. In the text of the email responses that we analyzed, we also removed identifying information from the responses, such as email signatures.

Full email message and consent sent to participants in the pre-brief email. Please note we’ve removed identifying information to preserve the anonymity of the peer review process.

Full Email for Implied Consent”

Hello (Representative/Senator),

We are conducting research about how state legislators work to keep in touch with their constituents. In several weeks, you will receive an email message from a citizen contacting you about a policy issue.

If you do not wish to participate you can let us know. If you have any questions or concerns, please contact Dr. XXXX (XXXX).

(removed for blind peer review): Consent to Participate in Research Study

Title: State Legislator Responsiveness

Principal Investigator: (removed for blind peer review)

This is a consent form for research participation. It contains important information about this study and what to expect if you decide to participate. Your participation is voluntary. Please consider the information carefully. Feel free to ask questions before making your decision whether or not to participate.

Purpose: The purpose of this study is to evaluate how voters consider communication between state legislators and constituents.

Procedures/Tasks: For this study, you will receive an email message from a citizen about a policy issue.

Risks: There is minimal risk of a breach of confidentiality. This study does not ask for any identifying information, and no identifying information will be stored.

Confidentiality: Efforts will be made to keep your study-related information confidential. However, there may be circumstances where this information must be released. For example, personal information regarding your participation in this study may be disclosed if required by state law. We will work to make sure that no one sees your survey responses without approval. But, because we are using the Internet, there is a chance that someone could access your online responses without permission. In some cases, this information could be used to identify you.

Participant Rights: If you choose to participate in the study, you may discontinue participation at any time without penalty or loss of benefits. By agreeing to this form, you do not give up any personal legal rights you may have as a participant in this study. An Institutional Review Board responsible for human subject’s research at (removed for blind review) reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

Contacts and Questions: For questions, concerns, or complaints about the study you may contact (removed for blind review). For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact (remove for blind review)

Signing the consent form: Receipt of this message acknowledges that I have read (or someone has read to me) this form and I am aware that I am being asked to participate in a research study. I voluntarily agree to participate in this study. I am not giving up any legal rights by consenting to this form. Study approved by: removed for blind review. Expiration: 11/20/2020 Approval: 10788.

**Pre-Registration Document for Female Lawmakers and Constituent Communication**

*Note: Information about where the study is pre-registered is removed per journal’s policy to ensure a blind peer review but the relevant information from our pre-registration plan is included below.*

Date Created: 12/18/17

**1. Have any of data been collected for this study already?** No, no data have been collected for this study yet.

**2. What’s the main question being asked or hypothesis being tested in this study?** RQ1: Are female state legislators more responsive to constituent communication relative to male state legislators? Hypothesis: We predict that female state legislators will be more responsive to constituent communication relative to male state legislators. We base this prediction in research on gender stereotypes & socialization which suggests that gender stereotypes lead to the perception that women lack the qualifications needed to serve in masculine leadership roles. RQ2: Are female state legislators of color more responsive to constituent communication relative to white female state legislators? Hypothesis: We predict that female lawmakers of color will be more responsive to constituent communication relative to white female lawmakers. Female lawmakers who are women of color have to overcome a “double disadvantage” based in stereotypes on their race and/or ethnicity and stereotypes about gender.

**3. Describe the key dependent variable(s) specifying how they will be measured.** The dependent variable is whether a state legislator responds to an email communication from a concerned citizen. Other dependent variables include the length of the response, whether the response came from a staffer as well as metrics about the quality of the response.

**4. How many and which conditions will participants be assigned to?** All state legislators in the U.S. will be sent an email about a policy issue written from a concerned citizen. We will analyze the data by comparing the responsiveness of female relative to male state legislators, and women of color compared to white women state lawmakers. Because there are many more male lawmakers serving in state governments we will use a sample matching method to ensure comparisons across sex and race are balanced based on seniority of the lawmaker, partisanship, the state of residence, etc.

**5. Specify exactly which analyses you will conduct to examine the main question/hypothesis.** We will use t-test comparisons, ANOVA models, and regression (OLS and/or logit).

**6. Describe exactly how outliers will be defined and handled and your precise rule(s) for excluding observations.** We plan to use a sample matching method to ensure balance in our comparisons of female and male lawmakers and women of color compared to white women. Our samples will be balanced according to factors such as seniority and partisanship. We have obtained email addresses for approximately 90% of state lawmakers, the 10% for whom we cannot find an email address will not be included in the study.

**7. How many observations will be collected or what will determine sample size?** 7000, because that is the number of state lawmakers for whom we found email addresses.

**Appendix 3: Additional Information about Data Collection**

**Collecting State Legislator Email Addresses:** We collected state legislator email addresses in several stages. First, we used Project Vote Smart to gather a list of all state legislators in the US and we recorded all the information available through Project Vote Smart including the legislative chamber the member serves in, the year first elected, and an email address if the email address. Because the impetus for this project is based on how responsive legislators are to constituents we wanted to confirm how available the legislator emails are to constituents. We checked the state government websites to confirm that email addresses were available, and when they were not we did a quick google search for the lawmaker’s email address on other social media outlets. We were not able to find email addresses for 413 lawmakers. We estimated a logit model predicting the likelihood of finding a valid email address for each lawmaker in our dataset based on sex, race, partisanship, legislative chamber, professionalism, and other factors. Table A3 displays the results below. We found that we were less likely to find an address for a Republican relative to a Democratic lawmaker, and less likely to find a valid email address for more senior legislators. Candidate sex likely has a significant effect simply because men make-up 75% of the sample, and we do not anticipate the lower probability of finding an address for a male lawmaker to be a problem. The 322 lawmakers for whom we could not find addresses constitute only 4.45% of the sample.

**Table A3: Probability of Not Finding an Email Address**

|  |  |
| --- | --- |
|  | No email |
|  |  |
| Female Legislator | -0.332\* |
|  | (0.179) |
|  |  |
| Legislator Race | 0.247 |
|  | (0.264) |
|  |  |
| Democratic Legislator | -0.237\* |
|  | (0.135) |
|  |  |
| Upper Chamber | -0.345 |
|  | (0.365) |
|  |  |
| Legislative Professionalism | 0.0940(0.927) |
|  |
| Region | 0.156 |
|  | (0.116) |
|  |  |
| Legislator Seniority | 0.0116 |
|  | (0.00873) |
|  |  |
| Majority Minority District | -0.139(0.286) |
|  |
| Vote Proportion Last Election | 0.825(0.521) |
|  |
| Constant | -3.753\*\*\* |
|  | (0.406) |
| Observations | 7242 |
| Pseudo *R*2 | 0.016 |

Standard errors in parentheses

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

Standard errors in parentheses

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Coding the Sex & Race of Legislators:** We coded the sex of lawmakers based on both the gendered names and the gendered photos of lawmakers. We used the professional photos of lawmakers available on official state legislature websites. When an official photo was not available we looked for candidate photos, or other markers of candidate sex, on social media and in news coverage of that particular legislator Using this approach, we were able to identify the sex of 7,229 legislators. We matched our final percentages of women in each state legislature with data from the National Conference of State Legislatures and the Center for American Women and Politics. Both of these organizations collect data on women’s representation at the state level and provide that data by state and chamber.

After gathering the basic data on lawmakers, we next recorded whether the lawmaker belonged to a racial or ethnic minority group. We coded for lawmaker race and ethnicity using either the state legislature’s website or that of the individual elected official. To confirm the race and ethnicity of Black and Latina/o state legislators we cross-referenced the lawmakers with the National Black Caucus of State Legislators, and the National Association of Latina/o Elected Officials. Both organizations collect the identifying information of elected officials who identify as either Black or Latina/o. While there is a National Asian Pacific American Caucus of State Legislators, they currently do not have a list of state legislators who identify under the racial label (<http://www.ncsl.org/research/state-tribal-institute/2014-napacsl-annual-meeting.aspx>). However, it was possible to gain identifying information for most of the legislators due to them mentioning their Asian-American ancestry on their respective websites.

In total, we coded for the following categories: male and female for Asian American/Pacific Islander, Black, Latina/o, Native American, and White. To make sure we have enough statistical power to compare within sex and across racial status as well as within racial status and across sex (e.g., comparing women of color to men of color) we collapsed the racial categories in our analyses.

The lawmakers we identified as white, or as not belonging to a racial or ethnic minority, may, in fact, belong to a minority group but are not identified in any of the databases we searched and do not disclose these identities on their websites or other public materials.

|  |
| --- |
| **Table A4: Racial & Ethnic Minorities in State Legislatures** |
| **Race/Ethnicity** | **% of Sample** |
| White | 85% |
| Black  | 9% |
| Latinx | 4% |
| Asian | 1% |
| Native American | <1% |
| Other racial and ethnic minorities | <1% |

**Appendix 4: Full Models and Robustness Checks**

**Table A5: Differences in Legislator Response Patterns**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Substantive Response | Substantive Response, Party | Length | Length, Party |
|  |  |  |  |  |
| Female Legislator | 0.182\*\*\* | 0.284\*\*\* | 2.370\*\* | 2.749\* |
|  | (0.0615) | (0.0939) | (0.962) | (1.518) |
|  |  |  |  |  |
| Democratic Legislator | 0.587 | 0.643 | 3.459 | 3.642 |
|  | (0.724) | (0.731) | (7.022) | (7.032) |
|  |  |  |  |  |
| Republican Legislator | 0.447 | 0.449 | -2.097 | -2.091 |
|  | (0.737) | (0.742) | (6.832) | (6.843) |
|  |  |  |  |  |
| Female Legislator x Democratic Legislator | -- | -0.194(0.152) | -- | -0.691(2.515) |
|  |  |  |
| Region | -0.110 | -0.110 | -1.381 | -1.379 |
|  | (0.0874) | (0.0878) | (1.258) | (1.259) |
|  |  |  |  |  |
| From a Staff Member | 6.902\*\*\* | 6.901\*\*\* | 46.14\*\*\* | 46.13\*\*\* |
|  | (0.735) | (0.734) | (3.729) | (3.722) |
|  |  |  |  |  |
| Legislator Race | -0.723\*\*\* | -0.721\*\*\* | -7.106\*\*\* | -7.104\*\*\* |
|  | (0.198) | (0.198) | (2.334) | (2.334) |
|  |  |  |  |  |
| Majority-Minority District | -0.347\*\* | -0.348\*\* | -5.420\*\*\* | -5.421\*\*\* |
|  | (0.146) | (0.146) | (1.602) | (1.601) |
|  |  |  |  |  |
| Vote Proportion Last Election | 0.000175(0.205) | 0.00138(0.205) | -1.622(2.904) | -1.611(2.900) |
|  |
| Constant | -1.482\* | -1.506\* | 18.56\*\* | 18.48\*\* |
|  | (0.791) | (0.798) | (7.482) | (7.471) |
| Observations | 6779 | 6779 | 6779 | 6779 |
| Pseudo *R*2 */R*2 | 0.162 | 0.162 | 0.0830 | 0.0830 |

Standard errors in parentheses

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

*Note:* Standard errors in parentheses, \* p<0.10, \*\* p<0.05, \*\*\* p<0.01, Chamber and legislative professionalism are excluded from the models with CEM because these are variables used to match legislators.

**Table A6: Time to Respond, Hours**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Legislator Sex, Hazard Model | Sex & Party, Hazard Model | Legislator Sex, OLS | Sex & Party, OLS |
| Female Legislator | -0.0588 | 0.0164 | 1.237 | 1.141 |
|  | (0.0500) | (0.0944) | (1.238) | (1.919) |
|  |  |  |  |  |
| Democratic Legislator | 0.459 | 0.498 | -1.359 | -1.406 |
|  | (0.403) | (0.404) | (9.350) | (9.430) |
|  |  |  |  |  |
| Republican Legislator | 0.503 | 0.499 | -3.495 | -3.496 |
|  | (0.404) | (0.399) | (9.193) | (9.194) |
|  |  |  |  |  |
| Female Legislator x Democratic Legislator | -- | -0.147(0.130) | -- | 0.175(2.530) |
|  |  |  |  |  |
| Region | -0.0508 | -0.0508 | -0.891 | -0.891 |
|  | (0.0407) | (0.0408) | (0.776) | (0.777) |
|  |  |  |  |  |
| From a Staff Member | 0.0296 | 0.0320 | 37.43\*\*\* | 37.43\*\*\* |
|  | (0.0849) | (0.0850) | (4.365) | (4.369) |
|  |  |  |  |  |
| Legislator Race | -0.00949 | -0.0112 | -3.596\*\* | -3.596\*\* |
|  | (0.0902) | (0.0901) | (1.529) | (1.529) |
|  |  |  |  |  |
| Legislative Professionalism | -2.206\*\*\* | -2.225\*\*\* | -- | -- |
|  | (0.451) | (0.453) |  |  |
|  |  |  |  |  |
| Chamber | -0.0584 | -0.0596 | -- | -- |
|  | (0.0635) | (0.0640) |  |  |
|  |  |  |  |  |
| Majority-Minority District | 0.00264 | 0.00634 | -2.063 | -2.063 |
|  | (0.0752) | (0.0742) | (1.301) | (1.302) |
|  |  |  |  |  |
| Vote Proportion Last Election | 0.236(0.174) | 0.238(0.175) | -0.00950(3.075) | -0.0123(3.071) |
|  |  |  |  |  |
| Constant | -- | -- | 13.07 | 13.09 |
|  |  |  | (9.608) | (9.628) |
| Observations | 1695 | 1695 | 6779 | 6779 |
| Adjusted *R*2 |  |  | 0.047 | 0.047 |

*Note:* Standard errors in parentheses, \* p<0.10, \*\* p<0.05, \*\*\* p<0.01, Chamber and legislative professionalism are excluded from the OLS models with CEM because these are variables used to match legislators.

**Table A7: Differences in Legislator Response Patterns, Female Legislator by Vote Share**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Substantive Response | Length | Time |
|  |  |  |  |
| Female Legislator | 0.357\* | 7.417\*\* | 1.852 |
|  | (0.184) | (2.888) | (3.470) |
|  |  |  |  |
| Vote Proportion Last Election | 0.0669(0.223) | 0.142(2.926) | 0.205(2.818) |
|  |
| Female Legislator x Vote Proportion Last Election | -0.262(0.277) | -7.391\*(3.911) | -0.900(4.314) |
|  |
| Democratic Legislator | 0.587 | 3.458 | -1.359 |
|  | (0.727) | (7.101) | (9.357) |
|  |  |  |  |
| Republican Legislator | 0.447 | -2.087 | -3.493 |
|  | (0.741) | (6.913) | (9.200) |
|  |  |  |  |
| Region | -0.110 | -1.378 | -0.890 |
|  | (0.0874) | (1.259) | (0.776) |
|  |  |  |  |
| From a Staff Member | 6.903\*\*\* | 46.14\*\*\* | 37.43\*\*\* |
|  | (0.735) | (3.720) | (4.364) |
|  |  |  |  |
| Legislator Race | -0.718\*\*\* | -6.983\*\*\* | -3.581\*\* |
|  | (0.198) | (2.324) | (1.515) |
|  |  |  |  |
| Majority-Minority District | -0.345\*\* | -5.353\*\*\* | -2.055 |
|  | (0.146) | (1.605) | (1.295) |
|  |  |  |  |
| Constant | -1.529\* | 17.28\*\* | 12.91 |
|  | (0.800) | (7.609) | (9.562) |
| Observations | 6779 | 6779 | 6779 |
| Pseudo *R*2/ *R*2 | 0.162 | 0.0833 | 0.0486 |

*Note:* Standard errors in parentheses, \* p<0.10, \*\* p<0.05, \*\*\* p<0.01, Chamber and legislative professionalism are excluded from the models with CEM because these are variables used to match legislators.

**Table A8: The Intersection of Race and Sex on Legislator Responsiveness**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Response, Race | Length, Race | Time, Race |
|  |  |  |  |
| Female Legislator | 0.233\*\*\* | 3.378\*\*\* | 1.315 |
|  | (0.0634) | (1.119) | (1.399) |
|  |  |  |  |
| Legislator Race | -0.557\*\* | -5.229\* | -3.451\* |
|  | (0.228) | (2.622) | (1.845) |
|  |  |  |  |
| Female Legislator x Legislator Race | -0.474\*(0.258) | -5.373\*\*(2.366) | -0.414(2.511) |
|  |
| Democratic Legislator | 0.586 | 3.443 | -1.360 |
|  | (0.727) | (7.073) | (9.354) |
|  |  |  |  |
| Republican Legislator | 0.453 | -1.972 | -3.485 |
|  | (0.741) | (6.883) | (9.202) |
|  |  |  |  |
| Region | -0.110 | -1.382 | -0.891 |
|  | (0.0873) | (1.255) | (0.776) |
|  |  |  |  |
| From a Staff Member | 6.912\*\*\* | 46.18\*\*\* | 37.43\*\*\* |
|  | (0.728) | (3.714) | (4.366) |
|  |  |  |  |
| Majority-Minority District | -0.346\*\* | -5.406\*\*\* | -2.062 |
|  | (0.145) | (1.590) | (1.299) |
|  |  |  |  |
| Vote Proportion Last Election | 0.00668(0.204) | -1.481(2.882) | 0.00137(3.061) |
|  |
| Constant | -1.504\* | 18.16\*\* | 13.04 |
|  | (0.795) | (7.525) | (9.612) |
| Observations | 6779 | 6779 | 6779 |
| Adjusted *R*2 |  | 0.082 | 0.047 |
| Pseudo *R*2 | 0.163 |  |  |

 *Note:* Standard errors in parentheses

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

|  |
| --- |
| **Table A9: Women of Color Sub-Groups** |
| **Legislator** | **Frequency (Percentage)** | **Number Responded****(Percentage Responded)** |
| Black Women | 257 (3.52%) | 44 (0.603%) |
| Latina Women | 102 (1.40%) | 12 (0.165%) |
| Asian American/Pacific Islander Women | 25 (0.343%) | 8 (0.102%) |
| Native American/Native Alaskan Women | 16 (0.220%) | 1 (0.014%) |
| Black Men | 410 (5.62%) | 50 (0.686%) |
| Latino Men | 177 (2.427%) | 20 (0.274%) |
| Asian American/Pacific Islander Men | 66 (0.905%) | 22 (0.302%) |
| Native American/Native Alaskan Men | 16 (0.220%) | 7 (0.096%) |
|  |  |  |

**Table A10: Alternative Accounts for Minority Responsiveness**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Race, Gender, Majority-Minority | Race, Gender, Professionalism | Race, Gender, Region | Race, Gender, Democrat | Race, Gender, Republican | Race, Gender, Vote Proportion |
|  |  |  |  |  |  |  |
| Majority-Minority District | -0.366\*(0.187) | -0.336\*\*(0.155) | -0.346\*\*(0.146) | -0.345\*\*(0.143) | -0.343\*\*(0.143) | -0.345\*\*(0.146) |
|  |  |  |  |  |  |  |
| Legislator Race | -0.523\*\* | -0.748\*\* | -1.017\* | -0.440 | -0.612\*\* | -0.616 |
|  | (0.249) | (0.337) | (0.600) | (0.476) | (0.245) | (0.470) |
|  |  |  |  |  |  |  |
| Majority-Minority District x Legislator Race | -0.0464(0.302) |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Female Legislator | 0.236\*\*\* | 0.291\*\* | 0.130 | 0.296\*\*\* | 0.148 | 0.345\* |
|  | (0.0695) | (0.131) | (0.123) | (0.0946) | (0.101) | (0.189) |
|  |  |  |  |  |  |  |
| Majority-Minority District x Female Legislator | -0.0214(0.200) |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Legislator Race x Female Legislator | -0.853\*\*(0.349) | 0.496(0.575) | -0.140(0.671) | -1.025(1.120) | -0.354(0.290) | -0.360(0.673) |
|  |
| Majority-Minority District x Legislator Race x Female Legislator | 0.625(0.492) |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Democratic Legislator | 0.574(0.720) | 0.644(0.722) | 0.590(0.723) | 0.632(0.732) | 0.601(0.725) | 0.585(0.729) |
|  |  |
| Republican Legislator | 0.440 | 0.492 | 0.460 | 0.459 | 0.418 | 0.453 |
|  | (0.734) | (0.733) | (0.737) | (0.745) | (0.736) | (0.743) |
|  |  |  |  |  |  |  |
| Region | -0.109 | -0.134 | -0.134 | -0.110 | -0.109 | -0.110 |
|  | (0.0871) | (0.0856) | (0.0872) | (0.0875) | (0.0875) | (0.0877) |
|  |  |  |  |  |  |  |
| From a Staff Member | 6.922\*\*\* | 7.128\*\*\* | 6.901\*\*\* | 6.916\*\*\* | 6.917\*\*\* | 6.914\*\*\* |
|  | (0.730) | (0.646) | (0.725) | (0.727) | (0.727) | (0.729) |
|  |  |  |  |  |  |  |
| Vote Proportion Last Election | 0.00364(0.203) | 0.174(0.209) | 0.0178(0.204) | 0.00701(0.203) | 0.00764(0.203) | 0.0466(0.228) |
|  |
|  |  |  |  |  |  |  |
| Legislative Professionalism |  | -1.545\*\*(0.743) |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Legislator Race x Legislative Professionalism |  | 1.098(1.242) |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Female Legislator x Legislative Professionalism |  | -0.407(0.576) |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Legislator Race x Female Legislator x Legislative Professionalism |  | -5.015\*(2.677) |  |  |  |  |
|  |  |  |  |  |  |
| Legislator Race x Region |  |  | 0.170(0.250) |  |  |  |
|  |  |  |  |  |  |
| Female Legislator x Region |  |  | 0.0454(0.0533) |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Legislator Race=1 # Female Legislator=1 # Region |  |  | -0.128(0.223) |  |  |  |
|  |  |  |  |  |  |  |
| Legislator Race x Democratic Legislator |  |  |  | -0.158(0.533) |  |  |
|  |  |  |  |  |  |
| Female Legislator x Democratic Legislator |  |  |  | -0.134(0.155) |  |  |
|  |  |  |  |  |  |
| Legislator Race x Female Legislator x Democratic Legislator |  |  |  | 0.650(1.264) |  |  |
|  |  |  |  |  |  |
| Legislator Race x Republican Legislator  |  |  |  |  | 0.230(0.538) |  |
|  |  |  |  |  |  |
| Female Legislator x Republican Legislator |  |  |  |  | 0.163(0.153) |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Legislator Race x Female Legislator x Republican Legislator |  |  |  |  | -0.741(1.264) |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Legislator Race x Vote Proportion Last Election  |  |  |  |  |  | 0.0712(0.706) |
|  |  |  |  |  |  |  |
| Female Legislator x Vote Proportion Last Election |  |  |  |  |  | -0.170(0.277) |
|  |  |  |  |  |  |  |
| Legislator Race x Female Legislator x Vote Proportion Last Election |  |  |  |  |  | -0.123(1.004) |
|  |  |  |  |  |  |
| Constant | -1.488\* | -1.339\* | -1.462\* | -1.524\* | -1.488\* | -1.532\* |
|  | (0.787) | (0.794) | (0.791) | (0.800) | (0.790) | (0.803) |
| Observations | 6779 | 6779 | 6779 | 6779 | 6779 | 6779 |
| Pseudo *R*2 | 0.163 | 0.168 | 0.163 | 0.163 | 0.163 | 0.163 |

Standard errors in parentheses

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Appendix 5: Content Analysis Information**

|  |
| --- |
| **Table A11: Feminine and Masculine Visual Coding Instrument** |
| **Stereotype Category** | **Characteristic** | **Examples** |
| **Communal Messages** | *Community Focus* | Use of inclusive language like we, our; References to other constituents with the same problem  |
| *Interpersonal connections* | Requesting to personally meet with or talk to the constituent, providing phone number for contact  |
| *Discussion of Family, Children*  | Any mention of family, either the legislator’s or the letter-writers such as “My husband/wife…” |
| *Outward focused problem-solving approach* | Let’s solve this problem together, or we are solving this problem  |
| *Displays of Empathy, Caregiving* | Validation of the problem: I understand, I’m sorry, etc.  |
| **Agentic Messages** | *Individual Focus*  | Use of personal pronouns over collective pronouns |
| *Passing the Problem* | Blaming other legislative actors, institutions, parties |
| *Credit Claiming* | I passed legislation, secured money, etc.  |
| *Inward focused problem solving* | I will fix this. |
| *Distancing* | Lawmaker assumes email sender does not live in district and refers them to their own representative. They will say something like “contact the rep in your district.” |
| *Note:* Two coders independently read each email message, and when disagreements occurred a third coder read the message and made an assessment. We assessed intercoder reliability, and the minimum level of reliability for our communal and agentic items was kappa’s α=0.85. |

**Table A12: Differences in Communal and Agentic Styles**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Probability of Communal Response | Probability of Communal Response | Number of Communal Items | Number of Agentic Items |
|  |  |  |  |  |
| Female Legislator | 0.212\*\*\* | 0.222\*\*\* | 0.0372\*\*\* | 0.0304 |
|  | (0.0794) | (0.0821) | (0.0130) | (0.0188) |
|  |  |  |  |  |
| Democratic Legislator | 0.428 | 0.173 | 0.0450 | 0.0289 |
|  | (0.385) | (0.363) | (0.0526) | (0.0762) |
|  |  |  |  |  |
| Republican Legislator | 0.270 | -0.202 | 0.0113 | -0.0828 |
|  | (0.385) | (0.363) | (0.0525) | (0.0760) |
|  |  |  |  |  |
| Region | -0.126\*\*\* | -0.0771\*\* | -0.0209\*\*\* | -0.0151\* |
|  | (0.0340) | (0.0352) | (0.00540) | (0.00782) |
|  |  |  |  |  |
| From a Staff Member | 2.808\*\*\* | 1.651\*\*\* | 0.631\*\*\* | 0.394\*\*\* |
|  | (0.120) | (0.112) | (0.0236) | (0.0342) |
|  |  |  |  |  |
| Legislator Race | -0.627\*\*\* | -0.789\*\*\* | -0.0762\*\*\* | -0.163\*\*\* |
|  | (0.131) | (0.142) | (0.0185) | (0.0269) |
|  |  |  |  |  |
| Majority-Minority District | -0.271\*\*\*(0.0973) | -0.384\*\*\*(0.105) | -0.0449\*\*\*(0.0146) | -0.0636\*\*\*(0.0212) |
|  |  |  |  |  |
| Vote Proportion Last Election | 0.131(0.146) | -0.116(0.152) | 0.0245(0.0234) | -0.0529(0.0339) |
|  |
| Constant | -1.873\*\*\* | -1.572\*\*\* | 0.188\*\*\* | 0.357\*\*\* |
|  | (0.397) | (0.376) | (0.0547) | (0.0793) |
| Observations | 6779 | 6779 | 6781 | 6781 |
| Adjusted *R*2 |  |  | 0.102 | 0.032 |
| Pseudo *R*2 | 0.109 | 0.051 |  |  |

*Note:* Standard errors in parentheses, \* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table A13: Differences in Communal and Agentic Styles, Race and Sex**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Probability of Communal Response | Probability of Communal Response | Number of Communal Items | Number of Agentic Models |
|  |  |  |  |  |
| Female Legislator | 0.268\*\*\* | 0.252\*\*\* | 0.0489\*\*\* | 0.0388\* |
|  | (0.0845) | (0.0868) | (0.0144) | (0.0208) |
|  |  |  |  |  |
| Legislator Race | -0.463\*\*\* | -0.684\*\*\* | -0.0544\*\* | -0.147\*\*\* |
|  | (0.155) | (0.171) | (0.0218) | (0.0316) |
|  |  |  |  |  |
| Female Legislator x Legislator Race | -0.448\*(0.243) | -0.272(0.264) | -0.0623\*(0.0330) | -0.0445(0.0479) |
|  |
| Democratic Legislator | 0.425 | 0.171 | 0.0448 | 0.0288 |
|  | (0.385) | (0.363) | (0.0526) | (0.0762) |
|  |  |  |  |  |
| Republican Legislator | 0.277 | -0.199 | 0.0127 | -0.0817 |
|  | (0.385) | (0.363) | (0.0525) | (0.0760) |
|  |  |  |  |  |
| Region | -0.126\*\*\* | -0.0774\*\* | -0.0209\*\*\* | -0.0151\* |
|  | (0.0340) | (0.0352) | (0.00540) | (0.00782) |
|  |  |  |  |  |
| From a Staff Member | 2.814\*\*\* | 1.654\*\*\* | 0.631\*\*\* | 0.394\*\*\* |
|  | (0.120) | (0.112) | (0.0236) | (0.0342) |
|  |  |  |  |  |
| Majority-Minority District | -0.271\*\*\* | -0.384\*\*\* | -0.0447\*\*\* | -0.0634\*\*\* |
|  | (0.0973) | (0.105) | (0.0146) | (0.0212) |
|  |  |  |  |  |
| Vote Proportion Last Election | 0.141 | -0.112 | 0.0262 | -0.0517 |
|  | (0.146) | (0.152) | (0.0234) | (0.0339) |
|  |  |  |  |  |
| Constant | -1.897\*\*\* | -1.584\*\*\* | 0.183\*\*\* | 0.353\*\*\* |
|  | (0.397) | (0.377) | (0.0548) | (0.0794) |
| Observations | 6779 | 6779 | 6781 | 6781 |
| Adjusted *R*2 |  |  | 0.102 | 0.031 |
| Pseudo *R*2 | 0.110 | 0.052 |  |  |

Standard errors in parentheses

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Appendix 6: The Effects of Female Responsiveness in State Legislative Chambers**

**Table A14: Institutional Effects of Female & Male Responsiveness**

|  |  |  |
| --- | --- | --- |
|  | Lower Chamber | Upper Chamber |
|  |  |  |
| Female Legislator | 0.239 | 0.375 |
|  | (0.168) | (0.307) |
|  |  |  |
| Women’s Response Rate | 1.324\*\* | 0.576\* |
|  | (0.601) | (0.341) |
|  |  |  |
| Men’s Response Rate | 4.131\*\*\* | 5.079\*\*\* |
|  | (0.568) | (0.616) |
|  |  |  |
| Female x Women’s Response Rate | 3.283\*\*\*(0.577) | 3.623\*\*\*(0.637) |
|  |  |  |
| Female x Men’s Response Rate | -3.883\*\*\*(0.571) | -4.452\*\*\*(0.707) |
|  |  |  |
| Democratic Legislator | -0.360 | 0.523 |
|  | (0.470) | (1.219) |
|  |  |  |
| Republican Legislator | -0.365 | 0.445 |
|  | (0.450) | (1.219) |
|  |  |  |
| Legislator Race | -0.717\*\*\* | -0.578\*\* |
|  | (0.144) | (0.290) |
|  |  |  |
| Region | -0.0572\* | -0.113\* |
|  | (0.0322) | (0.0676) |
|  |  |  |
| Legislative Professionalism | -0.545 | -0.919 |
|  | (0.384) | (0.667) |
|  |  |  |
| Legislator Seniority | -0.0133\*\* | -0.0245\*\*\* |
|  | (0.00652) | (0.00857) |
|  |  |  |
| From a Staff Member | 6.291\*\*\* | -- |
|  | (0.698) |  |
|  |  |  |
| Minority-Majority District | -0.0824 | -0.322 |
|  | (0.120) | (0.243) |
|  |  |  |
| Vote Proportion Last Election | 0.0396(0.180) | -0.295(0.328) |
|  |  |  |
| Constant | -2.007\*\*\* | -2.513\*\* |
|  | (0.476) | (1.148) |
| Observations | 4982 | 1668 |
| Pseudo *R*2 | 0.194 | 0.104 |

Standard errors in parentheses

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table A15: Differences in Legislator Response Patterns, by Chamber**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Substantive Response, Lower | Substantive Response, Upper | Length, Lower | Length, Upper | Time, Lower | Time, Upper |
| Female Legislator | 0.145\*\* | 0.323\*\* | 1.499 | 4.130 | 0.0856 | 4.492\* |
|  | (0.0590) | (0.149) | (1.054) | (2.683) | (1.353) | (2.576) |
|  |  |  |  |  |  |  |
| Democratic Legislator | 0.580 | 0.285 | 3.030 | 10.01\* | -3.510 | 0.771 |
|  | (0.757) | (0.897) | (8.146) | (5.816) | (11.94) | (8.396) |
|  |  |  |  |  |  |  |
| Republican Legislator | 0.464 | 0.0509 | -2.982 | 4.837 | -5.526 | -3.311 |
|  | (0.768) | (0.905) | (7.979) | (4.784) | (11.87) | (7.861) |
|  |  |  |  |  |  |  |
| Region | -0.117 | -0.0222 | -1.641 | -0.0312 | -0.322 | -2.479\*\*\* |
|  | (0.0854) | (0.106) | (1.368) | (1.406) | (0.785) | (0.890) |
|  |  |  |  |  |  |  |
| From a Staff Member | 6.474\*\*\* | -- | 43.74\*\*\* | 50.49\*\*\* | 33.85\*\*\* | 43.26\*\*\* |
|  | (0.736) |  | (3.871) | (5.158) | (3.408) | (9.319) |
|  |  |  |  |  |  |  |
| Legislator Race | -0.685\*\*\* | -0.831\*\* | -7.725\*\*\* | -4.733 | -3.102\* | -5.593\* |
|  | (0.200) | (0.336) | (2.359) | (3.367) | (1.748) | (2.983) |
|  |  |  |  |  |  |  |
| Majority-Minority District | -0.341\*\* | -0.405\* | -6.279\*\*\* | -2.474 | -2.380 | -2.194 |
|  | (0.144) | (0.230) | (1.891) | (1.904) | (1.696) | (2.776) |
|  |  |  |  |  |  |  |
| Vote Proportion in Last Election | 0.184(0.216) | -0.648\*(0.352) | 0.383(3.659) | -7.673\*(4.515) | 1.830(3.220) | -9.441\*\*(4.524) |
|  |
| Constant | -1.532\* | -1.128 | 19.93\*\* | 8.807\* | 13.13 | 22.03\*\*\* |
|  | (0.823) | (0.892) | (8.879) | (4.717) | (12.16) | (5.560) |
| Observations | 5086 | 1656 | 5086 | 1782 | 5086 | 1782 |
| Pseudo/ Adjusted *R*2 | 0.145 | 0.022 | 0.065 | 0.135 | 0.035 | 0.082 |

Standard errors in parentheses

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

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