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## Gender and social conformity: Do men and women respond differently to social pressure to vote?

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### ABSTRACT

In this paper, we re-analyze data from a large-scale field experiment ( $N = 344,084$ ) on voter turnout in order to determine whether men and women respond differently to social pressure aimed at voter mobilization. To date, there have been mixed results regarding the interaction between a person's gender and receptivity to social influence. On the whole, our analyses confirm prior findings that social pressure increases voter turnout but uncover little to no evidence of gender differences in receptivity to social pressure cues in the context of political participation.

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### KEYWORDS

Social influence; voter turnout; field experiment; gender; prosociality

## Introduction

Why do people choose to vote given that the costs of voting generally outweigh the benefits (Downs 1957)? For decades, scholars have grappled with this question. Given that voting is one of the most basic ways to contribute to democracy, it is important to understand why some people engage in this costly, prosocial behavior while others do not. In recent years, political scientists and psychologists have amassed an important body of evidence on the psychological mechanisms underlying political participation.

One line of research in this area has illustrated that the application of social pressure can substantially increase the likelihood that an individual will vote. Indeed, numerous, recent studies (Gerber, Green, & Larimer, 2008; Gerber, Huber, Doherty, & Dowling, 2016; Gerber & Rogers, 2009; Panagopoulos, 2011, 2013, 2014) have illustrated that, because voting is widely viewed as a social norm with which people want to comply, social pressure can exert powerful effects on behavior. In one of the most well-known studies on this topic, Gerber et al. (2008) find that a message promising to publicize one's voting history to their neighbors increased turnout by 8.1% points.<sup>1</sup> Other social pressure messages have also produced increases in voter turnout; the application of social pressure typically increases turnout between 1 and 5% points, depending on the type of social message (Davenport,

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2010; Davenport et al., 2010; Gerber, Green, & Larimer, 2010; Mann, 2010; Panagopoulos, 2010, 2011, 2013, 2014; Panagopoulos & van der Linden, 2016).

Although there is a substantial body of evidence on the effectiveness of social pressure in encouraging people to vote, one interesting question that remains is whether social pressure equally affects individuals.<sup>2</sup> As Panagopoulos and Abrajano (2014) note, “[citizens’ attributes, including their demographic characteristics, may determine whether, and to what extent, social pressure can impel them to conform to social voting norms]” (p. 116). Some studies have examined heterogeneity in response to social pressure, although only a few attributes have been explored thus far, leaving us with an incomplete view of the extent to which social pressure impacts different subgroups within the population.

For example, Panagopoulos and Abrajano (2014) examine whether a person’s age influences receptivity to social pressure, finding that older individuals are more responsive to social pressure than younger individuals. Panagopoulos and van der Linden (2016) examine whether one’s political identity influences receptivity to implicit social pressure and find that Republicans are more responsive to implicit social pressure than Democrats or independents (also see Jost et al., 2018). Similarly, Panagopoulos (2011) examines whether the impact of social pressure messages varies depending on the size of one’s community. He finds little evidence that community size moderates the impact of social pressure cues. Panagopoulos (2013) also examines the impact of a social pressure message on unmarried women and minorities and finds that social pressure has similar effects across the demographic groups he studies. Gerber, Huber, Doherty, Dowling, and Panagopoulos (2013) examine whether personality traits influence receptivity to social pressure and find that a number of the Big Five traits moderate the impact of social pressure on turnout.

In this paper, we are interested in understanding whether one key demographic characteristic – a person’s gender – moderates the impact of social pressure messages. Do men and women respond differently to social pressure to vote? Although there have been previous tests regarding the interaction of gender and social pressure, few studies have been done in the context of voter turnout. Some prior studies on social pressure and prosocial behavior have reported significant interactions between gender and receptivity to social pressure, while others have reported null results. Thus, we are interested in providing an additional test of whether the effects of social pressure cues on prosocial behavior (voter turnout, in this case) vary by gender. We investigate differences in responsiveness to social pressure by reanalyzing data from a large-scale field experiment ( $N = 344,084$ ) conducted during the 2006 Michigan primary election.

This paper is organized in a straightforward manner. First, we provide an overview of existing research on the interaction between a person’s gender and social influence. Second, we provide an overview of the experimental data we use to examine whether men and women respond differently to social pressure to vote. After replicating previous results on the effect of social pressure messages on turnout, we examine whether there is an interaction between a person’s gender and social pressure. Finally, we discuss the implications of our results and ideas for future research.

## Present research

We are interested in the question of whether men and women respond differently to social pressure to vote. In general, social psychologists distinguish between two separate sources

of social influence, namely; informational and normative influence (Cialdini & Goldstein, 2004; Deutsch & Gerard, 1955). We use the term “social pressure” broadly here to describe both messages where people are *explicitly* provided with information about the behavior of referent others (descriptive norms) as well as treatments that elicit conformity more implicitly through social surveillance cues (Panagopoulos & van der Linden, 2017).

Previous research from a variety of disciplines provides ideas about how gender might influence responsiveness to social pressure. Although conformity has always been a central topic in social psychology (Cialdini & Goldstein, 2004), much less research has investigated individual differences in social influence, particularly when it comes to voting and related political behaviors (but see Panagopoulos & van der Linden, 2016). Early research on conformity was quick to conclude that “females supply greater amounts of conformity under almost all conditions than men” (Nord, 1969, p. 198) and a number of subsequent studies in social psychology (Cacioppo & Petty, 1980; Cooper, 1979; Eagly, 1978; Eagly & Wood, 1991; Janis & Field, 1959) found that women may be more responsive to social influence than men. Indeed, in a large meta-analysis, Eagly and Carli (1981) found that women are typically more persuadable than men. Notably, this gender difference emerged specifically for conformity.

Eagly (2013) provides some ideas about why women might be more susceptible to social influence compared to men. Her social role theory suggests that that almost all behavioral differences between males and females stem from cultural stereotypes about how men and women are supposed to act and the social roles that are taught to young people. Accordingly, Eagly notes that men are often stereotyped to be more agentic and may therefore try to be more resistant to influence than women (Eagly, 2013). For example, in Eagly, Wood, and Fishbaugh’s (1981) social surveillance experiment, a gender difference appeared to surface from men’s *non*-conformity with surveillance: male conformity with surveillance was not only significantly lower than female conformity with surveillance, but also lower than both male and female conformity without surveillance. On the other hand, women may be more susceptible to social influence because of “the female gender role’s emphasis on communal qualities” (Eagly, 2013, p. 98) and expectations of warmth, cooperation, and compliance (Carli, 2001). For example, Guadagno and Cialdini (2002, 2007) found that women are more persuaded by face-to-face communication, whereas men are more or equally persuaded by computer-mediated communication. These results were largely attributed to higher communion and cooperation among women and higher competitiveness among men.

Social role prescriptions can further influence the relationship between gender and social influence through factors such as gender of the experimenter as well as gender-typing of topic. First, it is notable that greater gender differences are typically reported when the authors are male whereas little to no differences are found when the researchers are female (Eagly & Carli, 1981, but see Eagly, 1995 for a critical discussion). In other words, an author’s gender is associated with a preference for publishing results that favor their own gender. Further to this, researchers have found an effect of gender of experimenter on influenceability, with men being viewed as more agentic and competent overall and, thus, more persuasive than women (see Carli, 2017). Second, the nature of experimental tasks may have influenced past observations of gender differences in conformity (Eagly & Carli, 1981). For example, Sistrunk and McDavid (1971) and Lee (2003) found that females conform more on masculine tasks whereas males conform more on feminine tasks. Not surprisingly, then, Sistrunk and McDavid (1971) found no gender differences on neutral items. Similarly,

Carli (2017) notes that men and women are both more persuasive and less conforming in opinions and behaviors relevant to their own gender (see Carli, 2017). In addition, recent experimental work has shown that making gender roles salient differentially affects the way individuals respond to persuasive information (Eaton, Visser, & Burns, 2017). In short, gender differences in conformity are therefore likely to be more heterogeneous, nuanced, and contextual than previously thought.

Some empirical studies in economics and political science have provided tests of whether men and women differ in their receptivity to social pressure. However, few of these studies, described below, use voter turnout, a prosocial act performed in the context of political life, as the dependent variable of interest. Within the field of economics, scholars have sought to understand the determinants of charitable giving (van der Linden, 2011), a type of prosocial behavior. In a recent study, Della Vigna, List, Malmendier, and Rao (2012) examine gender differences in generosity and explore whether men and women respond differently to social pressure to give money to charity. Their results indicate that women become less generous when there is an opportunity to avoid the person who is soliciting money for charity. In other words, women's charitable giving was more responsive to social pressure than men's giving. Della Vigna et al. (2012) note that their findings are "consistent with the hypothesis that women are more malleable or more sensitive to social cues in determining appropriate behavior" (p. 587).

Alternatively, other research indicates that gender differences in influenceability may be diminishing over time (Carli, 1990; Foschi & Lapointe, 2002; Smith & Stutts, 2003). This includes a number of other studies that have examined the interaction between a person's gender and social pressure when it comes to charitable giving. For example, De Wit and Bekkers (2016) hypothesized that, "[females give more when they experience social pressure than males]" (p. 7). Interestingly, they found that social pressure has an equally strong effect on men and women. Murray and Matland (2015) argue that women may be less susceptible to reactance, or the backlash phenomenon that occurs when people resist social pressure. Their analysis of a number of different dependent variables that measure attitudes toward the sponsor of a social pressure message indicates that, "reaction to the treatment is largely equivalent for men and women" (Murray & Matland, 2015). More recently, Bond, Settle, Fariss, Jones, and Fowler (2016) conducted an experiment using the social media platform Facebook to determine whether a variety of individual attributes moderate the impact of social pressure messages. Their analysis of self-reported turnout indicates that there is little difference in receptivity to social pressure between men and women.<sup>3</sup> However, it should be noted that this study was conducted in a categorically different context (online vs. offline).

In short, while many studies have hypothesized that the effect of social pressure will be stronger among women than men, evidence has been mixed. Some studies find significant interactions between gender and social pressure cues, while others find little evidence of gender differences. Importantly, much existing research has not focused on voter turnout as the behavior of interest. Bond et al.'s (2016) study examines turnout, but uses self-reported data rather than validated voter turnout as well as different social influence treatments in an online setting.<sup>4</sup> Given the general tendency to overreport turnout behavior in surveys (Berstein, Chadha, & Montjoy, 2001), it is preferable to use validated voter turnout when possible. In one validated voter turnout study, Panagopoulos (2013) examined social surveillance among different demographic groups and found no moderating effect of gender –

if anything, the trend was toward men (an increase in 2.4% points for men versus 1.8% points for women).<sup>5</sup>

We focus on one prosocial behavior – voter turnout. Theoretically, voting is prosocial in nature and prosocial behavior is often female-typed (see Croson & Gneezy, 2009). However, researchers find that different mechanisms and conditions of prosocial behavior differentially affect men and women (Espinosa & Kovářík, 2015; Hine, 2017). Therefore, men and women may respond to prosocial persuasion as well as demonstrate prosocial behavior differently. For example, in Eagly and Crowley's (1986) meta-analytic review, they found that men demonstrate more helping behavior than women, but these findings are to be interpreted with caution as male author and male-typed prosocial tasks (e.g., heroic behaviors) appear to inflate this difference.

Up until 1980, voter turnout was higher for men than women. Nowadays, voter turnout sees a reverse gender gap, with slightly more women than men voting in the United States (see Center for American Women & Politics, 2017). Although there is a slight gender difference in voting behavior, it is not a well-established stereotyped behavior. Therefore, by examining a non-gender-typed behavior (voting) and using a non-gendered social pressure treatment (postcard mail outs), this study controls for common indirect effects on the relationship between gender and social pressure. Furthermore, since Eagly and Carli's (1981) meta-analysis, many studies do not seem to support the widely-held perception that women are more receptive to social influence than men (see Carli, 2017). This may be due to a true decrease in social roles and gender differences in persuadability or, alternatively, to conducting more nuanced analyses.

Overall, given mixed and contradictory findings, the current study seeks to adjudicate between these two competing hypotheses in a relatively underexplored context: voting behavior. Importantly, given the unusually large nature of the field experiment, we have sufficient power to detect even small gender differences if they exist. Lastly, although explicit social norms are generally more persuasive than subtle (implicit) social cues (Gerber et al., 2008), given the inconclusive findings in the literature around gender-specific effects, we have no directional hypotheses about the different sources of social influence.

## Methods

To examine whether there are gender differences in responsiveness to social pressure appeals to vote, we use the field experimental data collected by Gerber et al. (2008), who conducted one of the first studies on social pressure and voting.<sup>6</sup> Their data-set includes a measure of each subject's gender (gathered from official public records), which was not analyzed in the original study. Before the August 2006 primary election in Michigan, Gerber et al. (2008) conducted a randomized field experiment in which households were assigned to a control group or to one of four treatment groups (about 20,000 households each) assigned to receive postcard mailings that varied the level of social pressure to vote in the primary election.<sup>7</sup> The mailings were sent out 11 days before the election.

Priming a sense of civic duty to vote was common across all of the treatments. The first message served primarily as a baseline for comparison to other treatments. It emphasized civic duty and reminded citizens to vote. The second treatment added a mild form of social pressure by informing recipients that they were being studied and that their voting behavior would be monitored using official public records (the "Hawthorne" treatment).

A third treatment increased social pressure by adding a listing of the recent voting record of each registered member in the household (the “Self” treatment) and pledged to mail an updated voting history chart following the election. The fourth treatment applied the greatest amount of social pressure by listing not only the household members’ recent voting history but also the voting records of subjects’ neighbors (the “Neighbors” treatment). It also mentioned that a follow-up mailing with an updated voting history chart would be sent after the election. In all analyses, the dependent variable measures whether a subject voted in the 2006 Michigan primary (gathered from official public records). Thus, rather than self-report, our measure reflects actual voting behavior. A value of 1 indicates that a person voted and a value of 0 indicates that a person did not vote.

## Results

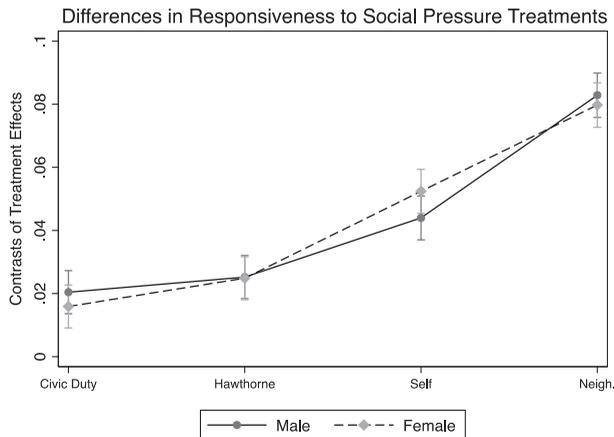
In order to examine the impact of social pressure on voter turnout and to determine whether there are gender differences in responsiveness to social pressure, we follow the estimation procedures used by Gerber et al. (2008). More specifically, we use a linear regression model to regress individual turnout on a series of dummy variables that indicate which of the four treatments an individual was assigned to receive. The models also include prior voting history (dummy variables indicating whether the subject voted in the general elections in November 2002 and 2000 and the primary elections in August 2004, 2002, and 2000) and fixed effects for the geographic clusters (blocks) within which randomization occurred. The use of robust clustered standard errors accounts for the clustering of individuals within households (the unit of randomization). We begin by replicating the results reported by Gerber et al. (2008) and then add gender to the model (along with interactions between each of the treatments and a person’s gender) to determine whether men and women respond differently to social pressure to vote. Before moving forward, we confirm that the original randomization yielded balanced experimental groups that did not differ significantly with respect to sex ( $p = .987$ ) or any other observable attributes.<sup>8</sup>

Model 1 in Table 1 presents the replication of Gerber et al.’s (2008) model. We are able to reproduce the exact results reported in their paper. Consistent with their findings, we see that each of the treatments produces a statistically significant increase in turnout (relative to the control group), with the effects ranging from 1.8% points (Civic Duty treatment) to 8.1% points (Neighbors treatment) on average. As the level of social pressure ratchets up, voter turnout also increases on average. Model 3 in Table 1 elaborates on Model 1 by adding an indicator of the subject’s gender and interactions between gender and each of the treatments (Model 2 is simply provided to show the direct effect of gender on voter turnout – without any interactions included in the model). The treatment effects (relative to the control) are plotted for men and women (derived from the results in Model 3) in Figure 1. Overall, we find little to no evidence that men and women respond differently to the social pressure treatments. As Figure 1 nicely illustrates, for most of the treatments, the effects of social pressure are similar, and statistically indistinguishable, for men and women.<sup>9</sup> The only place where there is a marginal difference between men and women is in the Self-treatment ( $p = .027$ , two-tailed). However, further analyses (provided in the Supplementary Materials) reveal that the nature of this interaction is not robust.<sup>10</sup>

**Table 1.** Gender differences in responsiveness to social pressure messages.

	Model 1	Model 2	Model 3
	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)
Civic duty	.018* (.003)	.018* (.003)	.020* (.003)
Hawthorne	.025* (.003)	.025* (.003)	.025* (.003)
Self	.048* (.003)	.048* (.003)	.044* (.004)
Neighbors	.081* (.003)	.081* (.003)	.083* (.004)
Female		-.008* (.001)	-.008* (.001)
Female × Hawthorne			.000 (.004)
Female × Civic duty			-.005 (.004)
Female × Neighbors			-.003 (.004)
Female × Self			.008* (.004)
Constant	.077* .002	.081* (.002)	.081* (.002)
Covariates?	Yes	Yes	Yes
Fixed effects?	Yes	Yes	Yes
<i>N</i> of obs.	344,084	344,084	344,084
Adjusted <i>R</i> <sup>2</sup>	.1467	.1468	.1468
<i>F</i> -test of joint significance of interactions	–	–	<i>F</i> = 2.10 ( <i>p</i> = .0785)

Notes: \**p* < .05 level (two-tailed tests). Covariates (not shown) are dummy variables for voting in 2002 and 2000 general elections and 2004, 2002, and 2000 primary elections. Blocks refer to clustering of neighboring voters within which random assignment occurred. Robust clustered standard errors (in parentheses) account for the clustering of individuals within household, which was the unit of random assignment.

**Figure 1.** Treatment effects (relative to control group).

## Discussion

In this study, we examined the (conventional) hypothesis that the effect of social pressure would be more pronounced among women than men. As we noted, studies in social psychology, economics, and political science have reached different conclusions about the

extent to which gender moderates the impact of social pressure. Although numerous studies have examined prosocial behavior as the outcome of interest, few studies have examined gender differences in response to social pressure *in the context of voter turnout*. Using a large-scale field experiment on turnout, we found little to no evidence that gender influences receptivity to social pressure messages designed to encourage voter turnout. Thus, our findings are in line with those studies that have reported no differences between men and women's susceptibility to social influence (e.g., see Bond et al., 2016; De Wit & Bekkers, 2016; Panagopoulos, 2013) as well as a more general evidential trend in the direction of the null hypothesis (Carli, 2017).

More specifically, our findings support no gender differences in conforming to social pressure within the gender-neutral domain of voting (Carli, 2017; Sistrunk & McDavid, 1971). In comparison to many other conformity experiments, which typically use the general public or strangers/confederates, this study's social surveillance involved household members and neighbors (people in which interpersonal relationships are already established). Perhaps the prescriptive nature of 'women are communal' elicits women to behave in a more interpersonal way than men in general, however, the magnitude and stability of this gender-stereotyped trait may not be resilient across different social-pressure situations and contexts.

Further, there are two different yet related motivations that underlie social influence: normative conformity and informational influence (Deutsch & Gerard, 1955). While normative conformity is propagated by a desire to be accepted and liked, informational influence is derived from a motivation to be correct, or behave correctly. While most experiments test one of these mechanisms, it is possible that the current treatments tapped into both. Warning people that their past voting behavior would be communicated to neighbors and/or household members may have elicited conformity, while receiving the voter turn-out history of other household members and neighbors may have elicited informational influence. It is therefore difficult to estimate whether (any) gender differences in conformity are washed out by a lack of gender differences in informational influence or vice versa.

With respect to research which has reported significant gender differences in social influence, prior work has particularly found that females are more conforming in public situations or conditions that involve social monitoring (Della Vigna et al., 2012; Eagly et al., 1981). Interestingly, our results are only partially consistent with this trend. For example, on one hand, we find that females are just as likely as males to conform in the "Hawthorne" condition (in which participants were informed that their voting behavior would be monitored by checking official public records). Yet, on the other hand, we found a small interaction for the "Self" treatment, which furthers the external monitoring-effect of the Hawthorne condition by publicly disclosing voting records of other household members (Gerber et al., 2008). Thus, perhaps this finding is consistent with other studies reporting that females conform more than men in situations that involve social surveillance (Eagly et al., 1981). However, because the interaction-effect was rather small and not robust across analyses, we strongly caution against given this finding any substantive interpretation.

Although some of the experimental design biases were accounted for in this field experiment, naturally, other uncontrolled factors may have influenced our findings. For example, although a group's gender composition plays a role in gender differences in conformity (see Carli, 2017), the gender composition of household members and neighbors was not evaluated here because we only have information on household size and gender of the

participant. Given that voting behavior is not male-typed or female-typed, and that the treatment conditions were gender-neutral postcard mailouts (versus face-to-face interactions with a male or female), this may partly help explain why no gender differences were found (if any differences do exist).

Lastly, there are a number of ideas for future research that could be pursued based on our research. First, this study should be replicated in other voting contexts. Although we rely on a large sample of voting behavior, we have studied one election at one point in time. In addition, other types of social influence mechanisms should be explored, including prescriptive (injunctive) social norm messages. Second, it may be worthwhile to examine the effects of social pressure on other prosocial behaviors and attitudes. Third, scholars should continue to examine whether and how other individual differences moderate social pressure cues. For example, sex differences in conformity may differ cross-culturally, evolve over time, or depend on how gender-normative the behavior under investigation is (e.g., Bond & Smith, 1996). Moreover, although this may be challenging in field settings, it seems particularly important to examine what motivational differences underlie individual decisions to conform to social norms in different settings and whether such motivations differ by gender, political identity, age, education, or other key individual difference attributes. In addition to demographics, scholars could study contextual factors and political attitudes as moderators of social influence. Such analyses will advance an even more nuanced understanding of the extent to which social norms can influence voter turnout in elections.

## Notes

1. Gerber et al.'s (2008) 8.1% boost in turnout is one of the largest increases that has been reported in the literature to date.
2. In their 2008 study, Gerber, Green, and Larimer provide a preliminary look at this idea, noting that there is not a significant interaction between their social pressure messages and one's previous vote history, partisan orientation, or the level of competitiveness in their congressional district (p. 40).
3. Their study uses validated vote for some analyses, but their examination of gender and social pressure relies only on self-reported vote.
4. They note, "Owing to our ability to only match approximately 10% (6.3 million) of our experimental participants to the validated voting record, and the small effect size and wide confidence interval we found for the main effect on validated voting, we do not have enough power to detect subpopulation differences in validated voting behavior. We therefore restrict our analysis of effects on subpopulations to the other two dependent variables – self-reported voting and information seeking – for which we have sample sizes large enough to detect significant effects in subpopulations" (p. 269).
5. More specifically, he notes that "non-White men appear to be somewhat more responsive to positive social pressure, compared to women overall; the estimates suggest the treatment raised turnout by 2.4 percentage points on average for men ( $p < .01$ , one-tailed), and 1.8 percentage points for women ( $p < .01$ , one-tailed), but, once more, the difference is not statistically significant" (p. 8).
6. We thank the authors for generously making their data available.
7. There are 99,999 households in the control group.
8. Results of balance tests are available in the Supplementary Materials.
9. Post-hoc power analyses using standard parameters ( $\alpha = .05$ ) across regression specifications reveal full power to observe even very small effect-sizes. For example, the effect-size (change in  $R^2$ ) would have to drop below ( $f^2 = .0007$ ) for power to fall below 80%, which would be unlikely given known effect-sizes (Eagly & Carli, 1981).

10. More specifically, we tried a number of different coding schemes for the treatments. For example, we excluded the control cases and coded the 4 treatments as an ordinal (1–4) variable. We then interacted this measure with respondent gender. We did not find a statistically significant interaction ( $p = .322$ , two-tailed). In addition, we recoded the treatments so that the pure control and civic duty message were both zero, and the others were 1, 2, and 3, respectively (increasing numbers correspond to increasing social pressure). Again, we interacted this measure with respondent gender. We did not find a statistically significant interaction ( $p = .528$ , two-tailed). We thank the anonymous reviews for these suggestions.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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