

Penalties for going against type: How sexism shapes voters' perceptions of candidate character

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Method & Analysis

Notes on Experimental Design

In the leadership condition of our vignette experiment, the fictional candidate Allen asserts, "I'm running for Congress because I know how to lead." This condition implies that the candidate is confident as well as a good leader. These attributes both fit the metatrait of agency, which is considered more masculine than the communion message conveyed in the compassion condition (see, e.g., Abele et al., 2008; Cuddy et al., 2008).

In the survey that participants filled out, in which they were asked to rate the candidates on compassion, leadership, and overall favorability, the favorability rating was requested first to avoid contrast effects (Schwarz & Bless, 1992). Contrast effects occur when participants subtract their evaluation of a candidate on a specific trait from their overall evaluation, which was not the goal of this research. The order in which survey participants were asked about perceptions of compassion, leadership, and knowledge was randomized.

We are aware of a possible confounder in our method: The treatments we use here may not solely influence perceptions of compassion and leadership (and therefore favorability) but instead may lead respondents to perceive the candidates favorably (Dafoe et al., 2018). To address this, we included a placebo belief that we did not expect the Allens' statements about compassion or leadership to alter. Specifically, we asked participants to rate how knowledgeable they perceived the candidate to be. The compassion and leadership treatments did, in fact, have statistically significant and distinguishable effects on perceptions of compassion and leadership but not on perceptions of knowledge. See Table S1 for the statistical details.

To ensure that compassion and leadership treatments had statistically significant and distinguishable effects on perceptions of compassion and leadership but not on perceptions of knowledge, we used a repeated measures approach. Repeated measures analyses normally involve examining the same individual at two points in time. Instead, we duplicated each observation in the data set, treating the value on perceptions of compassion or leadership as one measurement and the value on perceptions of knowledge as a separate measurement within the same person. We then ran a fixed effects model to determine whether they were distinguishable from one another. For an example of this application, please see McDonald (2020).

Notes on Analysis

To determine treatment effects, we examined the differences in mean values between the treatment and control groups and between the male and female candidates. This approach was done using ordinary least squares regression. This is an efficient way to use a difference-in-means test when the independent variables

are dichotomous (Hanmer & Kalkan, 2013), as is the case here. This approach does not include covariates, which is possible due to the successful random assignment to conditions (Kinder & Palfrey, 1993). Balance across groups is shown in Table S5. A multinomial logit predicting assignment to the experimental conditions as a function of race, gender, age, education, family income, and partisanship yielded $\chi^2 = 43.17$, $p = .162$.

As a secondary analysis (see Table S4), we also estimated the parameters of an ordinary least squares regression equation that included common sociopolitical controls. In this analysis, we included interaction terms for the female candidate group with both the compassion and leadership conditions to examine how male and female candidates are perceived differently even when they use similar messaging. These results do not differ substantially from the main results.

Instructions to Participants in the Survey

Q1

Please randomly assign all respondents into six conditions

EXPERIMENTAL CONDITIONS

- 1 Man Control
- 2 Man Compassion
- 3 Man Leadership
- 4 Woman Control
- 5 Woman Compassion
- 6 Woman Leadership

Introduction:

On the next page, you will read about a candidate for Congress in the upcoming election. Please read the description carefully and respond to the questions that follow.

Q1a

Please display to those who were assigned to Condition 1 in Q1.

Allen Announces Bid for Congress

David Allen, a local grocery store owner, is running for a seat in the U.S. House of Representatives as a Democrat. He is sixty-eight years old and has two children with his wife of forty years. While he has long been a prominent citizen in his community and active in local politics, this is the first time he has run for Congress. In his first public speech since filing to run for office, Allen told the crowd, "I am asking each and every one of you for your vote this upcoming November election."



David Allen

Q1b

Please display to those who were assigned to Condition 2 in Q1.

Allen Announces Bid for Congress, Touts Compassion

David Allen, a local grocery store owner, is running for a seat in the U.S. House of Representatives as a Democrat. He is sixty-eight years old and has two children with his wife of forty years. While he has long been a prominent citizen in his community and active in local politics, this is the first time he has run for Congress. In his first public speech since filing to run for office, Allen said that what was missing in Congress was a sense of compassion. Allen told the crowd, "I'm running for Congress because I care about the people of this district. I am asking each and every one of you for your vote this upcoming November election."



David Allen

Q1c

Please display to those who were assigned to Condition 3 in Q1.

Allen Announces Bid for Congress, Touts Leadership

David Allen, a local grocery store owner, is running for a seat in the U.S. House of Representatives as a Democrat. He is sixty-eight years old and has two children with his wife of forty years. While he has long been a prominent citizen in his community and active in local politics, this is the first time he has run for Congress. In his first public speech since filing to run for office, Allen said that what was missing in Congress was strong leadership. Allen told the crowd, "I'm running for Congress because I know how to lead. I am asking each and every one of you for your vote this upcoming November election."



David Allen

Q1d

Please display to those who were assigned to Condition 4 in Q1.

Allen Announces Bid for Congress

Debbie Allen, a local grocery store owner, is running for a seat in the U.S. House of Representatives as a Democrat. She is sixty-eight years old and has two children with her husband of forty years. While she has long been a prominent citizen in her community and active in local politics, this is the first time she has run for Congress. In her first public speech since filing to run for office, Allen told the crowd, "I am asking each and every one of you for your vote this upcoming November election."



Debbie Allen

Q1e

Please display to those who were assigned to Condition 5 in Q1.

Allen Announces Bid for Congress, Touts Compassion

Debbie Allen, a local grocery store owner, is running for a seat in the U.S. House of Representatives as a Democrat. She is sixty-eight years old and has two children with her husband of forty years. While she has long been a prominent citizen in her community and active in local politics, this is the first time she has run for Congress. In her first public speech since filing to run for office, Allen said that what was missing in Congress was a sense of compassion. Allen told the crowd, "I'm running for Congress because I care about the people of this district. I am asking each and every one of you for your vote this upcoming November election."



Debbie Allen

Q1f

Please display to those who were assigned to Condition 6 in Q1.

Allen Announces Bid for Congress, Touts Leadership

Debbie Allen, a local grocery store owner, is running for a seat in the U.S. House of Representatives as a Democrat. She is sixty-eight years old and has two children with her husband of forty years. While she has long been a prominent citizen in her community and active in local politics, this is the first time she has run for Congress. In her first public speech since filing to run for office, Allen said that what was missing in Congress was strong leadership. Allen told the crowd, "I'm running for Congress because I know how to lead. I am asking each and every one of you for your vote this upcoming November election."



Debbie Allen

NOTE: For Q2–Q4, each respondent saw the question that corresponded to the gender of the candidate they had read a description of.

Q2

SINGLE CHOICE

Overall, how favorable or unfavorable is your impression of David Allen?

- 1 Strongly unfavorable
- 2 Somewhat unfavorable
- 3 Neither favorable nor unfavorable
- 4 Somewhat favorable
- 5 Strongly favorable

OR

Overall, how favorable or unfavorable is your impression of Debbie Allen?

- 1 Strongly unfavorable
- 2 Somewhat unfavorable
- 3 Neither favorable nor unfavorable
- 4 Somewhat favorable
- 5 Strongly favorable

Q3

Randomize order of Q3 and Q4

SINGLE CHOICE

In your opinion, does the phrase, “he really cares about people like you” describe David Allen...

- 1 Very poorly
- 2 Somewhat poorly
- 3 Neither poorly nor well
- 4 Somewhat well
- 5 Very well

OR

In your opinion, does the phrase, “she really cares about people like you” describe Debbie Allen...

- 1 Very poorly
- 2 Somewhat poorly
- 3 Neither poorly nor well
- 4 Somewhat well
- 5 Very well

Q4

Randomize order of Q3 and Q4

SINGLE CHOICE

In your opinion, does the phrase, “he provides strong leadership” describe David Allen...

- 1 Very poorly
- 2 Somewhat poorly
- 3 Neither poorly nor well
- 4 Somewhat well
- 5 Very well

OR

In your opinion, does the phrase, “she provides strong leadership” describe Debbie Allen...

- 1 Very poorly
- 2 Somewhat poorly
- 3 Neither poorly nor well
- 4 Somewhat well
- 5 Very well

With roughly 800 respondents in these analyses, there is insufficient power to detect moderation effects, so subsample analyses should be interpreted with some caution.

Table S1 illustrates that the substantive results of our article do not appear driven by men or women individually and that trends that exist for one category persist for the other. Table S2 shows the results of an ordinary least squares regression in which the gender of the respondent is interacted with indicator variables for the compassion and leadership conditions.

Table S1. Treatment effects by gender of the participant (ordinary least squares regression, control is omitted category, standard errors in parentheses)

Independent variable	Female participants		Male participants	
	Female candidate	Male candidate	Female candidate	Male candidate
Perceptions of compassion				
Compassion treatment effect	0.052 (0.047)	0.122** (0.041)	0.090* (0.042)	0.083* (0.041)
Leadership treatment effect	-0.065 (0.051)	-0.025 (0.041)	0.002 (0.041)	0.048 (0.042)
Constant (control condition)	0.656** (0.033)	0.579** (0.029)	0.569** (0.030)	0.545** (0.029)
Perceptions of leadership				
Compassion treatment effect	0.016 (0.048)	0.002 (0.044)	0.058 (0.038)	0.054 (0.042)
Leadership treatment effect	0.023 (0.051)	0.056 (0.044)	0.047 (0.037)	0.111** (0.043)
Constant (control condition)	0.612** (0.033)	0.627** (0.031)	0.533** (0.027)	0.549 (0.030)
Overall favorability				
Compassion treatment effect	0.011 (0.048)	0.087* (0.038)	0.033 (0.038)	0.098** (0.035)
Leadership treatment effect	-0.083 (0.052)	-0.005 (0.038)	-0.072 [†] (0.038)	0.052 (0.036)
Constant (control condition)	0.674** (0.034)	0.643** (0.027)	0.648** (0.027)	0.588 (0.025)
<i>n</i>	151	185	241	230

Note. Control variables were not included in the regression equations.
[†]*p* < .1, two-tailed. **p* < .05, two-tailed. ***p* < .01, two-tailed.

Table S2. Treatment effects including Interaction with gender of participant (ordinary least squares regression, control is omitted category, standard errors in parentheses)

Independent variable	Perceptions of compassion		Perceptions of leadership		Favorability	
	Male politician	Female politician	Male politician	Female politician	Male politician	Female politician
Compassion treatment	0.122** (0.044)	0.052 (0.049)	0.002 (0.046)	0.016 (0.046)	0.087* (0.039)	0.011 (0.047)
Leadership treatment	-0.025 (0.044)	-0.065 (0.053)	0.056 (0.046)	0.023 (0.050)	-0.005 (0.039)	-0.083 [†] (0.050)
Participant gender (male)	-0.034 (0.042)	-0.087 [†] (0.045)	-0.078 [†] (0.045)	-0.079 [†] (0.045)	-0.055 (0.037)	-0.026 (0.043)
Male × Compassion Treatment	-0.039 (0.059)	0.038 (0.064)	0.052 (0.061)	0.042 (0.060)	0.011 (0.052)	0.022 (0.061)
Male × Leadership Treatment	0.073 (0.059)	0.066 (0.066)	0.055 (0.062)	0.024 (0.063)	0.058 (0.053)	0.011 (0.063)
Constant	0.579** (0.031)	0.656** (0.034)	0.627** (0.032)	0.612** (0.032)	0.643** (0.027)	0.674** (0.033)
Probability > F	0.003	0.007	0.037	0.191	0.005	0.029
n	415	392	415	391	415	392

Note. Control variables were not included in the regression equations.
[†]p < .1, two-tailed. *p < .05, two-tailed. **p < .01, two-tailed.

Table S3. Repeated measures fixed effects model using placebo beliefs outcome (clustered standard errors in parentheses, control is omitted category)

Independent variable	Model 1: Compassion	Model 2: Leadership
Compassion treatment	0.034 (0.022)	0.034 (0.022)
Leadership treatment	0.004 (0.022)	0.004 (0.022)
Dummy (1 = leadership, 0 = placebo)	0.006 (0.016)	-0.002 (0.014)
Compassion Treatment × Leadership Observation	0.053* (0.022)	0.001 (0.019)
Leadership Treatment × Leadership Observation	-0.010 (0.022)	0.055** (0.019)
Constant	0.577** (0.015)	0.577** (0.015)
Probability > χ^2	0.000	0.002
N	1,614	1,613
Clusters	807	807

Note. Control variables were not included in the regression equations.
 *p < .05, two-tailed. **p < .01, two-tailed.

Table S4. Ordinary least squares regression predicting outcomes by treatments & covariates

Independent variable	Model 1: Compassion	Model 2: Leadership	Model 3: Favorability
Compassion treatment	0.106** (0.029)	0.035 (0.029)	0.100** (0.026)
Leadership treatment	0.017 (0.030)	0.088** (0.029)	0.026 (0.026)
Female treatment	0.055 [†] (0.030)	-0.008 (0.030)	0.057* (0.027)
Compassion × Female Treatments	-0.040 (0.042)	-0.000 (0.042)	-0.081* (0.037)
Leadership × Female Treatments	-0.053 (0.043)	-0.064 (0.042)	-0.116** (0.038)
Male participants	-0.036* (0.018)	-0.050** (0.018)	-0.024 (0.016)
White participants	-0.079** (0.001)	-0.082** (0.021)	-0.098** (0.019)
Age	-0.001 (0.001)	-0.001 [†] (0.001)	-0.002** (0.001)
Education	0.022** (0.007)	0.015* (0.007)	0.024** (0.007)
Family income	-0.020 [†] (0.012)	-0.027* (0.012)	-0.029** (0.011)
Partisanship (1 = strong Democrat, 7 = strong Republican)	-0.012 (0.004)	-0.010* (0.004)	-0.018** (0.003)
Constant	0.605** (0.059)	0.691 (0.059)	0.709** (0.052)
Probability > F	0.000	0.000	0.000
N	807	807	807

[†] $p < .1$, two-tailed. * $p < .05$, two-tailed. ** $p < .01$, two-tailed.

Table S5. Sample demographic balance across experimental conditions

Characteristic	Man-Control	Man-Compassion	Man-Leadership	Woman-Control	Woman-Compassion	Woman-Leadership
White	70%	74%	79%	83%	74%	73%
Male	55%	56%	56%	58%	60%	67%
Mean age	37	37	37	36	39	35
College educated	69%	67%	64%	69%	76%	65%
Income over \$50k	54%	48%	50%	50%	47%	57%
Democrat	54%	56%	66%	56%	53%	55%
Republican	36%	36%	28%	33%	40%	32%
<i>n</i>	140	140	135	132	134	126

Table S6. Correlation matrix of outcome variables

Variable	Perceptions of compassion	Perceptions of leadership	Favorability	Placebo
Perceptions of compassion (<i>M</i> = 0.610, <i>SD</i> = 0.254)	—			
Perceptions of leadership (<i>M</i> = 0.606, <i>SD</i> = 0.251)	0.550	—		
Favorability (<i>M</i> = 0.647, <i>SD</i> = 0.233)	0.640	0.577	—	
Placebo outcome (<i>M</i> = 0.590, <i>SD</i> = 0.259)	0.492	0.608	0.553	—