Supplemental Online Appendix for

“Revisiting the Gender Gap in Political Knowledge”

This appendix contains details on the treatments and knowledge measures employed in Studies 1 and 2 as well as supplemental analyses that are referenced in the manuscript. With respect to the auxiliary analyses, Figures A1a, A1b, A2a, and A2b show the results for the student and Amazon Mechanical Turk (MTurk) samples which were combined in Study 1 (corresponding to Figures 2 and 3 in the paper). Given the similar patterns, combining the samples helps to improve statistical power. Tables A1 and A2 report demographic characteristics of the samples in Studies 1 and 2. Successful balance/randomization tests are reported in the notes to the tables. Tables A3 and A4 display the story selection rates for men and women in Studies 1 and 2.
Design for the Story Selection Informing Experiments in Studies 1 and 2

All informing experiments used a story selection question with three placebos (or four in the control condition) as well as a treatment story for those subjects who were randomly selected to receive it. The placebos, treatments, and order of the stories varied across the experiments, but all followed the basic template below. Each informing experiment began with the common question wording, “If you had to pick one, which of the following news stories would you want to read?” Subjects were then shown four possible stories and were asked which they would select. The appendix contains the actual pictures, wording, and other details on the experiments.

**CONTROL CONDITION**

<table>
<thead>
<tr>
<th>1</th>
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<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>PICTURE OF PLACEBO STORY A HERE</td>
<td>PICTURE OF PLACEBO STORY B HERE</td>
<td>PICTURE OF PLACEBO STORY C HERE</td>
<td>PICTURE OF PLACEBO STORY D HERE</td>
</tr>
</tbody>
</table>

In experiment 1, placebo stories A, B, and C were symbols for the red cross, seat belts, or recycling, respectively. Placebo story D was a photo of Tom Corbett (then Governor of Pennsylvania) or Kerry Healey (former Lt. Governor of Massachusetts). In experiment 2, the placebo stories A, C, and D were pictures of a tropical island, a television studio, or prescription drugs. Placebo story B was a picture of the Supreme Court (without the treatment information) or a picture of the U.S. Congress (again without the treatment).

**TREATMENT CONDITION**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
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</tr>
</thead>
<tbody>
<tr>
<td>PICTURE OF PLACEBO STORY A HERE</td>
<td>PICTURE OF PLACEBO STORY B HERE</td>
<td>PICTURE OF PLACEBO STORY C HERE</td>
<td>PICTURE OF TREATMENT STORY HERE</td>
</tr>
</tbody>
</table>

In experiment 1, the treatment stories were either pictures of New Jersey Governor Chris Christie, Secretary of State nominee Massachusetts Senator John Kerry, a graphic of the state of Washington, a graph depicting unemployment rates over time, or (for a re-randomized group) a photo of newly elected Massachusetts senator Elizabeth Warren. In the first module of experiment 2, the treatment story, occupying the second story position, was a picture of all three women on the U.S. Supreme Court in 2015. The second module of experiment 2 (on a re-randomized sample) featured picture of the share of 54 seats in the U.S. Senate that were controlled by Republicans in 2015 in the third story position.
Figure 1. Design Schematic for Informing Experiments with Story Alternatives

Panel A. Study 1 Story Alternatives for Christie, Kerry, Same Sex, and Unemployment

If you had to pick one, which of the following news stories would you want to read?

1. A blood donation drive by the American Red Cross
2. Seatbelt usage trends over the last ten years
3. Participation in recycling programs internationally
4a. A biographical sketch of Governor Tom Corbett of Pennsylvania
4b. A biographical sketch of Governor Chris Christie of New Jersey
4c. President Obama’s nomination of Massachusetts Senator John Kerry to be Secretary of State
4d. Passage of a same sex marriage law in the State of Washington
4e. Unemployment declining from nearly 10% three years ago to under 8%

Panel B. Study 1 Story Alternatives for Warren Experiment

1. A look at the Boston Celtics professional basketball team
2. A recent voyage of the USS Constitution in Massachusetts
3. How Boston digs out after a massive snow storm
4a. Former Lt. Governor Kerry Healey’s possible run for the U.S. Senate in Massachusetts
4b. Elizabeth Warren’s recent election to the U.S. Senate in Massachusetts
Panel C. Study 2 Story Alternatives for Supreme Court Experiment

If you had to pick one, which of the following news stories would you want to read?

1. Travel to a tropical island
2a. Background on all Supreme Court members
3. A talk show featuring comedians
4. The success of a new prescription drug

[CHOICES ABOVE OR STORY BELOW RANDOMLY ASSIGNED INSTEAD OF #2a]

2b. All three women on the Supreme Court

Panel D. Study 2 Story Alternatives for Political Party Experiment

If you had to pick one, which of the following news stories would you want to read?

1. The music from a band on a concert tour
2. Participation in recycling programs internationally
3a. A story on the members of the U.S. Senate
4. A report on weather conditions around the nation

[CHOICES ABOVE OR STORY BELOW RANDOMLY ASSIGNED INSTEAD OF #3a]

3b. A story on the 54 Republicans the in U.S. Senate
Knowledge Outcome Measures for Studies 1 & 2

The knowledge questions in Study 1 (on Chris Christie, John Kerry, same sex marriage in Washington, the unemployment rate, and Elizabeth Warren) were identical to those that appeared on national survey conducted by the Pew Research Center from January 18-24, 2013. Likewise, the knowledge questions for Study 2 (on the female composition of the U.S. Supreme Court and the partisan composition of the U.S. Senate) were the same as those that appeared on a national survey conducted by Pew Research Center from March 10-April 6, 2015. Response options to the knowledge questions were randomized. The order of the knowledge questions also was randomized for the first four items in Study 1. The wording and visual layout of the knowledge items for Studies 1 & 2 are shown below (with correct answers indicated in ALL CAPS).

Knowledge Outcome Questions in Study 1

Which is President Obama’s nominee to be the new Secretary of State?

<1> 1       [CORRECT]
<2> 2
<3> 3
<4> 4

Who is this?

<1> Chris Christie       [CORRECT]
<2> Scott Walker
<3> Newt Gingrich
<4> Rush Limbaugh
In which of these states did voters in 2012 approve the legalization of same-sex marriage?

<1> 1
<2> 2
<3> 3
<4> 4 [CORRECT]

This graph shows the trend in what national statistic?

<1> The unemployment rate [CORRECT]
<2> The inflation rate
<3> The corporate tax rate
<4> The high school graduation rate

Which one is Elizabeth Warren, the new senator from Massachusetts?

<1> 1
<2> 2
<3> 3 [CORRECT]
<4> 4
There are nine justices on the Supreme Court of the United States. How many are women?

Which of the following shows the number of seats each party holds in the U.S. Senate?
Figure A2a. Gender Gaps in Knowledge for Study 1, Student Sample Only

Panel A: Identify NJ Gov. Christie
Learning Rate Difference for Women
\[ \text{DID} = \Delta_\varphi - \Delta_\delta = .18^# - .02 = .16 \]

Panel B: Identify Sec. of State Kerry
Learning Rate Difference for Women
\[ \text{DID} = \Delta_\varphi - \Delta_\delta = .26^{**} - .16^# = .10 \]

Panel C: Same Sex Marriage
Learning Rate Difference for Women
\[ \text{DID} = \Delta_\varphi - \Delta_\delta = .17^* - .10 = .07 \]

Panel D: Trends in Unemployment
Learning Rate Difference for Women
\[ \text{DID} = \Delta_\varphi - \Delta_\delta = .12 - .13^* = -.01 \]

Note: The differences in levels of knowledge between men (= \( \delta \)) and women (= \( \varphi \)) noted above the column bars may not reflect the reported change (shown as \( \Delta \)) due to rounding.

\( **p < .01 \), \( *p < .05 \), \( #p < .10 \), two-tailed t-tests
Figure A2b. Gender Gaps in Knowledge in Study 1, Student Sample Only

Identify Massachusetts Senator Elizabeth Warren

Learning Rate Difference for Women

\[
\text{Difference-in-Difference (DID)} = (\Delta_{\text{Treatment}} - \Delta_{\text{Control}}) \times (\Delta_{\text{Treatment}} - \Delta_{\text{Control}}) = \text{.48}^{**} - \text{.18}^{**} = \text{+.30}^{**}
\]

Gender Gap

\[
\text{Gender Gap} = \Delta_{\text{♀}} - \Delta_{\text{♂}} = \text{+.22}^{**}
\]

Note: The differences in levels of knowledge between men (♂) and women (♀) noted above the column bars may not reflect the reported change (shown as Δ) due to rounding.

** p < .01, * p < .05, # p < .10, two-tailed t-tests
Figure A3a. Gender Gaps in Knowledge for Study 1, MTurk Sample Only

Panel A: Identify NJ Gov. Christie
Learning Rate Difference for Women
DID = \Delta_\text{♀} - \Delta_\text{♂} = .20* - .14 = .06

Gender Gap
\Delta_\text{♀} = -.05
\Delta_\text{♂} = +.01

Proportion Correct
Control (n=54) Treatment (n=54)

Panel B: Identify Sec. of State Kerry
Learning Rate Difference for Women
DID = \Delta_\text{♀} - \Delta_\text{♂} = .26* - .05 = .21

Gender Gap
\Delta_\text{♀} = -.32*
\Delta_\text{♂} = +.10

Proportion Correct
Control (n=54) Treatment (n=46)

Panel C: Same Sex Marriage
Learning Rate Difference for Women
DID = \Delta_\text{♀} - \Delta_\text{♂} = .09 - (.04) = .13

Gender Gap
\Delta_\text{♀} = +.04
\Delta_\text{♂} = +.17

Proportion Correct
Control (n=54) Treatment (n=47)

Panel D: Trends in Unemployment
Learning Rate Difference for Women
DID = \Delta_\text{♀} - \Delta_\text{♂} = .14 - .01 = .14

Gender Gap
\Delta_\text{♀} = -.13
\Delta_\text{♂} = +.01

Proportion Correct
Control (n=54) Treatment (n=62)

Note: The differences in levels of knowledge between men (= \text{♂}) and women (= \text{♀}) noted above the column bars may not reflect the reported change (shown as \Delta) due to rounding.

** p < .01, * p < .05, # p < .10, two-tailed t-tests
Identify Massachusetts Senator Elizabeth Warren

Learning Rate Difference for Women
Difference-in-Difference (DID) = (Δ♀Treatment - Δ♀Control) - (Δ♂Treatment - Δ♂Control) = .38** - 15# = +.24*

Gender Gap
Δ♀ - ∆♂ = -.26**

Note: The differences in levels of knowledge between men (♂) and women (♀) noted above the column bars may not reflect the reported change (shown as Δ) due to rounding. **p < .01, * p < .05 , # p < .10, two-tailed t-tests
Table A1. Sample Demographic Data for Study 1

<table>
<thead>
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<th></th>
<th>Overall</th>
<th>Student Sample</th>
<th>Amazon Mturk</th>
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<tbody>
<tr>
<td></td>
<td>Mean (s.e.) n</td>
<td>Mean (s.e.) n</td>
<td>Mean (s.e.) n</td>
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<tr>
<td>Female</td>
<td>.52 (.02) 714</td>
<td>.53 (.02) 440</td>
<td>.49 (.03) 274</td>
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<tr>
<td>Education</td>
<td>.40 (.01) 689</td>
<td>.37 (.01) 438</td>
<td>.46 (.02) 251</td>
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<td>Democrat</td>
<td>.42 (.02) 714</td>
<td>.40 (.02) 440</td>
<td>.44 (.03) 274</td>
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<tr>
<td>Republican</td>
<td>.28 (.02) 714</td>
<td>.35 (.02) 440</td>
<td>.17 (.02) 274</td>
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<tr>
<td>Registered Voter</td>
<td>.90 (.01) 714</td>
<td>.95 (.01) 440</td>
<td>.83 (.02) 274</td>
</tr>
<tr>
<td>Pretreatment Knowledge</td>
<td>2.40 (.03) 714</td>
<td>2.47 (.04) 440</td>
<td>2.28 (.06) 274</td>
</tr>
</tbody>
</table>

Note: The number of cases varies due to missing demographic responses for some variables. The p-values are for two-tailed t-tests. All variables have been placed on a 0 to 1 scale except pretreatment political knowledge which is an additive index of three questions about recognition of House Speaker John Boehner, the symbol for the Euro, and the Chinese flag. Education ranges from high school education (=0) to more than five years of college (=1). Balance tests attempting to predict treatment assignment as a function of the variables shown above reveal successful randomization (i.e., model chi-square value are p > .10 for the experiments in Study 1).

Table A2. Sample Demographic Data for Study 2

<table>
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<th>Unweighted</th>
<th>Weighted</th>
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<td>Mean (s.e.) n</td>
<td>Mean (s.e.) n</td>
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<tr>
<td>Female</td>
<td>.54 (.02) 1000</td>
<td>.51 (.02) 1000</td>
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<tr>
<td>Education</td>
<td>.45 (.01) 1000</td>
<td>.43 (.01) 1000</td>
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<tr>
<td>Democrat</td>
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<td>Republican</td>
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<tr>
<td>Registered Voter</td>
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<td>Pretreatment Knowledge</td>
<td>5.23 (.07) 1000</td>
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<tr>
<td>Income</td>
<td>.29 (.01) 866</td>
<td>.27 (.01) 866</td>
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<td>Age</td>
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<td>Employed</td>
<td>.46 (.02) 1000</td>
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<tr>
<td>Liberal</td>
<td>.29 (.01) 1000</td>
<td>.24 (.02) 1000</td>
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</table>

Note: The number of cases varies due to missing demographic responses for some variables. The p-values are for two-tailed t-tests. All variables have been placed on a 0 to 1 scale except pretreatment political knowledge which is an additive index of eight questions about Paul Ryan as the House Speaker, a Pacific trade accord, Janet Yellen as the Chair of the Federal Reserve, the unemployment rate, the majority needed in Congress to override a veto, common core school standards, the leading source of energy in the US, or the party with the most seats in Congress. Education ranges from no high school education (=0) to post graduate education (=1). Income ranges from less than $10,000 in family income (=0) to $150,000 or more (=1). Church attendance runs from never (=0) to more than once a week (=1). Balance tests attempting to predict treatment assignment as a function of these variables reveal successful randomization (model chi-square value are p > .10 for each experiment in Study 2).
Table A3. News Story Selection Rates by Gender for Study 1

<table>
<thead>
<tr>
<th>Condition</th>
<th>Women</th>
<th>Men</th>
<th>Difference</th>
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<tbody>
<tr>
<td></td>
<td>Mean (se)</td>
<td>n</td>
<td>Mean (se)</td>
</tr>
<tr>
<td>Gov. Corbett (Placebo Control)</td>
<td>.16 (.04)</td>
<td>75</td>
<td>.18 (.05)</td>
</tr>
<tr>
<td>NJ Gov. Christie</td>
<td>.32 (.05)</td>
<td>73</td>
<td>.32 (.06)</td>
</tr>
<tr>
<td>Secretary of State Kerry</td>
<td>.49 (.06)</td>
<td>72</td>
<td>.47 (.07)</td>
</tr>
<tr>
<td>Same Sex Marriage State</td>
<td>.66 (.06)</td>
<td>61</td>
<td>.58 (.06)</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>.53 (.06)</td>
<td>81</td>
<td>.66 (.06)</td>
</tr>
<tr>
<td>Lt. Gov. Healy (Placebo Control)</td>
<td>.27 (.04)</td>
<td>173</td>
<td>.21 (.03)</td>
</tr>
<tr>
<td>Sen. Elizabeth Warren</td>
<td>.30 (.03)</td>
<td>197</td>
<td>.27 (.03)</td>
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Note: The figures show the proportion selecting the story (=1) versus those not selecting that story or not selecting any of the stories (=0).

Table A4. News Story Selection Rates by Gender for Study 2

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<th>Difference</th>
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</thead>
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<td>Mean (se)</td>
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<td>Mean (se)</td>
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<tr>
<td>Supreme Court (Placebo Control)</td>
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<td>.24 (.03)</td>
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<tr>
<td>Senate Control (Treatment)</td>
<td>.19 (.02)</td>
<td>270</td>
<td>.36 (.03)</td>
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</table>

Note: The figures show the proportion selecting the story (=1) versus those not selecting that story or not selecting any of the stories (=0).