SHORT ARTICLE

Reassessing Public Support for a Female President

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We re-deploy a list experiment conducted a decade ago to reassess the degree to which the American public opposes electing a woman as president. We find that opposition has been cut in half from approximately 26% to 13%. In addition, opposition is now concentrated in specific sociodemographic categories rather than being evenly distributed. Newly developed statistical methods that permit multivariate analysis of list experiment data reveal that resistance has all but disappeared among Democratic-leaning groups in the electorate. These patterns appear to reflect the reduction of uncertainty among groups most favorable toward the recent success of Democratic women.

More than two centuries after the country's founding, a woman has yet to be elected president of the United States. With Hillary Clinton becoming the nation's first female major party nominee for that position, it is worth reconsidering how willing the American public is to vote for a female presidential candidate. We re-deploy an experiment conducted a decade ago and show that opposition to a female president has been cut in half. Using newly developed multivariate statistical methods, we find that the opposition in the electorate now varies tremendously across subpopulations in ways that reflect experiences within the political parties in recent years.

Because of the potential for social desirability effects in surveys, it is difficult to assess public acceptance of a female president by asking people directly. Respondents opposed to seeing a woman in the White House are likely to bow to prevailing social norms and falsely report that they are willing to endorse a female president. Alternative methods are needed to elicit true attitudes on sensitive questions such as these. One of the options to do so is a "list experiment."

The list experiment was introduced in political science by Kuklinski, Cobb, and Gilens (1997) in their study of racial attitudes. The idea behind it is to avoid social desirability by allowing respondents to endorse unpopular opinions indirectly. Each respondent is given a list of items and asked how many they find objectionable. A random half of the sample is given a list with common irritants such as "Requiring seat belts to be used when driving" and "Large corporations polluting the environment." The other half of the sample is given the same list but with an additional item that is a sensitive topic. Respondents in both conditions are asked how many of the items in the lists they saw bothered them. The difference between the mean number of items selected by the control and treatment groups is an estimate of what share of the population was bothered by the item of interest. Because respondents were not asked which items bothered them but merely how many, the experiment allows respondents to keep their unpopular opinions private while also allowing researchers to estimate bias.

Streb et al. (2008) used a list experiment for the first time to measure bias against a female president. In March 2006, they presented respondents in a national telephone survey with a list of statements and asked how many of the statements made them "upset." Survey respondents were ran-

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domly assigned to a control group or a treatment group. The control group received four statements. The treatment group's list added a fifth statement: "A woman serving as president." (The full protocol is provided in the appendix, available online.) The Streb et al. study yielded two important findings. First, the mean number of items selected was 2.16 in the control condition compared to 2.42 in the treatment condition, for an overall difference of .26, or 26% of respondents being upset about a woman president. That percentage was much higher than the approximately 10% share of the public that opposed a qualified female presidential candidate when asked about it directly. Second, the prevalence of being upset about a female president was quite stable across a range of demographic groups. Views were no different between men and women, those with more or less education, or people of different age groups.

A variant on this list experiment was fielded by Benson, Merolla, and Geer (2011), in which respondents were presented with statements such as "I could not support a woman for President." Posing the statements in this negative fashion yielded an estimated bias of 11% in 2007 and of 17% in 2008, although neither was statistically significant. However, it is difficult to compare these results directly to those of the Streb et al. study because the sample sizes are much smaller, the study did not examine differences across groups (aside from born-again southerners), and the question wordings were substantially different.

STUDY DESIGN

Our study was fielded in March 2016 using a protocol nearly identical to that of Streb et al. (2008).[1] Because our survey was conducted via the Internet rather than by phone, one might be concerned that differences in mode would confound a comparison of the two sets of results. However, when research has found differences due to mode, self-administered Internet surveys generally result in higher levels of socially undesirable characteristics (Lind et al. 2013). Thus, any decline we observe in opposition to a female president probably understates rather than overstates changes over time.

At the time that Streb et al. conducted their analysis, studies using list experiments did little more than compare means between control and treatment groups. This was done across various subpopulations one at a time rather than simultaneously. For example, Streb et al. examined the experimental effects by income and by age independently, even though the two variables are probably correlated. In recent years, however, more sophisticated techniques have been developed to permit multivariate modeling so that the effects of being in a demographic or social group can be more accurately and efficiently estimated after controlling for confounding variables. This is especially useful in our reassessment because our survey includes a set of highly relevant attitudinal variables such as party identification that were not considered by Streb et al. (2008). We introduce these multivariate models in the following section.

Our theoretical expectations consider how the public learns from experiences with people of different backgrounds in public life. Attitudes toward social groups and acceptability of various demographic characteristics in the public sphere often change rapidly in response to real world experiences. Research has shown that the election of a black mayor reduces public opposition to black candidates in future elections (Hajnal 2007). This appears to happen because observing a person in public life reduces uncertainty about how a member of that group would act in office. Since the Streb et al. experiment was conducted in 2006, several women have made their way into high-profile political positions. Two women were appointed to the Supreme Court. Sarah Palin was chosen as a vice presidential running mate on the Republican ticket. Nancy Pelosi served as speaker of the house, putting her second in line to the presidency. Most notably, in 2008, Hillary Clinton nearly became the first major party presidential nominee. Ten years ago, respondents would have been required to imagine a hypothetical woman in the White House; today that imaginary leap is much easier to make. Indeed, Clinton was an active candidate for president at the time our study was fielded. We expect that these experiences have changed public attitudes, especially among Democratic constituencies, given that Clinton and Pelosi are both Democrats. To examine this more completely, we included a wider range of covariates in our survey, namely, party identification and race/ethnicity.

UNIVARIATE RESULTS

Table 1 presents the main univariate results from our experiment alongside the results from Streb et al. (2008). The broad finding is that the overall level of being upset about a woman president has been cut in half, from 26% to 13% (technically, a proportion of .126). We are confident about the comparability of the two studies because the mean number of selected items in the control condition is nearly identical (2.17 in our study vs. 2.16 in theirs). The main difference is in the treatment condition, where the number of selected items has shrunk from 2.42 to 2.30. It seems that events over

1. The introductory script differs slightly. The full wording is provided in the appendix.

Table 1. Opposition to a Female President, by Various Subgroups

Demographic	Control Condition	Treatment Condition	Difference	Streb et al. (2008) Estimate
All respondents	2.17	2.30	12.6*	26.0***
	(.04)	(.04)	(5.5)	(4.9)
Male	2.03	2.29	25.7***	26.0***
	(.05)	(.06)	(8.3)	(7.2)
Female	2.30	2.31	.1	25.6***
	(.05)	(.05)	(7.3)	(6.6)
No BA degree	2.23	2.41	18.3**	23.2***
	(.05)	(.06)	(7.5)	(6.3)
BA or above	2.09	2.16	7.5	26.4***
	(.06)	(.06)	(8.2)	(7.8)
18–29 years old	2.14	2.42	28.4*	24.9*
	(.08)	(.09)	(12.7)	(12.1)
30–50 years old	2.22	2.43	20.2**	35.9***
	(.06)	(.06)	(8.5)	(8.1)
51–65 years old	2.16	2.10	−5.9	22.2*
	(.07)	(.07)	(10.0)	(10.7)
66 years old or above	2.07	2.06	-1.3	12.3
	(.11)	(.15)	(18.1)	(9.5)
Lower and lower-middle class	2.29	2.39	9.9	26.8*
	(.07)	(.07)	(9.7)	(12.2)
Middle class	2.15	2.23	8.4	28.8**
	(.05)	(.06)	(7.5)	(9.1)
Upper-middle and upper class	2.03	2.32	29.1*	29.3*
	(.10)	(.11)	(14.7)	(14.3)
South	2.26	2.26	-.1	31.8***
	(.07)	(.07)	(9.3)	(9.3)
Non-South	2.13	2.32	19.4**	23.6***
	(.04)	(.05)	(6.9)	(5.8)
White	2.18	2.28	10.2	
	(.04)	(.05)	(6.6)	
Black	2.04	2.17	13.0	
	(.11)	(.13)	(17.2)	
Hispanic	2.21	2.63	41.1**	
	(.10)	(.12)	(15.5)	
Other race/ethnicity	2.27	2.13	-13.8	
	(.14)	(.15)	(20.6)	
Democrat	2.24	2.27	3.2	
	(.06)	(.06)	(8.1)	
Republican	2.11	2.39	27.4**	
	(.07)	(.09)	(10.8)	
Independent	2.16	2.27	11.2	
	(.07)	(.08)	(10.9)	

Note. Entries in the first two columns are mean number of items, with standard errors in parentheses. Social class is measured as explicit categories in our study but is measured by annual income groupings in the Streb et al. study.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

the past decade have lessened bias against a female presidential candidate substantially.[2] As noted above, this runs contrary to what one would expect from survey mode effects alone. Instead, the change is consistent with quickly moving attitudes due to observing high-profile political women such as Clinton and Pelosi.

Our experiment turned up another intriguing finding. Whereas the demographic groups analyzed in the Streb et al. study displayed nearly equal levels of bias, those groups (and others) now display tremendous variation. For example, Streb et al. found, surprisingly, that men and women showed equal negativity toward a female president. We find the same level of bias among men as they did (26%), but bias among women has disappeared.[3] Streb et al. also found no differences by educational attainment, whereas our experiment shows less bias among the college-educated.

The differences we uncover are consistent with our expectation that bias has decreased mainly among Democratic-leaning groups. Self-identified Democrats do not show significant levels of hostility toward a female president, whereas Republicans do. Independents are placed somewhere in between Democrats and Republicans. The growing acceptance of a woman in the White House has taken place almost exclusively among subpopulations that are most favorable to the Democratic women who have had the most success in high-level political offices.

MULTIVARIATE RESULTS

As compelling as these univariate results are, they capture descriptive differences across groups in isolation without considering overlapping group memberships. They also make inefficient use of the data. Fortunately, a new class of estimators now permits multivariate analysis in a form that is analogous to familiar regression models applied to traditional data sets. These models essentially generalize the difference of means approach by efficiently modeling the joint distribution to allow for control for multiple explanatory variables simultaneously. We implement the maximum likelihood models developed in Blair and Imai (2012) and Imai (2011) and refer readers to those sources for derivation of the estimator.[4]

The full regression results, whose coefficient estimates appear in the appendix, are provided in graphical form in figure 1. The figure indicates the estimated proportions of respondents opposing to a female president (with lines representing 95% confidence intervals). Several of the descriptive univariate results continue to hold with multivariate controls, but some conclusions must be revised. We continue to find that men are more opposed to a female president than are women, albeit with an estimated difference of 13.1 percentage points, which is about half of the simple difference of means. A similar consistency holds with regard to age, where older respondents are more acceptant of a female president. Republicans also remain more biased against a female president than do Democrats and Independents; estimated differences in the multivariate results are 17.4 and 12.4 percentage points, respectively. In addition, social class still has a significant effect on the estimated proportions of respondents opposing to a female president. Perhaps surprisingly, people who claim to be "upper class" are more hostile to a female president than those in "lower class." It is possible that class is a proxy for ideology. In further analysis, we confirmed that perceived social class and conservative ideology are in fact positively correlated. Based on our theoretical orientation, we conjecture that conservatives who view themselves as upper class are more uncertain about what election of a female president would mean for their ideological interests.

Some results that appeared counterintuitive in table 1 are now more sensible once multivariate controls are in place. Whereas the univariate results suggested that Hispanics are more opposed to a female president than are whites and blacks and that southerners are less opposed than nonsoutherners, both of these apparent effects disappear under further scrutiny. Figure 1 shows no differences across race/ethnicity or region.[5] The opposition to a female president observed among lower-educated respondents in the univariate results also becomes less evident once we control for other confounding factors.

It is possible that the attitudes we are measuring are little more than a "Hillary effect." Rather than capturing general views about a woman as president, we might instead be tapping into views of Hillary Clinton as the most likely female president. Streb et al. suggest that a test of this idea would include a control for attitudes toward Clinton in the model. We have done that, re-estimating the multivariate model after including a measure of favorability toward Hillary Clinton. Results reported in the appendix show that attitudes

2. The 13.4 percentage point difference-in-difference between the Streb et al. estimate and ours is significant at $p = .07$ by two-way ANOVA.

3. The difference between the two estimates for women is itself statistically significant at $p < .05$.

4. We implement the constrained model in version 8.0 of the package "list" written for R.

5. The results remained the same substantively when using "blacks and others" (instead of "Hispanic and others") as the reference category in the regression model.

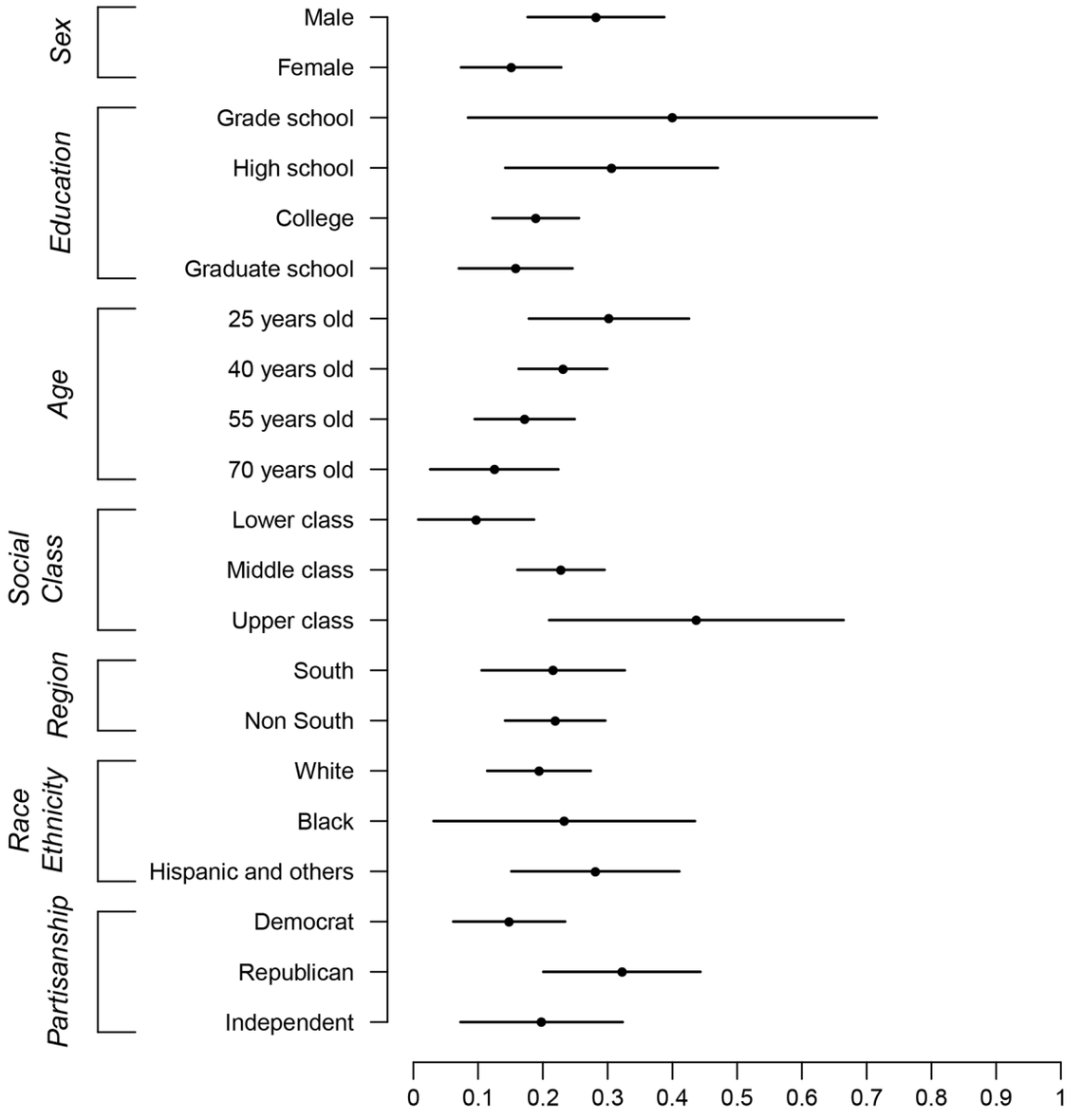

Figure 1. Multivariate estimates of opposition to a female president. Dots represent estimated proportions of respondents upset by a female president, and lines are 95% confidence intervals from the regression model in table A2 in the appendix.

toward Clinton play little role in whether respondents are upset by a female president. Other substantive results remain unchanged.

CONCLUSION

Having re-deployed the Streb et al. (2008) study, we now have two data points that bracket important political changes for women in public life. The public is now less hostile toward a female president overall, but levels of resistance in the electorate have become uneven, with Democratic-leaning groups showing the lowest levels of opposition with other groups little changed.

Researchers should fully explore other techniques for eliciting opinions on sensitive issues. These procedures include the randomized response technique and endorsement experiments (e.g., Blair 2015), alternative versions of the list experiment (Benson et al. 2011), the implicit association test (IAT) that measures automatic attitudes (toward female leaders) at the unconscious level (e.g., Mo 2015), and "face saving" methods that allow people to justify their preferences with explanations (Krupnikov, Piston, and Bauer 2016) or attribute their views to others. On this latter idea, we highlight recent surveys fielded by CNN that have asked respondents whether they believe the "country" is "ready" to

have a woman in the White House. We suspect that focusing on a generalizable "other" rather than the respondent provides a face-saving way to report one's views more accurately. As we show in the appendix, the list experiment outcome (13% opposition) is indeed closer to the most temporally proximate CNN poll (19%) than the more traditional question responses that ask about biases directly.

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