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Economic Anxieties Undermine Support for Female (but Not Male) Political Candidates

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Are female politicians disadvantaged by adverse economic conditions in ways their male counterparts are not? To examine this issue, we had participants read a news article about the current economic situation. The article emphasized either economic stability or volatility. Afterward, they evaluated an advertisement for either a female or a male candidate for the U.S. Senate. Exposure to news depicting economic instability caused devaluation of the female but not the male candidate. A second study provided a direct replication of this finding with a larger sample. An omnibus analysis ($N = 535$) showed that this devaluation pattern occurred primarily among male participants. Study 2 also examined whether gender stereotypes play a role in this process. Indeed, men's confidence in the female candidate's ability to handle stereotypically masculine issues decreased under economic instability and this tendency mediated their devaluation of the female candidate.

The 2016 presidential election cycle marked the first time in the United States that a major political party nominated a woman for President. Numerous studies have sought to explain why it has taken so long for women to rise to the highest levels of power in American politics—from gender stereotypes (Huddy & Terkildsen, 1993a) to differential impacts of campaign resources (Herrick, 1996). Although gender stereotypes unquestionably played a major role in undermining the electoral prospects of women in earlier historical eras, recent prominent reviews of the relevant literature have concluded that gender stereotypes no longer cause

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an overall bias against female candidates (e.g., Brooks, 2013; Lawless, 2015). Indeed, research has even documented a pro-female bias in political choice, at least among more liberal voters (McDermott, 1997). But just how stable is this newfound openness to female candidates?

We examine the hypothesis that female candidates can be selectively disadvantaged when social circumstances promote conceptions of leadership that align with stereotypically masculine qualities. One relevant consideration is the salience of particular policy issues in an electoral context. Because policy domains vary in their alignment with gender stereotypes, their prominence during an election may influence receptiveness to female leadership. War and international conflict are domains associated with male expertise, whereas healthcare, education, and government ethics are domains aligned with stereotypes of women (Huddy & Terkildsen, 1993a; Lammers, Gordijn, & Otten, 2009; Schneider & Bos, 2016). Thus, for example, when primarily concerned about issues of healthcare many voters may favor a female candidate (Herrnson, Lay, & Stokes, 2003), but when principally concerned with issues of national security, many voters may consider female candidates to be less desirable (e.g., Holman, Merolla, & Zechmeister, 2016).

The salience of particular political issues is shaped by macrohistorical forces (e.g., wars and recessions) as well as by the media and by candidates' strategic efforts to emphasize particular policy priorities. Consistent with the idea that concerns about security can reduce the appeal of female leaders, past research has shown that threats to physical safety (e.g., the 9/11 terrorist attacks) are associated with lower willingness to vote for a female candidate (Holman, Merolla, & Zechmeister, 2016; Lawless, 2004; Landau, Solomon, Greenberg, Cohen, Pyszczynski, Arndt, & Cook, 2004). This kind of shift has also been shown experimentally; reading a news article highlighting terrorist threats led to greater activation of gender stereotypes and subsequent devaluation of female, but not male, leaders (Holman, Merolla, & Zeichmeister, 2011). Holman, Merolla and Zechmeister. (2016) have extended this work to show that this is only true for Democratic candidates, suggesting a contingent use of gender after consideration of political party stereotypes. These findings suggest that voters perceive women as less capable protectors from physical threats.

The tendency for physical violence to activate a preference for male leadership suggests that voters use a candidate's gender as a proxy for their ability to provide physical safety. This propensity may stem in part from gender differences in physical strength and coercive power (e.g., Felson, 1996; Eagly, Wood, & Diekman, 2000). It is unclear whether non-physical threats would have the same effects. Thus, an important open question concerns whether salient *social* threats also moderate reactions to female candidates.

In the present research, we examine perceived economic threat as a focal macrosocial force. Undoubtedly, economic conditions are important to voters (e.g.,

Gavin & Sanders, 1997), and many analyses of the results of the recent elections emphasized the role played by voters facing economic uncertainty, especially in the industrial Midwestern states that, somewhat unexpectedly, voted for Trump in the 2016 elections (e.g., Maher & Mahtani, 2016). Even though economic threats do not require physical strength to address, they may nevertheless promote a preference for male leaders if men are seen as having greater competence in financial domains (e.g., Dolan, 2010, 2014; Marlow & Patton, 2005). More generally, recent research indicates that economic uncertainty leads to a stronger preference for dominant (as opposed to prestigious) leaders (Kakkar & Sivanathan, 2017), and men are generally seen as more dominant than women (e.g., Henley, 1977). In one study, Kakkar and Sivanathan showed that economic uncertainty (at the zip code level) was a robust predictor of preference for Trump (who was rated as higher in dominance) over Clinton (who was rated as higher in prestige) in the 2016 election, controlling for political partisanship and many other variables. In the present work, we report studies that go beyond these suggestive correlational findings in testing whether there is a causal relationship between activating concerns about economic stability and reactions to female versus male candidates. Moreover, we focus on evaluations of unfamiliar male and female candidates, given the many specific pre-existing beliefs people may hold about particular, well-known individuals like Clinton and Trump.

In Study 1, we examine whether exposure to media characterizations of the economy as unstable differentially influence perceivers' evaluations of male versus female candidates for the U.S. Senate. We hypothesize that women running for office, but not men, will be viewed with greater skepticism by voters when the economy seems shaky. We also conduct exploratory analyses to examine whether this effect differs as a function of participant gender. Study 2 directly replicates our initial results and examines whether gender stereotyping mediates the observed patterns. Data for both studies were collected in 2015.

Study 1

Method

Throughout the article, we report all manipulations, measures, and data exclusions.

Participants and Design: Aiming for approximately 50 participants per experimental condition, we recruited 214 eligible voters from Amazon's Mechanical Turk (MTurk) website. Although we did not conduct an a priori power analysis, a sample of 200 participants would grant us adequate power (1- $\beta > .80$) to detect a medium sized effect ($f = .20$). Of the 214 respondents, 31 participants failed at least one attention check and thus were excluded from analysis, leaving 183 participants. Participants were randomly assigned to one of the conditions of a

2 (candidate gender: male vs. female) × 2 (putative level of economic volatility: stable vs. unstable) between-subjects design. Participants were mostly White (81%), then Asian (10%), African-American (6%), or Hispanic (3%). Most participants were male (57%). Ages ranged from 18 to 66, with a mean of 35.63 (SD = 11.11). Participants were mostly self-identified Democrats (61.7%), followed by self-identified Republicans (21.3%), and then Independents (16.9%). Party classification was determined by a question asking whether participants identified more with Democrats than Republicans, vice versa, or both parties about the same.

Materials and Procedure: Respondents participated in a study ostensibly on reactions to news articles; they read an article attributed to *Bloomberg Business Week* about the national and global economy. Importantly, the headline and information in the article were manipulated to indicate either relative macroeconomic stability or instability. Specifically, the headline stated the U.S. and world economy were entering a period of sustained stability (vs. instability). The text discussed changes to key interest rates that could (or could not) be made with confidence, and that the Federal Reserve was unlikely (or likely) to make rapid changes in policy, given the steady (or volatile) nature of the economy. This manipulation accords with past research indicating that media coverage of the economy, independent of the actual prevailing economic conditions, can influence voter reactions (e.g., Soroka, Stecula, & Wiezien, 2015). Immediately after reading the article, participants completed a manipulation check assessing how stable they perceived the United States economy to be (on a scale from 1 = highly unstable, 5 = highly stable) as well as some reading comprehension and attention check questions.

Next, participants completed an ostensibly unrelated task described as a study of voters' reactions to political advertisements. Participants were randomly assigned to view a political advertisement for either a White male or White female candidate running for U.S. Senate. In order to control for any political party effects, the political orientation of the candidate was matched to the participant, such that (for example) when participants indicated they agreed more with Democrats than Republicans, they would see "Democrat for U.S. Senate" as the accompanying text; those who did not identify with either party saw "Independent for U.S. Senate." Both the candidates' names and their pictures were pretested and were matched on age, attractiveness, and competence but differed in terms of perceived masculinity. To avoid any idiosyncratic effects of the particular candidate faces, we created two appropriately matched sets of images for the male and female candidates, and participants were randomly assigned to see advertisements featuring either the pictures of Image Set A or Image Set B. Image Set did not qualify any of the reported results.

After viewing the political ad, participants then responded to a series of statements about their impressions of the candidate, which served as the primary dependent variable. Specifically, participants rated how much they agreed that (1) their first impression of the candidate was positive; (2) the candidate was credible;

(3) the candidate has leadership potential; (4) they would like to read more about the candidate; (5) they would consider voting for this candidate; and (6) they thought the candidate was impressive. All statements were rated on a 1–7 Likert scale, 1 = strongly disagree and 7 = strongly agree. Participants also indicated their agreement with statements that the candidate could win (1) in the primaries and (2) in the general election using the same response format. Lastly, participants completed the Ambivalent Sexism Inventory, a 22-item measure assessing people's attitudes regarding the role of men and women in society (Glick & Fiske, 1996). However, ambivalent sexism did not moderate any of the results and will not be discussed further.

Results

The manipulation check revealed that participants were convinced by the economic stability manipulation. Participants in the stable condition rated the economy as significantly more stable ($M = 4.15$, $SD = 0.85$) than those in the unstable condition ($M = 1.81$, $SD = 0.94$), $F(1, 181) = 310.07$, $p < .001$, $\eta_p^2 = .63$. There were no effects of participant gender or party identification on the manipulation check.

The statements from the political impression task were submitted to an exploratory factor analysis using a maximum likelihood extraction with a direct oblimin rotation. Examination of the scree plot supported a two-factor solution. The first factor included all of the impression items (positive first impression, credibility, leadership potential, considering voting for the candidate, wanting to read more about the candidate, and candidate impressiveness) and had an eigenvalue of 4.83, accounting for 60.32% of the total variance. The overall reliability of a composite based on these six items was good, $\alpha = .87$. The second factor consisted of the items related to the belief that the candidate could win elections (ability to win primary, ability to win general) and had an eigenvalue of .92, accounting for 11.51% of the total variance. The overall reliability of a composite based on these 2 items was also good, $\alpha = .95$.

To examine the hypothesis that female (but not male) candidates would be devalued under conditions of economic uncertainty, we conducted a 2 (stability manipulation) × 2 (gender of candidate) analysis of variance (ANOVA). The analysis revealed no main effects of either the candidate gender ($F[1, 179] = 0.67$, $p = .41$, $\eta_p^2 = .004$) or stability ($F[1, 179] = 1.53$, $p = .22$, $\eta_p^2 = .008$) manipulations.[1] However, as hypothesized, there was a significant inter-

[1] Although there were main effects of participant gender (women rated the candidates more positively than men did) and party identification (Democrats rated the candidates more positively than Republicans or Independents did), there were no higher-order interactions with either of these participant variables, nor any effects of the candidate Image Set variable; thus, all analyses reported are collapsed across these variables.

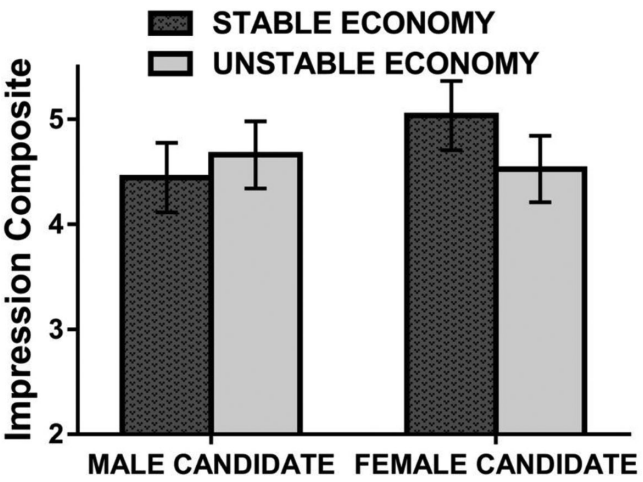

Fig. 1. Positive impression of candidates, Experiment 1. Error bars indicate 95% confidence intervals.

action between candidate gender and the stability manipulation, $F(1, 179) = 3.93$, $p = .049$, $\eta_p^2 = .021$ (see Figure 1). Follow-up tests of simple effects revealed that evaluations of male candidates did not differ by whether the economy had been described as stable or unstable, $M_{diff} = -0.19$, $p = .41$, Hedges's $g = -0.17$, 95% confidence interval (CI; −0.65, 0.27).[2] Evaluations of female candidates, however, were significantly more positive when the economy had been depicted as stable versus unstable, $M_{diff} = 0.46$, $p = .049$, Hedges's $g = 0.41$, 95% CI (0.003, 0.923; see Figure 1).

A similar pattern was observed when looking at the candidate's perceived ability to win an election. Results again showed a significant interaction between the gender and stability manipulations, $F(1,179) = 4.74$, $p = .031$, $\eta_p^2 = .026$ (see Figure 2). Follow-up tests of simple effects revealed that perceptions of a male candidate's ability to win elections did not shift as a function of perceived economic instability, $M_{diff} = -0.17$, $p = .47$, Hedges's $g = -0.15$, 95% CI (−0.63, 0.29). Beliefs about a female candidate's ability to win an election, however, were significantly lower when the economy was described as unstable versus stable, $M_{diff} = 0.55$, $p = .019$, Hedges's $g = 0.50$, 95% CI (0.09, 1.01).

[2] All 95% confidence intervals reflect confidence intervals around the mean difference between the groups of interest.

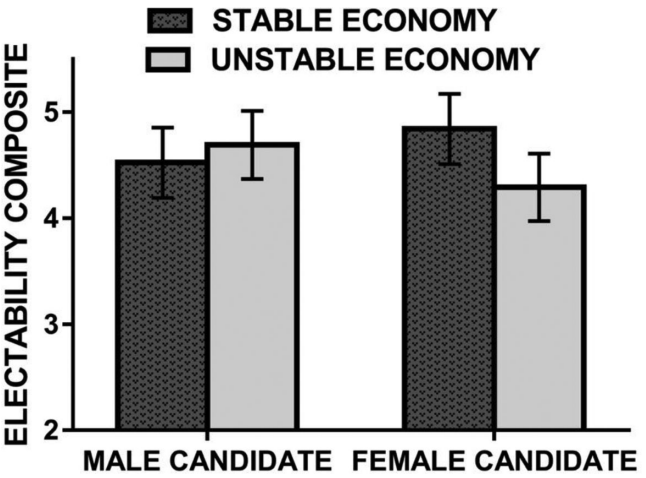

Fig. 2. Perceived ability to win (Experiment 1). Error bars indicate 95% confidence intervals.

Exploratory Analyses

Although our focal hypotheses did not address the role of perceiver gender in reactions to female versus male candidates, past research documents a variety of gender differences in political attitudes and candidate evaluations (see Atkeson & Rapoport, 2003). To test whether perceiver gender matters in the present context, we conducted a 2 (candidate gender) $\times$ 2 (stability condition) $\times$ 2 (participant gender) ANOVA. Although this three-way interaction was not significant ($F[1,175] = 1.91$, $p = .169$, $\eta_p{}^2 = .011$), the means suggested the possibility that the effects of candidate gender and stability manipulation may differ by participant gender. Specifically, follow-up tests of simple effects revealed that male participants showed a larger decrement for female candidates in unstable versus stable conditions ($M_{diff} = .53$, $p = .074$, Hedges's $g = 0.53$, 95% CI [-.05, 1.12]), whereas female participants did not show as large of an effect ($M_{diff} = .29$, $p = .39$, Hedges's $g = 0.26$, 95% CI [-.37, 0.95]). We revisit this issue in Study 2, a higher-powered replication.

Discussion

In line with other recent work, we found no overall bias against female candidates; however, women running for high office *were* differentially susceptible to devaluation in the presence of economic stability threats. Although reading about economic instability did not change how respondents viewed male candidates, it

did lead them to evaluate female candidates more negatively and to be skeptical about the woman's potential for electoral success.

These findings provide important insight into how non-physical threats impact perceptions and evaluations of male and female leaders. However, to establish the robustness of this pattern, it would be valuable to replicate it. Moreover, the exploratory analyses suggested that there may be differences depending on participants' gender, which Study 1 was underpowered to detect. Thus, our second study was designed to provide a direct replication with a larger sample, while also extending our understanding by documenting possible psychological mediators of the devaluation of women candidates under economic uncertainty.

Study 2

Study 2 employed the same manipulations and measures as in Study 1, but we also added measures of two possible mediating mechanisms. One reason people may become skeptical about female leaders under economic uncertainty could be a *conservative shift* engendered by the economic threat manipulation. Bonanno and Jost (2006) argued that threats to a social system tend to shift individuals toward a more conservative political orientation, and conservatism has been associated with more traditional gender role attitudes (Cotter, Hermsen, & Vanneman, 2011) and more sexist attitudes toward women (Christopher & Mull, 2006). To test this idea, we measured respondents' endorsement of conservatism after the economic (in)stability manipulation as well as their endorsement of traditionally sexist attitudes (Wirth & Bodenhausen, 2009). We examined issue-oriented gender stereotyping as a second possible mediator. Because women and men are each (stereotypically) assumed to have particular policy strengths, when voters consider many different issues they may have no overall bias against a female candidate. However, if a message of economic volatility makes the stereotypically male policy domain of economics an especially high-priority concern for voters, this may activate an image of political leadership that is disproportionately skewed toward areas of male stereotypical expertise. In other words, economic instability may lead voters to view political candidates through a more strongly gendered lens. To test this idea, we included a measure of the candidates' perceived ability to handle stereotypically masculine (and feminine) policy domains.

As a secondary goal, we tested the possibility that this selective decrease in evaluation may be more prominent among men more than women. A few theoretical perspectives underlie this possibility. First, extant work from political science has demonstrated gender affinity effects–or the tendency to favor one's own gender (e.g., Dolan, 2008). Thus, female voters are likely to show more favorable evaluations of female candidates and this support may persist regardless

of contextual factors such as economic conditions. In addition, past research indicates that there are gender differences in interest in economics, such that men are on average more concerned about economic issues than women (e.g., Bansak & Starr, 2010; Dynan & Rouse, 1997). As such, women may be less influenced by a manipulation involving descriptions of macroeconomic conditions than men.

Method

Participants and design: We recruited 405 individuals from MTurk, aiming for approximately 100 participants per experimental condition. Using the effect size obtained from Study 1, we reasoned that this sample size would give us adequate power (1- $\beta > .80$) to detect a small-to-medium sized effect ($f = .14$). They were assigned to one of the conditions of a 2 × 2 between-subjects design defined by perceived economic volatility and candidate gender. Of the 405 respondents, 53 failed attention checks, leaving 352 participants in the final analysis. Participants were mostly White (77%), followed by Asian (10%), Black (7%), Hispanic (4%), and Other (1%). About half of all participants were men (54.3%). Participants ranged in age from 18 to 75, with a mean of 35.55 (SD = 11.34). Participants were mostly self-identified Democrats (66.2%), followed by self-identified Republicans (19.6%), and then Independents (14.2%). Party classification was again determined by a question asking whether participants identified more with Democrats than Republicans, vice versa, or both parties about the same.

Procedure: The procedure for this study paralleled Study 1, except for the inclusion of measures of the potential mediators (outlined below), which came immediately after the main impression and electability dependent variables.

Materials: Participants completed all of the same measures from Study 1. In addition, they rated the extent to which they thought the candidate would be able to competently handle healthcare, education, civil rights, income inequality, economic stability, domestic security, international security, international trade agreements, illegal immigration, and gun control issues on a scale from 1 = not at all competently to 6 = completely competently.

Participants were also asked to report their level of agreement with conservative ideology (from 1 = not at all to 7 = completely) both before the economic stability manipulation and at the conclusion of the experiment. Conservative shift was calculated by taking the participants' self-reported level of conservatism at the end of the study and subtracting their premanipulation level of conservatism. Positive values indicated a shift towards greater conservatism after reading about macroeconomic (in)stability. Finally, participants completed a 6-item measure of traditional sexism. They indicated their agreement or disagreement to statements such as "I feel uncomfortable around people who deviate strongly from traditional gender roles" on a scale from 0 = Strongly Disagree to 5 = Strongly Agree ($\alpha = .86$).

Results

Manipulation Check

The manipulation check again revealed that participants were persuaded by the stability manipulation. Participants in the stable condition thought the economy was significantly more stable ($M = 4.07$, $SD = 0.72$) than those in the unstable condition ($M = 1.85$, $SD = 0.84$), $F(1, 350) = 709.63$, $p < .001$, $\eta_p^2 = .67$.

Evaluations of Candidate

Exactly as in Study 1, a composite was calculated for both the evaluation of the candidate and perceptions of his or her ability to win ($\alpha = .86$ and .94, respectively). With the smaller sample used in Study 1 we found no statistically significant participant gender effects, but preliminary analyses in this higher-powered version of the study did reveal participant gender effects. Thus, the data were analyzed in a 2 (Candidate gender) × 2 (Stability manipulation) × 2 (Participant gender) ANOVA.[3] Results revealed a significant effect of the stability manipulation on candidate evaluations, such that participants who read about economic stability ($M = 4.93$, $SD = 0.96$) evaluated candidates more positively than those who read about instability ($M = 4.59$, $SD = 1.07$), $F(1, 344) = 10.09$, $p = .002$, $\eta_p^2 = .028$. There was also a significant main effect of participant gender, such that women ($M = 4.95$, $SD = 0.97$) generally evaluated candidates more positively than men did ($M = 4.56$, $SD = 1.04$), $F(1, 344) = 10.56$, $p = .001$, $\eta_p^2 = .030$. Finally, there was also a main effect of candidate gender, $F(1, 344) = 4.03$, $p = .045$, $\eta_p^2 = .012$. Female candidates ($M = 4.84$, $SD = 1.08$) were generally evaluated more positively than male candidates ($M = 4.63$, $SD = 0.96$) in our primarily liberal Democrat sample (cf. McDermott, 1997). The two-way interactions between the stability and candidate gender manipulations ($F(1, 344) = 0.47$, $p = .49$, $\eta_p^2 = .001$), the stability manipulation and participant gender ($F(1, 344) = 0.44$, $p = .51$, $\eta_p^2 = .001$), and the candidate gender manipulation by participant gender $F(1, 344) = 1.09$, $p = .30$, $\eta_p^2 = .003$) interactions were all non-significant.

Most relevant to our hypotheses, analyses revealed a significant three-way interaction between participant gender, the economic stability manipulation, and candidate gender, $F(1,344) = 4.30$, $p = .039$, $\eta_p^2 = .012$. Breaking down the interaction by participant gender, the two-way interaction between the candidate gender and stability manipulation revealed a significant interaction for male participants, $F(1, 187) = 3.96$, $p = .048$, $\eta_p^2 = .021$. Further examination of

[3] As in Study 1, the results reported below were not qualified by party affiliation or image set, so we collapsed across these variables in the analysis.

the simple effects using follow-up tests revealed that male participants evaluated female candidates more favorably under perceived system stability ($M = 4.99$, $SD = 0.85$) than instability ($M = 4.28$, $SD = 1.12$), $M_{diff} = 0.70$, $p = .001$, Hedges's $g = .70$, 95% CI (0.28, 1.13). Male participants' evaluations of male candidates did not differ between stable ($M = 4.59$, $SD = 0.96$) and unstable ($M = 4.48$, $SD = 1.11$) conditions, $M_{diff} = 0.12$, $p = .57$, Hedges's $g = .11$, 95% CI (−0.28, 0.52). Among female participants, female candidates ($M = 5.10$, $SD = 1.06$) were generally evaluated more favorably than male candidates ($M = 4.80$, $SD = 0.85$), $F(1, 157) = 4.58$, $p = .034$, $\eta_p^2 = .028$; moreover, this gender affinity effect was not qualified by the stability manipulation, $F(1, 157) = 0.95$, $p = .332$, $\eta_p^2 = .006$.

Perceived Ability to Win

Results for the perceived ability to win composite variable revealed a significant effect of economic stability, such that participants who read about stability ($M = 4.70$, $SD = 1.09$) rated candidates as more likely to enjoy electoral success than those who read about instability ($M = 4.37$, $SD = 1.23$), $F(1, 344) = 7.20$, $p = .008$, $\eta_p^2 = .021$. There were no other significant main effects, nor any significant two-way interactions.

As with the evaluation dependent variable, however, there was a significant three-way interaction between participant gender, the candidate gender manipulation, and the stability manipulation, $F(1, 348) = 5.03$, $p = .025$, $\eta_p^2 = .014$. Again, there was a significant two-way interaction between the candidate gender and stability manipulations for male participants, $F(1, 187) = 8.55$, $p = .004$, $\eta_p^2 = .044$. Examination of the simple effects using follow-up tests shows that male participants evaluated female candidates more positively when the economy was described as stable ($M = 5.00$, $SD = 0.97$) versus when it was described as volatile ($M = 4.09$, $SD = 1.26$), $M_{diff} = 0.91$, $p < .001$, Hedges's $g = 0.79$, 95% CI (0.41, 1.40). Male participants' evaluations of male candidates did not differ as a function of stability condition (Ms = 4.40 vs. 4.50 in the stable vs. unstable conditions, respectively), $M_{diff} = -0.10$, $p = .66$, Hedges's $g = -0.08$, 95% CI (−0.57, 0.36). Among the female participants, there was a marginal tendency ($p = .057$) to evaluate the female candidate more positively than the male candidate but no interaction between candidate gender and economic stability, $F(1, 157) = 0.08$, $p = .77$, $\eta_p^2 = .001$.

Omnibus Analyses

As the procedures across Studies 1 and 2 were identical up to the mediational items, we conducted an omnibus analysis collapsing across the two studies on our main dependent variables of interest to examine the cumulative evidence

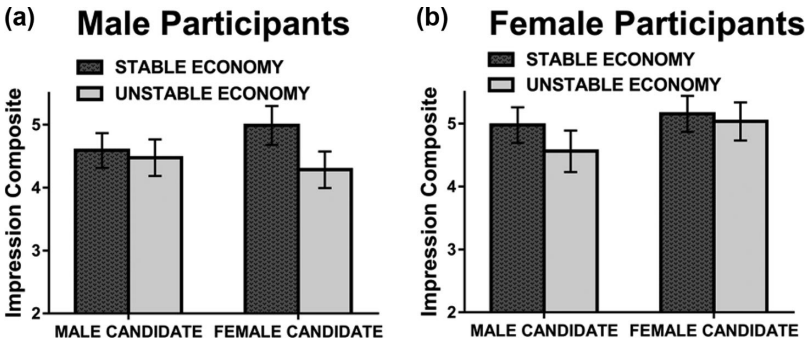

Fig. 3. Mean candidate impressions from the omnibus analysis. Error bars indicate 95% confidence intervals.

regarding our hypotheses. The 2 (economic stability) × 2 (candidate gender) × 2 (participant gender) omnibus ANOVA using all 535 participants (55.3% male, overall) revealed a significant main effect of stability condition on candidate evaluations, $F(1, 527) = 8.91$, $p = .003$, $\eta_p^2 = .017$. Participants who read about the stability of the economy evaluated candidates more positively ($M = 4.84$, $SD = 1.03$) than those who read about instability ($M = 4.56$, $SD = 1.08$), $M_{diff} = 0.27$, 95% CI (0.091, 0.439). There was also a significant main effect of participant gender on evaluations, $F(1, 527) = 24.74$, $p < .001$, $\eta_p^2 = .045$. In general, female participants ($M = 4.95$, $SD = 1.03$) evaluated candidates more positively than male participants did ($M = 4.50$, $SD = 1.04$), $M_{diff} = 0.44$, 95% CI (0.267, 0.616). A significant effect of candidate gender also emerged, such that female candidates ($M = 4.83$, $SD = 1.10$) were generally evaluated more positively than male candidates ($M = 4.61$, $SD = 1.01$), $F(1, 527) = 5.98$, $p = .015$, $\eta_p^2 = .011$. This was qualified by a significant interaction between participant gender and candidate gender, $F(1, 527) = 4.60$, $p = .032$, $\eta_p^2 = .009$. Examination of the simple effects shows that female participants evaluated female candidates ($M = 5.15$, $SD = 1.06$) more positively than they did male candidates ($M = 4.74$, $SD = 0.96$), $M_{diff} = 0.41$, $p = .002$, 95% CI (0.148, 0.667). Male participants' evaluations did not differ between male ($M = 4.49$) and female ($M = 4.52$) candidates, $M_{diff} = -0.03$, $p = .82$, 95% CI (−0.259, 0.206).

Crucially, the three-way interaction between participant gender, the instability manipulation, and the candidate gender manipulation was significant, $F(1, 527) = 6.16$, $p = .013$, $\eta_p^2 = .012$. Decomposing the three-way interaction by participant gender, results reveal a significant two-way interaction for male participants, $F(1, 292) = 9.21$, $p = .003$, $\eta_p^2 = .031$ (see Figure 3A). Male participants evaluated female candidates more positively in the economic stability condition than in the instability condition, $M_{diff} = 0.64$, $p < .001$, 95% CI (0.304, 0.982). Male

participants' evaluations of male candidates did not differ as a function of the stability manipulation, $M_{diff} = 0.08, p = .62$, CI $(-0.243, 0.406)$. No corresponding two-way interaction emerged for female participants, $F(1, 235) = 0.36$, $p = .55$, $\eta_p{}^2 = .002$. There was, however, a significant main effect of the candidate gender manipulation, such that women evaluated the female candidate ($M = 5.15$) more positively than the male candidate ($M = 4.74$), $M_{diff} = .41$, $p = .002$, 95% CI (0.15, 0.67; see Figure 3B).

Results for the perceived ability to win composite mirror those of the evaluation composite. In particular, in a significant 3 way (participant gender × candidate gender × stability condition) interaction, $F(1, 527) = 6.33$, $p = .012$, $\eta_p{}^2 = .012$, the male participants again showed significant devaluation of the female but not the male candidate under conditions of economic instability (for means, see Table 1). There was no equivalent devaluation of male candidates by female participants; however, female participants showed a gender affinity effect favoring the female ($M = 4.79$) over the male candidate ($M = 4.49$), $F(1, 235) = 4.03$, $p = .046$, $\eta_p{}^2 = .017$.

Tests of Moderated Mediation

Study 2 also incorporated potential mediators of the tendency for economic instability to result in devaluation of female candidates: a conservative shift resulting in preference for more traditional gender roles and the candidate's perceived ability to handle gender-linked policy issues. Conservative shift was assessed by subtracting the participants' conservativism scores at the outset of the experiment from their scores at the end of the experiment, after they had been exposed to the economic stability manipulation. We found no evidence whatsoever for a conservative shift. Turning to policy-related stereotyping, we first submitted all the policy issue ratings to an exploratory factor analysis. Results revealed a two-factor model as the best fit for the data, $\chi^2\,(26) = 78.79$, $p < .001$. The first factor had an eigenvalue of 2.31 and accounted for 23.08% of the total variance. This factor included the stereotypically more masculine policy arenas (international security, international trade, illegal immigration, economics, and domestic security), and a composite based on these ratings had acceptable internal reliability, $\alpha = .73$. The second factor had an eigenvalue of 2.26 and accounted for 22.57% of the total variance. This factor included the more stereotypically feminine policy areas (healthcare, education, civil rights, income inequality, and gun control); composite score $\alpha = .76$.

The candidate's perceived ability to handle the stereotypically more female policy issues was not significantly influenced by candidate gender or the economic stability manipulation (all ps $> .30$). However, perceived ability to handle masculine policy issues did show a pattern in line with our main results, so we tested a specific model of moderated mediation with participant gender as the moderator

Table 1. Means (and SDs) for Likelihood of Electoral Success in the Omnibus Analysis

	Female participants				Male participants			
	Stable	Unstable	M_{diff}	95% CI	Stable	Unstable	M_{diff}	95% CI
Female candidate	4.91 (1.08)	4.61 (1.21)	0.25	−0.15, 0.65	4.87 (0.91)	4.05 (1.20)	0.82	0.44, 1.19
Male candidate	4.61 (1.15)	4.38 (1.07)	0.23	−0.19, 0.64	4.38 (1.13)	4.58 (1.28)	−0.20	−0.56, 0.16

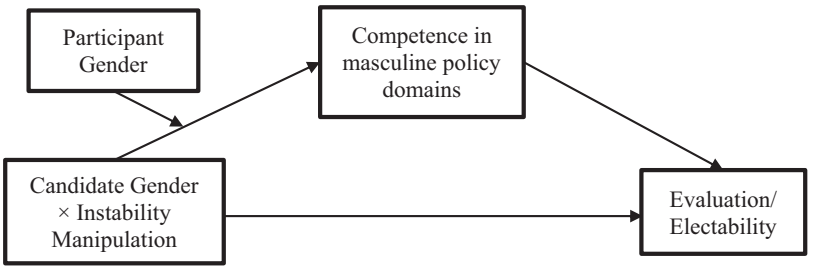

Fig. 4. Moderated mediation model for the influence of candidate gender on evaluation through the candidate's ability to handle masculine policy issues, moderated by both the instability manipulation and participation gender.

and perceived ability to handle masculine policy issues as the mediator (see Figure 4).

To conduct this test, we used Model 12 from Hayes's (2013) PROCESS Macro, which allows for a three-way interaction term in predicting the mediator and the outcome variable. Specifically, the analysis examined whether there was (i) a significant three-way interaction between participant gender, candidate gender, and the instability manipulation in predicting the candidate's ability to handle masculine policy issues; (ii) whether there was a significant effect of the masculine-policy mediator on the dependent variable; and (iii) whether there are different conditional indirect effects of the moderator on the dependent variables through the proposed mediator. The analysis used the impression and electability composite ratings of the candidate as the dependent variables (in separate, parallel models). The analyses used 5,000 bootstrap resamples and a bias-corrected and accelerated 95% CI.

Results confirmed a significant three-way interaction between the instability manipulation, candidate gender, and participant gender on the candidate's perceived competence in handling masculine policy issues, $b = 0.94$, $SE = .41$, $t(351) = 2.31$, $p = .022$, 95% CI (0.138, 1.734). The candidate's perceived ability to handle stereotypically masculine policy issues in turn significantly predicted the evaluation of the candidate, $b = 0.25$, $SE = .06$, $t(351) = 4.56$, $p < .001$, 95% CI (0.143, 0.360). The CI for the overall index of moderated mediation did not include zero, providing support for the conceptual model in Figure 4, $b = 0.24$, $SE = .12$, 95% CI (0.052, 0.513).

Examination of the conditional indirect effects showed that when system instability was high, male (but not female) participants evaluated the female candidate as less able to handle masculine policy domains and consequently evaluated her less favorably; this same indirect path was absent when evaluating male candidates for both male and female participants (see Table 2).

Table 2. Moderated Mediation Results for the Candidate's Perceived Ability to Handle Stereotypically Masculine Policy Issues as a Function of Candidate Gender and Participant Gender

				Candidate's ability to handle masculine policy issues			
						95% CI	
Moderator 1	Level	Moderator 2	Level	Conditional indirect effect	SE	Lower	Upper
Candidate gender	Male	Participant gender	Male	−0.019	0.049	−0.125	0.068
			Female	−0.089	0.054	−0.217	0.000
	Female		Male	−0.121	0.058	−0.263	−0.031
			Female	0.042	0.061	−0.061	0.189

Parallel tests of the model depicted in Figure 4 were conducted using the perceived ability-to-win composite as the criterion variable. These results were also significant in the same respects and full details are available in the supplementary online materials.

Discussion

Replicating the results of Study 1, this study showed that female candidates are evaluated less favorably under conditions of salient economic instability, compared to when the economy seems stable and predictable. However, this devaluation of female candidates only occurred among male participants. These results also extended those of Study 1 by documenting one underlying reason for this effect; men led to view the economy as unstable were more likely to judge a female candidate as less able to handle stereotypically masculine policy issues, which in turn adversely impacted broader evaluations of her and her perceived electability. Overall, these results suggest that economic threats heighten the salience of gender as a leadership heuristic for male perceivers, resulting in a devaluation of female candidates.

General Discussion

The outcome of the 2016 U.S. Presidential election took many by surprise, and there has been no shortage of theories about the reasons for Trump's victory over Clinton. Some commentators highlighted the role of sexism. *Newsweek* proclaimed that "The Presidential election was a referendum on gender, and women lost" (Burleigh, 2016). Other experts instead emphasized the importance of economic anxiety (e.g., Casselman, 2017). Our results suggest that there is merit in both perspectives by showing that these factors can work together to influence reactions to political candidates. Despite winning the popular vote by over three million votes, Mrs. Clinton experienced unexpected losses in rust belt states like

Pennsylvania, Michigan, and Wisconsin. While many other specific factors were obviously in play in voters' decisions, the general pattern of our studies and the results from these states–ones characterized by substantial economic anxiety–both highlight the potential for female candidates to be selectively disadvantaged by economic concerns, despite being evaluated more positively in general.

Our studies show that, in general, when the economy seems stable, men think about political leadership in a less gendered way and are willing to support female candidates. Indeed, our majority liberal-Democrat sample of men evaluated the female Senate candidate more favorably than the matched male candidate (cf. McDermott, 1997) when they had been led to think of the economy as stable. Under these conditions, their salient policy concerns may be more likely to emphasize domains of perceived female competence (e.g., healthcare, education, etc.). However, when they are prompted to think about economic instability, they view political candidates through a more gendered lens, characterizing women as less able and less successful politicians. In contrast, their impressions of male candidates were not modified by salient economic conditions. Because the characteristics of leadership positions are inherently agentic (Eagly & Karau, 2002), men's fit for these leadership roles does not change much as a function of economic stability. It would be interesting, in future research, to determine whether a context in which a stereotypically female policy domain is of foremost concern to voters would result in a differential disadvantage for male candidates. Overall, although female politicians have enjoyed gains in recent decades, during times of economic instability male voters appear to revert to a more traditional perspective that devalues women leaders because they are seen as less equipped to handle stereotypically masculine policy domains.

The findings also indicate that women show a gender affinity effect overall—they tended to evaluate female candidates more favorably than male candidates. This effect extended to the perceived electability of candidates as well, which is often a better predictor of electoral outcomes than an individual's evaluation of the candidate (Rothschild & Wolfers, 2012). Women evaluated the female candidate more positively than the male candidate and perceived her more capable of winning elections regardless of instability condition. Though this was a secondary goal in our study, it nonetheless holds important theoretical and practical implications. Theoretically, they suggest a gender difference such that women are less susceptible to being swayed by information about macrosocial economic threats than men are. This also helps to highlight the potential difference between economic and physical threats (like terrorism). Although men and women are likely to be similarly concerned about issues of physical safety, they may differ in the degree to which they are concerned about macroeconomic conditions.

The apparent belief among many of our male participants that female candidates are not well equipped to deal with economic problems highlights the importance of investing in efforts to reduce gender disparities in economics

training (e.g., Hale & Regev, 2014). Evidence clearly indicates that women can thrive in the field of economics when the factors underlying these disparities are addressed (Fraumeni, 2011). Once such disparities are eliminated and women are observed as often as men in the economics profession, negative stereotypes about women's ability in this important policy domain are likely to fade away (e.g., Koenig & Eagly, 2014).

We controlled for political party affiliation in these studies by matching the candidate's party identification to that of the participant, and we did not find that political party moderated our findings. Nonetheless, it is important to consider the role that political party may play in receptivity to female candidates. For example, Democrats tend to evaluate female candidates very positively, regardless of political party (Brians, 2005; King & Matland, 2003). Our samples, which skewed more Democratic, showed a similar pattern of greater overall positivity towards female candidates. On the target side, political party may interact with a candidate's gender in complex ways. Just as men and women are stereotyped in certain ways, political parties themselves are stereotyped as possessing more expertise on some issues than others. Democrats are favored to handle unemployment and other socially oriented issues, while Republicans are favored to handle issues such as war (Huddy & Terkildsen, 1993b). Thus, there may be synergistic forces when a female candidate runs as a Democrat focused on women's issues or when a man runs as a Republican focused on security issues (Herrnson et al., 2003). It is important to note, however, that we are not suggesting that the influence of political party eliminates any effect of gender stereotyping (cf. Sanbonmatsu & Dolan, 2009). Rather, future work should look at the interaction between political party and gender when assessing a potential candidate's ability to handle a variety of policy uses. Some current work has begun developing frameworks that take both party and gender into account. Holman and colleagues note a main effect of political party such that Democrats are perceived to be less capable of handling male-stereotyped policies than Republicans; additionally, this effect is stronger for Democratic women than men (Holman, Merolla, & Zechmeister, 2016).

Future research should also examine other forms of social instability, other than economic volatility. It would be interesting to know whether societal uncertainty in *any* form can trigger a reversion (at least among men) to a more gender-stereotypical view of political candidates. One such form of instability that might be examined is America's demographic shift towards becoming a "majority minority" country (Craig & Richeson, 2014). In addition, our studies only examined candidates for the U.S. Senate and did not consider lower-level political office. It may be the case that economic instability affects female and male candidates differently at different levels of leadership. In general, women have made more gains in lower and mid-level forms of leadership, compared to the highest levels (i.e., the "glass ceiling"–e.g., Cotter, Hermsen, Ovadia, & Vanneman, 2001).

Although women have made large strides in political representation, they are nonetheless still vastly outnumbered by men in political roles. The present studies shed some new light on why that imbalance might still exist at a moment when most Americans espouse a willingness, in principle, to support a female Commander-in-Chief. In evaluating potential candidates for high levels of political leadership, economic instability can activate gendered thinking in ways that differentially disadvantage women seeking leadership roles. Such situational factors may help explain why the glass ceiling remains merely cracked, and not broken.

References

Atkeson, L. R., & Rapoport, R. B. (2003). The more things change the more they stay the same: Examining gender differences in political attitude expression, 1952–2000. *Public Opinion Quarterly*, *67*, 495–521.

Bansak, C., & Starr, M. (2010). Gender differences in predispositions toward economics. *Eastern Economic Journal*, *36*, 33–57.

Bonanno, G. A., & Jost, J. T. (2006). Conservative shift among high-exposure survivors of the September 11th terrorist attacks. *Basic and Applied Social Psychology*, *28*, 311–323.

Brians, C. L. (2005). Women for women? Gender and party bias in voting for female candidates. *American Politics Research*, *33*, 357–375.

Brooks, D. J. (2013). *He runs, she runs: Why gender stereotypes do not harm women candidates*. Princeton, NJ: Princeton University Press.

Burleigh, N. (2016, November 14). The presidential election was a referendum on gender and women lost. *Newsweek*. Retrieved from: http://www.newsweek.com/2016/11/18/hillary-clinton-presidential-election-voter-gender-gap-520579.html

Casselman, B. (2017, January 9). Stop saying Trump's win had nothing to do with economics. *FiveThirtyEight*. Retrieved from: https://fivethirtyeight.com/features/stop-saying-trumps-win-had-nothing-to-do-with-economics/

Christopher, A. N., & Mull, M. S. (2006). Conservative ideology and ambivalent sexism. *Psychology of Women Quarterly*, *30*, 223–230.

Cotter, D. A., Hermsen, J. M., Ovadia, S., & Vanneman, R. (2001). The glass ceiling effect. *Social Forces*, *80*, 655–681.

Cotter, D. A., Hermsen, J. M., & Vanneman, R. (2011). The end of the gender revolution? Gender role attitudes from 1977 to 2008. *American Journal of Sociology*, *117*, 259–289.

Craig, M. A., & Richeson, J. A. (2014). On the precipice of a "majority-minority" America: Perceived status threat from the racial demographic shift affects white Americans' political ideology. *Psychological Science*, *25*, 1189–1197.

Dolan, K. (2008). Is there a "gender affinity effect" in American politics? Information, affect, and candidate sex in US House elections. *Political Research Quarterly*, *61*, 79–89.

Dolan, K. (2010). The impact of gender stereotyped evaluations on support for women candidates. *Political Behavior*, *32*, 69–88.

Dolan, K. (2014). Gender stereotypes, candidate evaluations, and voting for women candidates: What really matters?. *Political Research Quarterly*, *67*, 96–107.

Dynan, K. E., & Rouse, C. E. (1997). The underrepresentation of women in economics: A study of undergraduate economics students. *Journal of Economic Education*, *28*, 350–368.

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, *109*, 573–598.

Eagly, A. H., Wood, W., & Diekman, A. B. (2000). Social role theory of sex differences and similarities: A current appraisal. *The developmental social psychology of gender*, 123–174.

Felson, R. B. (1996). Big people hit little people: Sex differences in physical power and interpersonal violence. *Criminology*, *34*, 433–452.

Fraumeni, B. M. (2011). Report of the committee on the status of women in the economics profession 2010. *American Economic Review*, *101*, 731–736.
Gavin, N. T., & Sanders, D. (1997). The economy and voting. *Parliamentary Affairs*, *50*, 631–640.
Glick, P., & Fiske, S. T. (1996). The ambivalent sexism inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology*, *70*, 491–512.
Hale, G., & Regev, T. (2014). Gender ratios at top PhD programs in economics. *Economics of Education Review*, *41*, 55–70.
Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
Henley, N. M. (1977). *Body politics: Power, sex, and nonverbal communication*. Englewood Cliffs, NJ: Prentice-Hall.
Herrick, R. (1996). Is there a gender gap in the value of campaign resources? *American Politics Quarterly*, *24*, 68–80.
Herrnson, P. S., Lay, J. C., & Stokes, A. K. (2003). Women running "as women": Candidate gender, campaign issues, and voter-targeting strategies. *The Journal of Politics*, *65*, 244–255.
Holman, M. R., Merolla, J. L., & Zechmeister, E. J. (2011). Sex, stereotypes, and security: A study of the effects of terrorist threat on assessments of female leadership. *Journal of Women, Politics & Policy*, *32*, 173–192.
Holman, M. R., Merolla, J. L., & Zechmeister, E. J. (2016). Terrorist threat, male stereotypes, and candidate evaluations. *Political Research Quarterly*, *69*, 134–147.
Huddy, L., & Terkildsen, N. (1993a). The consequences of gender stereotypes for women candidates at different levels and types of office. *Political Research Quarterly*, *46*, 503–525.
Huddy, L., & Terkildsen, N. (1993b). Gender stereotypes and the perception of male and female candidates. *American Journal of Political Science*, *37*, 119–147.
Kakkar, H., & Sivanathan, N. (2017). When the appeal of a dominant leader is greater than a prestige leader. *Proceedings of the National Academy of Sciences USA*, *114*, 6734–6739. https://doi.org/10.1073/pnas.1617711114
King, D. C., & Matland, R. E. (2003). Sex and the grand old party: An experimental investigation of the effect of candidate sex on support for a Republican candidate. *American Politics Research*, *31*, 595–612.
Koenig, A. M., & Eagly, A. H. (2014). Evidence for the social role theory of stereotype content: Observation of groups' roles shape stereotypes. *Journal of Personality and Social Psychology*, *107*, 371–392.
Lammers, J., Gordijn, E. H., & Otten, S. (2009). Iron ladies, men of steel: The effects of gender stereotyping on the perception of male and female candidates are moderated by prototypicality. *European Journal of Social Psychology*, *39*, 186–195.
Landau, M. J., Solomon, S., Greenberg, J., Cohen, F., Pyszczynski, T., Arndt, J., & Cook, A. (2004). Deliver us from evil: The effects of mortality salience and reminders of 9/11 on support for President George W. Bush. *Personality and Social Psychology Bulletin*, *30*, 1136–1150.
Lawless, J. (2004). Women, war, and winning elections: Gender stereotyping in the post-September 11th era. *Political Research Quarterly*, *57*, 479–490.
Lawless, J. L. (2015). Female candidates and legislators. *Annual Review of Political Science*, *18*, 349–366.
Maher, K., & Mahtani, S. (2016, November 9). Midwest voters as shocked as the nation by Trump victory in Rust Belt. *Wall Street Journal*, retrieved from: http://blogs.wsj.com/washwire/2016/11/09/midwest-voters-as-shocked-as-the-nation-by-trump-victory-in-rust-belt/
Marlow, S., & Patton, D. (2005). All credit to men? Entrepreneurship, finance, and gender. *Entrepreneurship: Theory & Practice*, *29*, 717–735.
McDermott, M. L. (1997). Voting cues in low-information elections: Candidate gender as a social information variable in contemporary United States elections. *American Journal of Political Science*, *41*, 270–283.
Rothschild, D. M., & Wolfers, J. (2012). *Forecasting elections: Voter intentions versus expectations*. Working paper. Available at http://ssrn.com/abstract=1884644.
Sanbonmatsu, K., & Dolan, K. (2009). Do gender stereotypes transcend party? *Political Research Quarterly*, *62*, 485–494.

Schneider, M. C., & Bos, A. L. (2016). The interplay of candidate party and gender in evaluations of political candidates. *Journal of Women, Politics & Policy*, *37*, 274–294.
Soroka, S. N., Stecula, D. A., & Wiezien, C. (2015). It's (change in) the (future) economy, stupid: Economic indicators, the media, and public opinion. *American Journal of Political Science*, *59*, 457–474.
Wirth, J. H., & Bodenhausen, G. V. (2009). The role of gender in mental-illness stigma: A national experiment. *Psychological Science*, *20*(2), 169–173.

Supplementary Information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Supporting information

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