Ambivalent Sexism in Context: Hostile and Benevolent Sexism Moderate Bias Against Female Drivers

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Ambivalent Sexism in Context: Hostile and Benevolent Sexism Moderate Bias Against Female Drivers

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We investigated whether ambivalent sexism predicts bias against female drivers in a simulated civil trial paradigm. Participants were randomly assigned to read a vignette of an automobile accident involving a male or female defendant. In a driving context designed to incite feelings of competitiveness toward women (Study 1), hostile sexism predicted greater responsibility attributed to the female defendant. In a context designed to elicit paternalistic attitudes toward women (Study 2), benevolent sexism predicted increased responsibility attributed to the female defendant. Findings show that hostile and benevolent sexism predict different patterns of discriminatory treatment depending on contextually triggered concepts of women.

The stereotype that women are bad drivers is pervasive: Documented endorsement of this stereotype is found in multiple countries around the world (e.g., United States, France, Australia; Berger, 1986; Glendon, Dorn, Davies, Matthews, & Taylor, 1996; Granié & Papafava, 2011; Yeung & von Hippel, 2008). Specifically, compared to men, women tend to be perceived as more careless behind the wheel (Lawrence & Richardson, 2005), as having less driving skill (Glendon et al., 1996), and having poorer parking abilities (Derks, Scheepers, Van Laar, & Ellemers, 2010; Wolf et al., 2010). Surprisingly, little research has explored the extent to which such negative stereotypes translate into real-world discrimination. Automobile accidents represent a context in which the stereotype that women are bad drivers might have extensive consequences. Indeed, bias against female drivers involved in accidents has implications for decisions made by a number of key players involved in this particular legal context. For example, police officers often investigate the details of accidents, insurance adjusters make fault determinations, and jurors and judges make liability determinations in civil cases. Relevant decision makers’ reactions to car accidents have the potential to significantly affect the lives of those involved (e.g., civil cases often result in the allocation of monetary damages that may be quite substantial). Although many automobile accidents do not even make it to civil court, litigation involving car accidents represents the most common type of civil case (Langton & Cohen, 2008). Little is known, however, about the extent to which driver gender shapes fault attributed to those involved in car accidents.

In the present research, we explore the psychological underpinnings and real-world consequences of the stereotype that women are bad drivers in the context of simulated civil automobile accident suits. Specifically, we experimentally manipulated defendant gender in the context of two simulated civil trials to explore the possibility that endorsement of ambivalent sexism...
(hostile and benevolent sexism) predicts discriminatory treatment of female drivers involved in car accidents.

**FEMALE DRIVER STEREOTYPES**

Women in the United States have historically been characterized as poor drivers (Albert, 1999; Berger, 1986). Negative female driver stereotypes permeate a historical review of the early 20th-century field of “traffic psychotechnology”—an area of applied psychology designed to identify and eliminate dangerous drivers from the roads (Albert, 1999). Albert’s (1999) review of the Detroit Psychopathic Clinic’s psychotechnology records revealed that among evaluated drivers (as a result of traffic infractions), there were vast differences in the diagnoses of men and women. Specifically, women were significantly more likely to be diagnosed as “anxious,” “unstable,” and “excitable” than men. Berger’s (1986) analysis of the early 20th-century development of the female driver stereotype supports these findings, arguing that women were typically seen as lacking the “emotional constitution” required to operate a motor vehicle.

Although these stereotypes appear to have emerged with the advent of personal automobiles, there is evidence that they continue to persist. Among a number of other gender stereotypes, Canter and Meyerowitz (1984) found that men were perceived as having significantly better ability to drive a standard transmission automobile than women—an effect that was particularly strong among male respondents. Furthermore, when comparing the self-reported ability to drive a standard transmission vehicle across genders, men gave themselves significantly higher ratings than women gave themselves. Similarly, Sibley and Harré (2009) found that on both implicit and explicit measures of perceived driving ability, men’s self-ratings were significantly higher than women’s self-ratings. Social-role theory can be used to explain how these stereotypes might have been perpetuated through the present day (Eagly & Wood, 1991). Traditional divisions of labor historically assigned driving to men (Berger, 1986), which, according to social-role theory, would lead to gender-role expectations related to driving. Gender-role driving expectations likely produce gender-typed beliefs and skill development—such that women would be perceived as less capable of driving and would be less likely to be trained to drive. In support, Berger (1986) asserted that gender role stereotyping seriously hindered the acquisition of driving skills among U.S. women, such that in 1963 (more than 60 years after the first U.S. woman got behind the wheel), less than 40% of licensed drivers were women (U.S. Department of Transportation Federal Highway Administration, 1997). Whereas today, approximately half of all licensed U.S. drivers are women (U.S. Department of Transportation Federal Highway Administration, 2011), there is evidence that women continue to be stereotyped as poor drivers, despite the fact that fewer women (compared to men) are involved in car accidents (U.S. Department of Transportation: National Highway Traffic Safety Administration, 2008).

Gendered driving stereotypes comprise a number of specific behaviors and underlying traits. Historically, female drivers were characterized as lacking the emotional stability and psycho-emotional qualities required to successfully maneuver an automobile (Albert, 1999; Berger, 1986). More recent research has revealed that the belief that women are bad drivers stems from women’s perceived inattention and carelessness (Granie & Papafava, 2011; Lawrence & Richardson, 2005). Experimental investigation of the extralegal factors impacting perceptions of drivers involved in auto accidents has revealed that female drivers (vs. male drivers) are more likely to be perceived as lacking driving skill, poor judges of speed, distracted, lacking attention, and generally confused about appropriate driving rules and behaviors (Glendon et al., 1996; Lawrence & Richardson, 2005). Granie and Papafava’s (2011) content analysis of the gendered driving stereotypes reported by French adolescents revealed two negative stereotypes frequently associated with female drivers: carelessness and, more generally, “bad driving.” Indeed, Knapper and Cropley (1980) found that perceived driver carelessness was one of most commonly cited causes of accidents—a finding with grave implications for women, given that female drivers are stereotyped as more careless than male drivers (e.g., Lawrence & Richardson, 2005). Although these data come from the subjective judgments of participants imagining a near accident—rather than the judgments of participants in the context of a controlled simulated accident—it supports our hypothesis that reactions to automobile accidents might vary as a function of driver gender. Thus, it is important to consider how female-driving stereotypes might translate into real-world consequences, such as discriminatory treatment of female defendants involved in civil automobile accident litigation.

**The Moderating Role of Ambivalent Sexism**

Researchers have identified the moderating role of ambivalently sexist attitudes in a number of domains, including, for instance, attitudes regarding sexual assault, attitudes toward female criminal defendants, and men’s likelihood to engage in sexual harassment (e.g., Abrams, Viki, Masser, & Bohner, 2003; Yamawaki, 2007). Given that approximately half of all licensed drivers in the United States are female (U.S. Department of Transportation Federal Highway
Traffic Safety Administration, 2008), we suspected that perceptions of female drivers are not universally negative. Instead, we expected that, in line with ambivalent sexism research and theory (Glick & Fiske, 1996), attitudes toward female drivers would be moderated by individuals’ attitudes toward women.

As conceptualized by Glick and Fiske (1996), ambivalent sexism involves two multidimensional clusters of sexist attitudes: benevolent and hostile. Benevolent sexists have a paternalistic view of women and endorse stereotypes that appear positive but invoke the notion that women need protection. The psychological underpinnings of benevolent sexism include the belief that men are dominant over women and that women, due to their kind and sensitive dispositions, should be restricted to social-emotional roles in society. Thus, women may be perceived as nice but also as incompetent at important tasks. Hostile sexism involves beliefs that women are incapable of holding agentic leadership roles and antipathy toward women who challenge such attitudes.

Research shows that although hostile and benevolent sexism are correlated, they represent independent constructs (Glick & Fiske, 2011). For example, benevolent sexism (but not hostile sexism) predicts men’s blame attributions to a female acquaintance rape victim who has violated gender role norms (Abrams et al., 2003). In addition, Glick, Diebold, Bailey-Werner, and Zhu (1997) found that hostile sexism (but not benevolent sexism) predicted negative attitudes toward career women and benevolent sexism (but not hostile sexism) predicted positive attitudes toward female homemakers. Thus, although both forms of sexism constrain women to designated roles in society, endorsement of each type may predict different responses dependent upon the nature of the context. Specifically, there is evidence that the outcomes in situations that highlight the socio-emotional gender roles and expectations of women are predicted by benevolently sexist attitudes (Yamawaki, 2007). On the other hand, Glick and Fiske (2001) asserted that reactions to situations in which women are perceived as a competitive threat are predicted by hostile sexism.

OVERVIEW OF STUDIES

In the current studies, we utilized two simulated civil trial paradigms to investigate the potential impacts of female driver stereotypes and ambivalent sexism on attributions of responsibility for automobile accidents involving female versus male drivers. Because Glick and Fiske (2011) reasoned that different contexts may elicit different forms of sexism, we investigated two different accidents that were expected to relate to each subtype of ambivalent sexism (hostile and benevolent). We expected hostile sexism to interact with defendants’ gender in the context of an accident taking place in congested traffic (Study 1) and for benevolent sexism to interact with defendants’ gender in the context of dangerous road conditions (Study 2). Across both studies we assessed the impact of sexism and defendant gender on female driver stereotype consistent perceptions (i.e., perceived driver inattention) and attribution of responsibility for the accident.

Study 1

In the first study, we developed an accident scenario in which the female defendant was portrayed as a competitor in a stereotypically masculine domain. Specifically, participants read an accident scenario that took place in the context of heavily congested traffic, where drivers were contending with one another to get to their destinations. In line with negative female driver stereotypes (e.g., Lawrence & Richardson, 2005), we expected more responsibility to be attributed to the female than the male defendant (H1). We also expected hostile sexism to interact with driver gender. Hostile sexists tend to respond negatively to women who are perceived as a competitive threat in stereotypically masculine areas (Glick & Fiske, 2001). Thus, we expected that among hostile sexists, an accident in the context of competitive driving conditions would incite negative reactions toward the female, but not the male, defendant. That is, we predicted an interaction between hostile sexism and defendant gender, such that hostile (but not benevolent) sexism would predict increased responsibility attributed to the female defendant but not the male defendant (H2). Finally, because women are stereotyped as inattentive drivers (Glendon et al., 1996; Lawrence & Richardson, 2005), we predicted that the female defendant would be perceived as a less attentive driver than the male defendant (H3).

Method

Participants. Participants were 117 community members from the United States (48% women, M age = 39.95, SD = 10.71, range = 21–78 years). All participants were recruited online through StudyResponse, an online participant pool that provides community members with compensation ($5.00) for voluntary research participation. StudyResponse panelists (N ~ 50,000, M age = 35, 65% women) generally have some college education but no degree and approximately 14 years of work experience (Stanton, 2006; Stanton & Weiss, 2002;
Wallace, 2004). Data collected through StudyResponse have previously been published in some of the top psychological journals (e.g., European Journal of Social Psychology, Personality and Social Psychology Bulletin; Leidner & Castano, 2012; Leidner, Castano, Zaiser, & Giner-Sorolla, 2010). Most participants were White (93%, 3.5% Black, and 3.5% Hispanic) and all were U.S. citizens, 18 years of age or older. Forty-one percent of participants had at least a bachelor’s degree and 36% had at least a master’s degree. The political orientation of our sample was fairly liberal, with 56% identifying as liberal, 19% as moderate, and 25% as conservative. Of the original sample (N = 143), 22 participants failed to recall defendant gender and four participants expressed suspicion that the study had to do with driving stereotypes or prejudice, and were therefore excluded from analyses. To verify that participants took our study seriously, we inspected all participant responses to ensure that participants were not simply repeatedly selecting the same response (no participants in our sample did so).

**Materials and procedure.** A brief vignette, offered next, presented an automobile accident involving two drivers that took place in congested traffic. Fault was depicted as somewhat ambiguous; both drivers were said to have been traveling on the highway in congested traffic.

The defendant Jessica Smith (43 years old, Caucasian, female) was driving west on the highway, maintaining a safe distance between her vehicle and the car in front of her, based on her speed. The plaintiff, Bill Johnson (40 years old, Caucasian, male) was also traveling west in a lane adjacent to Smith’s. Johnson reported that he needed to merge into Smith’s lane in order to reach his approaching exit. Johnson reported that a gap opened up between Smith’s vehicle and the car in front of her, at which point Johnson merged in front of Smith. Seconds after the merge, Smith’s vehicle struck the rear end of Johnson’s vehicle, causing significant damage to both cars. Smith reported that she did look down for a fraction of a second to change the radio station but that Johnson merged too closely, cutting her off and causing the accident. Johnson argued that although the gap was a little bit tight, he did leave a sufficient distance, based on the speed of traffic.

This car accident was designed to incite feelings of competitive driving via claims that the plaintiff aggressively cut off the defendant and a claim that the defendant refused to let the other driver merge. A practicing civil trial attorney reviewed all materials for realism. Gender of the defendant was experimentally manipulated such that in one condition the defendant was portrayed as female (Jessica) and in the other as male (Charlie); the plaintiff was portrayed as male in all conditions.1

After reading the case vignette, participants were asked to indicate their response to the following item on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree): “[The defendant] is responsible for the accident.” On the same scale participants were also asked to complete an item we developed to measure female driver stereotype-consistent perceptions: “[Defendant’s name] should have paid more attention while driving.” Participants finally completed the Ambivalent Sexism Inventory (Glick & Fiske, 1996). Both the Benevolent Sexism subscale,7 (x = .62; M = 2.62, SD = 0.64) and the Hostile Sexism subscale were reliable (x = .80; M = 2.39, SD = 0.84). Benevolent and Hostile Sexism subscales were significantly correlated (r = .45, p < .01). To test for suspicion regarding our hypotheses, we included an open-ended question asking participants to report what they believed the study was about. To ensure that our manipulation was effective, participants were also asked to recall the gender of the defendant at the conclusion of the study. Finally, participants provided their age, gender, and ethnicity.

StudyResponse directed participants to the online study. First, they provided informed consent, after which they were randomly assigned to one of the two experimental conditions (male or female defendant) and directed to the main survey, which comprised the driving vignette, and blame attribution and defendant perception items, followed by the Ambivalent Sexism Inventory.3 After

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1Race (Asian vs. White) of the defendant was also manipulated. Based on existing stereotypes about Asian drivers (Skinner & Stevenson, 2012) we hypothesized that participants would exhibit bias against Asian drivers. However, because this study is an investigation of the effects of gender, we report only analyses of the effects of gender. We replicated all analyses including defendant race as an independent variable. There were neither main effects of defendant race nor an interaction between defendant race and defendant gender. Therefore, we present all results collapsed across defendant race. Plaintiff race (White) was held constant across all conditions.

2The reliability of the Benevolent Sexism scale in Study 1 is somewhat low; however, Glick and Fiske (1996) reported that the Benevolent Sexism subscale tends to have lower reliability than the Hostile Sexism subscale given that the subscale itself is multidimensional. Indeed, in the six studies presented in Glick and Fiske’s initial article establishing the ASI, the reliability for the Benevolent Sexism scale was most frequently less than 0.80.

3Although Hostile and Benevolent Sexism are generally considered to be stable individual difference variables (e.g., Glick & Fiske, 1996), to ensure that condition had not influenced participants’ sexism scores we conducted a series of regression analyses to test whether our experimental manipulation (defendant gender) influenced ASI score. In Study 1, defendant gender did not significantly predict Benevolent Sexism (β = 0.07, p = .59) or Hostile Sexism (β = 0.22, p = .08) scores. In Study 2, defendant gender also did not significantly predict benevolent sexism (β = 0.08, p = .50) or hostile sexism (β = -0.05, p = .75) scores. Because defendant gender did not influence ASI scores, and because research supports evidence that ambivalent sexism is a stable individual difference variable (e.g., Glick & Fiske, 1996), we have evidence that the analyses presented in our article reflect influences of participant sexism on responsibility judgments.
completing the survey, participants were asked to report demographics and their StudyResponse IDs (to receive compensation). Once the study was complete, participants were debriefed and thanked for their participation.

**Results**

We dummy-coded participant and defendant gender (female = 0) and mean centered hostile sexism and benevolent sexism. Next, we created interaction terms for the planned interactions between defendant gender and both hostile and benevolent sexism. Men scored significantly higher than women on both hostile, and benevolent sexism, $t(105.51) = 2.51$, $p = .01$. Means (uncentered) and standard deviations for all dependent variables broken down by defendant gender (condition) and participant gender are presented in Table 1.

**Attribution of responsibility.** We conducted a hierarchical regression analysis predicting attribution of responsibility to the defendant. Step 1 included the main effects of participant gender, defendant gender, hostile sexism, and benevolent sexism as predictors. Step 2 included the interactions between defendant gender and hostile sexism and defendant gender and benevolent sexism.

Results of this model are presented as Steps 1 and 2 in Table 2. In Step 1, the main effect of participant gender indicated that women attributed more responsibility to the defendant than men. We also identified a main effect of hostile sexism, such as that as hostile sexism increased, participants attributed greater responsibility to the defendant. Yet H1, that the female defendant would be attributed greater responsibility for the accident, was not supported. Step 2 of the model ($AR^2 = .04$) revealed the predicted Defendant Gender × Hostile Sexism interaction (see Figure 1). To further explore the pattern of interaction we conducted follow-up regression analyses centering hostile sexism at high (+2 SDs) and low (−2 SDs) levels. At high levels of hostile sexism, participants attributed more responsibility to the female defendant than the male defendant ($\beta = -1.58$, $p = .04$, $\beta_{STD} = -.46$). In contrast, at low levels of hostile sexism, participants attributed statistically equivalent levels of responsibility to the male and the female defendant, $\beta = 1.49$, $p = .05$, $\beta_{STD} = .44$. Furthermore, a test of the simple slopes indicated that hostile sexism predicts responsibility attributed to the female defendant ($\beta = 0.98$, $p < .01$, $\beta_{STD} = .47$), but not the male defendant ($\beta = 0.24$, $p = .42$, $\beta_{STD} = .12$). Thus, in support of H2, participants who scored high on hostile sexism attributed greater responsibility to the female defendant than the male defendant.

**Perceived inattention.** We conducted a series of hierarchical regression analyses predicting female driver stereotype-consistent perceptions (i.e., inattention).

<table>
<thead>
<tr>
<th>Condition</th>
<th>Participant Gender</th>
<th>Benevolent Sexism</th>
<th>Hostile Sexism</th>
<th>Responsible</th>
<th>Inattentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female defendant</td>
<td>Men</td>
<td>2.71 (.57)</td>
<td>2.66 (.43)</td>
<td>4.03 (1.87)</td>
<td>4.29 (1.75)</td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>2.43 (.68)</td>
<td>2.13 (1.09)</td>
<td>3.96 (1.56)</td>
<td>4.77 (1.77)</td>
</tr>
<tr>
<td>Male defendant</td>
<td>Men</td>
<td>2.82 (.56)</td>
<td>2.68 (.53)</td>
<td>3.43 (1.79)</td>
<td>4.10 (1.56)</td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>2.51 (.99)</td>
<td>2.06 (.99)</td>
<td>4.50 (1.48)</td>
<td>5.24 (1.48)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are in parentheses.

**TABLE 1**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Participant Gender</th>
<th>Benevolent Sexism</th>
<th>Hostile Sexism</th>
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<th>Inattentive</th>
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<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Step 2&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Step 3&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant gender</td>
<td>$-0.84 (.33)$&lt;sup&gt;-.25&lt;/sup&gt;</td>
<td>$-0.83 (.33)$&lt;sup&gt;-.24&lt;/sup&gt;</td>
<td>$0.07 (.25)$&lt;sup&gt;.02&lt;/sup&gt;</td>
</tr>
<tr>
<td>Defendant gender</td>
<td>$-.06 (.31)$−.02</td>
<td>$-.05 (.31)$−.02</td>
<td>$-1.14 (.22)$−.04</td>
</tr>
<tr>
<td>Benevolent sexism</td>
<td>$.07 (.27)$ .03</td>
<td>$-.30 (.41)$−.11</td>
<td>$-2.26 (.30)$−.10</td>
</tr>
<tr>
<td>Hostile sexism</td>
<td>$.56 (.22)$ .27&lt;sup&gt;a&lt;/sup&gt;</td>
<td>$1.05 (.31)$ .52&lt;sup&gt;a&lt;/sup&gt;</td>
<td>$.28 (.24)$ .14</td>
</tr>
<tr>
<td>Defendant Gender × Benevolent Sexism</td>
<td>$.60 (.54)$ .17</td>
<td>$1.05 (.31)$ .52&lt;sup&gt;a&lt;/sup&gt;</td>
<td>$.10 (.39)$ .03</td>
</tr>
<tr>
<td>Defendant Gender × Hostile Sexism</td>
<td>$-0.90 (.42)$−.32&lt;sup&gt;a&lt;/sup&gt;</td>
<td>$-0.20 (.31)$−.07</td>
<td>$.74 (.07)$ .73&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

*Note.* Step 1 includes participant gender, defendant gender, benevolent sexism and hostile sexism as predictors. Step 2 is the addition of interactions between defendant gender and each of the sexism measures (benevolent and hostile). Step 3 is the addition of perceived inattention while driving. $R^2 = .09$, $R^2 = .13$, $R^2 = .55$.

<sup>a</sup>$p < .05$. 
Step 1 included all main effects: participant gender, defendant gender, hostile sexism, and benevolent sexism as predictors. Step 2 included the interactions between defendant gender and hostile sexism and defendant gender and benevolent sexism.

In Step 1, women (Mean = 5.17, SD = 0.27) perceived the defendant to be significantly more inattentive than men (Mean = 3.95, SD = 0.25; $\beta = -1.22, p < .01, \beta_{STD} = -.36$). Yet H3 was not supported: There was no significant main effect of defendant gender on perceived inattention ($\beta = 0.10, p = .73$). With regards to the sexism measures, benevolent sexism was unrelated to perceived inattention ($\beta = 0.36, p = .16$), but hostile sexism was a significant predictor of inattention ($\beta = 0.52, p = .01, \beta_{STD} = .26$). Specifically, as hostile sexism increased, participants perceived the defendant to be less attentive. Finally, as with the attribution of responsibility analysis, in Step 2 of the model ($\Delta R^2 = .01$) a Defendant Gender × hostile Sexism interaction emerged ($\beta = -.095, p = .02, \beta_{STD} = -.34$). To further explore the pattern of interaction we conducted follow-up regression analyses centering hostile sexism at high (+2 SDs) and low (−2 SDs) levels. At high levels of hostile sexism, participants perceived the female defendant to be significantly less attentive than the male defendant ($\beta = -1.47, p = .04, \beta_{STD} = -.44$). In contrast, at low levels of hostile sexism, participants perceived the female defendant to be significantly more attentive than the male defendant ($\beta = 1.71, p = .02, \beta_{STD} = .51$). A test of the simple slopes indicated that hostile sexism predicted perceived inattention for the female defendant ($\beta = 1.00, p < .01, \beta_{STD} = .48$) but not the male defendant ($\beta = 0.13, p = .61, \beta_{STD} = .07$). Thus, the female defendant was not generally perceived to be a less attentive driver, as predicted by H3. Yet, among high hostile sexists, the female defendant was perceived as less attentive than the male defendant. The interaction between benevolent sexism and defendant gender was nonsignificant ($\beta = 0.67, p = .19$).

Finally, we investigated whether controlling for inattention changes the effects of sexism and defendant gender on perceived responsibility. Thus, we ran a third model, identical to the Step 2 model, controlling for (mean centered) perceived inattention (see Table 2, Step 3). Perceived inattention significantly predicted attribution of responsibility, such that those who perceived the defendant to be less attentive attributed more responsibility to the defendant. Moreover, results indicated that when perceived inattention was included in the model ($\Delta R^2 = .42$) the other predictors were no longer significantly associated with perceived responsibility. In other words, these findings indicate that after controlling for perceived inattention, the female defendant and the male defendant were attributed equal responsibility, even among those high on hostile sexism.

### Discussion

As predicted, we found that hostile sexism (but not benevolent sexism) predicted increased responsibility attributed to the female defendant in an accident that took place under competitive driving conditions—a context that was expected to be relevant to hostile sexism. Specifically, hostile sexism predicted responsibility attributed to the female defendant such that at high levels of hostile sexism more responsibility was attributed to the female defendant, whereas at low levels of hostile sexism, male and female defendants were attributed equal responsibility. These results support ambivalent sexism research and theory, suggesting that reactions to contexts in which women are perceived as competition (e.g., driving in congested traffic) will be predicted by hostile (not benevolent) sexism (e.g., Glick & Fiske, 2001).

In addition, hostile sexism predicted perceptions of inattention, but only for the female defendant. At high levels of hostile sexism, the female defendant was perceived to be less attentive than the male defendant, yet at low levels of hostile sexism the male defendant was perceived to be less attentive than the female defendant. Although the difference between male and female defendants at low levels of hostile sexism was not predicted, it is not entirely surprising given that hostile sexism taps into beliefs about the superiority of men over women (Glick & Fiske, 1997). Our findings suggest that those scoring extremely low on hostile sexism may believe the converse, that in some instances women have some superiority over men.

In support of our hypotheses, participants who scored high on hostile sexism believed that the female driver was less attentive than the male driver and attributed more responsibility to her. Moreover, controlling...
for perceived inattentiveness rendered the interaction between hostile sexism and defendant gender on perceived responsibility nonsignificant. This finding provides support for previous research documenting stereotypes that women are inattentive drivers (Lawrence & Richardson, 2005), which our research suggests has the potential to translate into biased legal decisions.

Study 2

Next we tested whether responsibility attributed to a female defendant could be predicted by benevolent sexism in a scenario that highlights the paternalistic concept of women needing rescue and protection. Specifically, we investigated an accident that took place on dangerous icy roads—a context that was expected to activate the paternalistic concept of women needing rescue and protection, related to benevolent sexism. Again, in line with negative female driver stereotypes (e.g., Lawrence & Richardson, 2005), we predicted that more responsibility would be attributed to a female than a male defendant (H1). Abrams et al. (2003) argued that, among benevolent sexists, women who fail to adhere to prescribed gender norm based expectations may be seen as responsible for any subsequent misfortune. In the current study we aimed to test whether contextually activating the concept of women needing protection could lead to the same outcome, women being blamed for resulting misfortune. Thus, we expected that greater benevolent (but not hostile) sexism would predict increased responsibility attributed to the female defendant but not the male defendant (H2). We also predicted that participants would perceive the female defendant as a less attentive driver than the male defendant (H3).

Method

Participants. Participants were 127 community members from the United States (48% women, M age = 40.59, SD = 12.52, range = 18–77 years), recruited online through StudyResponse. Most participants were White (93%, 5% Black, and 2% Hispanic) and all were U.S. citizens, 18 years of age or older. Sixty-one percent of participants had at least a bachelor’s degree and 34% had at least a master’s degree. The political orientation of our sample was fairly liberal, with 50% identifying as liberal, 30% as moderate, and 20% as conservative. Of the original sample (N = 147), 18 participants failed to recall defendant gender (our experimental manipulation), and two participants expressed suspicion that the study was about driving stereotypes or prejudice and were therefore excluded from our final sample. Participant recruitment techniques were the same as in Study 1. To ensure that Study 1 participants did not also participate in Study 2, we built the survey to allow participants to access our survey website only from any one computer a single time. Thus, we also reduced the possibility that two members of a household would both participate in our study.

Materials and procedure. A brief vignette presented an automobile accident involving two drivers, in which fault for the accident was somewhat ambiguous. The automobile accident vignette was adapted from the vignette used by Branscombe, Owen, Garstka, and Coleman (1996). Both drivers are said to have collided in an intersection, in part because of winter road conditions (see the following vignette).

The plaintiff, Bill Johnson (40 years old, Caucasian, male) was driving west, with sun glare making it difficult for him to see and with icy road conditions, making driving dangerous. Eyewitnesses reported that his traffic light was either green or yellow when he entered the intersection and that he may have been driving too fast for the weather conditions. Yet the police estimated his speed was approximately 35 mph, the posted speed limit. The defendant, Jessica Smith (43 years old, Caucasian, female) was traveling south, at approximately 25 to 30 mph, which according to eyewitnesses may have also been too fast for the weather conditions. Smith said that she did not apply her brakes because the ice on the downhill slope might have caused her to slide out of control. Witnesses confirmed that her vehicle did “fishtail” as it traveled over the ice. Smith’s car hit the passenger side of Johnson’s car as the two cars entered the intersection.

A practicing civil trial attorney reviewed all materials for realism. Like Study 1, defendant gender was experimentally manipulated. As in Study 1, participants also completed the Ambivalent Sexism Inventory; both the Benevolent Sexism subscale (α = .72; M = 2.66, SD = .67) and the Hostile Sexism subscale (α = .74; M = 2.51, SD = 0.69) were reliable. Benevolent and Hostile Sexism subscales were significantly correlated (r = .41, p < .01). As in Study 1, participants were also asked to assign responsibility for the accident and assess defendant inattentiveness. Participants also completed suspicion check and manipulation check items and provided demographic information. Procedures were the same as those in Study 1.

Results

We dummy-coded participant and defendant gender (female = 0), and mean centered hostile sexism and benevolent sexism (higher scores indicate greater endorsement of sexism). Next, we created interaction terms for the planned interactions between defendant gender
and both hostile and benevolent sexism. Men scored significantly higher than women on Hostile Sexism, \( t(102.78) = 2.41, p = .02 \), yet Benevolent Sexism scores did not significantly differ by participant gender, \( t(96.43) = 1.89, p = .06 \). Means (uncentered) and standard deviations for all dependent variables broken down by defendant gender (condition) and participant gender are presented in Table 3.

**Attributions of responsibility.** We conducted a hierarchical regression analysis predicting attribution of responsibility to the defendant. Step 1 included the main effects of participant gender, defendant gender, hostile sexism, and benevolent sexism as predictors. Step 2 included the interactions between defendant gender and hostile sexism and defendant gender and benevolent sexism.

Results of this model are presented as Steps 1 and 2 in Table 4. Again, in Study 2, our first hypothesis was not supported; the female defendant was not perceived to be more responsible for the accident than the male defendant. In fact, in Step 1, none of the predictors were significantly related to attribution of responsibility (all \( b < 0.32, \) \( p > .11 \)). Step 2 (\( \Delta R^2 = .04 \)) revealed that the hypothesized interaction between benevolent sexism and defendant gender (H2) was also not supported. In Step 2, still none of the predictors reached statistical significance (all \( b < -0.56, \) \( p > .08 \)).

**Perceived inattention.** Next, we conducted a series of hierarchical regression analyses predicting our measure of female driver stereotype-consistent perception, inattention. Step 1 included all main effects: participant gender, defendant gender, hostile sexism, and benevolent sexism as predictors. Step 2 included the interactions between defendant gender and hostile sexism and defendant gender and benevolent sexism.

In Step 1, women perceived the defendant to be significantly (\( M = 5.78, \) \( SD = 0.17 \)) less attentive than men (\( M = 5.34, \) \( SD = 0.18; b = -0.45, p = .03, \beta_{STD} = -0.20 \)), replicating the results of Study 1. In support of H3, defendant gender significantly predicted perceived inattention, such that participants perceived the female defendant (\( M = 5.78, \) \( SD = 0.17; b = -0.45, p = .02, \beta_{STD} = -0.20 \)) to be less attentive than the male defendant (\( M = 5.33, \) \( SD = 0.17; b = -0.20, p < .05, \beta_{STD} = -0.28 \)). In Step 2, however, there were no interaction effects on inattention (all \( b < 0.15, \) \( p > .28 \)).

Finally, just as we did in Study 1, we investigated whether controlling for inattention changes the effect of sexism and defendant gender on perceived responsibility. Specifically, we ran a third model identical to the Step 2 model, controlling for (mean centered) perceived inattention (\( \Delta R^2 = .29; \) see Table 4, Step 3). Perceived inattention significantly predicted attribution of responsibility such that those who perceived the defendant to be less attentive attributed more responsibility to

<table>
<thead>
<tr>
<th>Condition</th>
<th>Participant Gender</th>
<th>Benevolent Sexism</th>
<th>Hostile Sexism</th>
<th>Responsible</th>
<th>Inattentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female defendant</td>
<td>Men</td>
<td>2.82 (.55)</td>
<td>2.56 (.60)</td>
<td>5.37 (1.11)</td>
<td>5.26 (1.13)</td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>2.46 (.85)</td>
<td>2.23 (.77)</td>
<td>5.35 (1.20)</td>
<td>5.87 (.99)</td>
</tr>
<tr>
<td>Male defendant</td>
<td>Men</td>
<td>2.74 (.44)</td>
<td>2.70 (.48)</td>
<td>4.92 (.81)</td>
<td>4.92 (.96)</td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>2.64 (.77)</td>
<td>2.48 (.83)</td>
<td>5.17 (1.26)</td>
<td>5.27 (1.28)</td>
</tr>
</tbody>
</table>

Note. Standard deviations are in parentheses.
the defendant. Support for H2 also emerged in this model: After controlling for perceived inattention the expected interaction between defendant gender and benevolent sexism emerged as statistically significant (see Figure 2). To further explore the pattern of the interaction, we conducted follow-up regression analyses centering benevolent sexism at high (+2 SDs) and low (−2 SDs) levels. As predicted, at high levels of benevolent sexism, participants attributed more responsibility to the female defendant than the male defendant, ($\beta = -0.79$, $p = .03$, $\beta_{STD} = -.36$). In contrast, at low levels of benevolent sexism participants attributed statistically equivalent levels of responsibility to male and female defendants ($\beta = 0.65$, $p = .08$, $\beta_{STD} = .30$). A test of the simple slopes indicated that benevolent sexism is a marginal predictor of responsibility attributed to the female defendant ($\beta = 0.38$, $p = .06$, $\beta_{STD} = .25$) but not the male defendant ($\beta = -0.16$, $p = .39$, $\beta_{STD} = -.09$).

**Discussion**

As expected, we found that benevolent sexism (but not hostile sexism) predicted increased responsibility attributed to the female defendant in an accident that took place on dangerous icy roads. As with Study 1, the female defendant was not generally perceived to be more responsible for the accident, as predicted by H1. Participants did, however, perceive the female defendant to be less attentive than the male defendant. Moreover, after controlling for perceived inattention, the interaction between benevolent sexism and defendant gender emerged as a significant predictor of responsibility. Specifically, participants who score high in benevolent sexism attributed more responsibility to the female defendant than the male defendant. These results extend ambivalent sexism research and theory, suggesting that reactions to contexts eliciting the paternalistic view that women need protection (i.e., dangerous icy road conditions) will be predicted by benevolent (not hostile) sexism (e.g., Yamawaki, 2007). Our results also show evidence of lingering stereotypes that women are less equipped to successfully maneuver an automobile (Albert, 1999; Berger, 1986), such that female drivers were perceived to be significantly less attentive than male drivers.

**GENERAL DISCUSSION**

Although the reviewed literature on female driver stereotypes (e.g., Lawrence & Richardson, 2005) suggests that women are perceived as worse drivers than men, we did not find a main effect of driver gender on attribution of responsibility. Instead, we found that the effect of defendant gender on attributions of responsibility for two different automobile accidents was moderated by participants' ambivalent sexism. More important, we found that the pattern of results changed depending on the context of the accident. That is, when the defendant was presented as a competitor in a stereotypically masculine domain, as in the accident that took place in the context of congested city traffic, participants high on hostile sexism attributed more responsibility to the female defendant than the male defendant. On the other hand, in the accident scenario designed to activate paternalistic attitudes toward the female defendant, in the context of dangerous icy road conditions, participants high on benevolent sexism attributed more responsibility to the female defendant than the male defendant. Consistent with female driver stereotype research (Lawrence & Richardson, 2005), we also found evidence of stereotype-consistent perceptions, such that female drivers were perceived as less attentive than male drivers.

The current evidence indicates that benevolent and hostile sexism operate differently. Specifically, the observed pattern of results might represent backlash against competitive women who are perceived to challenge men’s power (Glick & Fiske, 2001; Glick et al., 2000). Thus, women in the congested traffic accident might be perceived as competition in a masculine domain, eliciting negative reactions. In support, Rudman and Glick (2001) found not only that agentic women faced negative stereotypes but that these stereotypes mediated subsequent hiring decisions. Thus, just as we found in our study, women presented in a competitive context faced negative stereotypes and gender discrimination. The dangerous icy roads accident, on the other hand, likely activated the paternalistic concept of women needing rescue and protection. Those who score high on benevolent sexism tend to hold women who fail to adhere to prescribed gender expectations
responsible for any subsequent misfortune (Abrams et al., 2003). Our study demonstrated that (after controlling for inattention) contextually activating the concept of women needing protection could lead to the same outcome, with benevolent sexists blaming female drivers for the icy roads accident.

It is worth noting that controlling for perceived inattention eliminated the interaction between hostile sexism and defendant gender in Study 1, whereas in Study 2 the Gender × Benevolent Sexism interaction emerged only after controlling for inattention. These findings suggest that in the congested traffic accident, among participants scoring high on hostile sexism, the inattention attributed to the female defendant may help account for the increased responsibility attributed to the female defendant. On the other hand, in the icy roads accident, inattention appears to be a potent predictor of attribution of responsibility, independent of defendant gender and sexism. Indeed, only after controlling for the variance accounted for by perceived inattention was the Defendant Gender × Benevolent Sexism interaction apparent.

These findings are noteworthy given that this study is the first to show evidence that female driver stereotypes, and more broadly sexist attitudes, might have real-world consequences for women involved in car accidents resulting in civil litigation. Our findings also have implications beyond the legal sphere. The results of this study reiterate the complex relationship between ambivalent sexism and attitudes toward women. Primarily, neither hostile nor benevolent sexism alone predict attitudes toward women across all contexts. Indeed, previous research supports our findings. Glick et al. (1997) found that hostile (but not benevolent) sexism predicted negative attitudes toward career women. On the other hand, Abrams et al. (2003) found that benevolent (but not hostile) sexism predicted blame for an acquaintance rape victim, who was perceived to have violated gender norms by inviting a man back to her apartment after a party. Like Glick and colleagues, we found that hostile and benevolent sexism differentially predict discriminatory treatment of women as a function of contextually triggered concepts of women (i.e., competitive vs. vulnerable). Because this concept has only been investigated in a handful of contexts (e.g., perceptions of sexual assault victims, women in traditional vs. nontraditional roles; Abrams et al., 2003; Glick et al., 1997), our studies extend existing research and theory in novel ways. Furthermore, the present research reveals how context can shape the way female drivers are perceived in automobile accidents. Competitive contexts (e.g., congested traffic) lead to hostile sexism-related gender bias, whereas dangerous contexts, highlighting the paternalistic concept of women needing protection (e.g., icy roads), lead to benevolent sexism-related gender bias. This is important given that previous studies have focused on the ways in which a woman’s behavior (e.g., agency, promiscuity) leads to sexism-related bias. In contrast, the current study illustrates how contextual factors, outside a woman’s control, can influence sexism-related bias.

Limitations and Future Directions

The present study explored the associations of ambivalent sexism in an interesting legal context—a context that likely has implications for decisions made by a variety of relevant legal decision makers (e.g., jurors, judges, police officers, insurance adjusters). It is important to acknowledge that we investigated reactions to female drivers in only two specific accident scenarios. Further research is needed to determine the extent to which these findings can be generalized to other cases and female drivers more generally. The next step is to use different research methodologies to explore the possibility for these biases to affect attitudes and opinions of various individuals who may be involved in determining responsibility for an accident. Most often police officers are the first official investigators of the details of an accident; thus police officers’ attitudes are important to study. Next, insurance adjusters are typically involved in making determinations about which driver was at fault for an accident. Indeed, many automobile accidents do not make it to civil court; thus, it is important to investigate the attitudes of insurance adjusters as well. Furthermore, in addition to studying perceptions of defendants, it is also important to examine how attitudes and stereotypes might impact perceptions of female plaintiffs suing for damages resulting from a car accident. It is likely that sexism and stereotypes about female drivers also impact treatment of female plaintiffs. For example, female plaintiffs may be more likely than male plaintiffs to face a comparative negligence defense, in which their damage awards may be reduced by a jury’s determination that they were partially responsible for the accident, and therefore partially responsible for their own injuries. Moreover, this may exacerbate the possibility of “double discounting” for female plaintiffs. That is, because female plaintiffs may be considered partially negligent, the jurors may initially award damages in a lesser amount than they otherwise would. That lesser damages award might then be further discounted by application of comparative negligence rules, thereby further reducing the actual recoverable award (Zickafoose & Bornstein, 1999). Furthermore, in the current study we held plaintiff gender constant; thus it is unclear whether the current findings would hold in an accident with a female plaintiff and a female defendant. We suspect that effects of driver
gender may be most likely to manifest in accidents involving a male and a female driver, because we would expect sexism to increase blame for only one driver (the female driver). On the other hand, when both drivers are female we would expect sexism to increase blame attributed to female defendants and plaintiffs. Future research should explore these possibilities.

Although an obvious strength of our highly controlled true experiment is that it gives us arguments for causation, future research should attempt to improve external validity by investigating whether negative female driver stereotypes appear to be operating in the real world through analysis of actual civil case decisions. Future studies should also replicate our study with more ecologically valid measures, including, for instance, a jury deliberation component and a videotaped mock trial or a more detailed trial transcript. Even so, our research is still an important and informative first step, given that there are no other experimental studies examining the effects of gender on perceptions of defendants involved in civil car accident litigation. Furthermore, a practicing civil trial attorney reviewed our simulated cases for realism, and we made certain that all of our participants were 18 years of age or older and U.S. citizens, as actual jurors must be. We also emphasized to participants the importance of this research and believe that they took their role as participants seriously.

In conclusion, extending ambivalent sexism research and theory (Glick & Fiske, 1996), our research shows that hostile and benevolent sexism predict different patterns of discriminatory treatment of women depending on contextually triggered concepts of women (i.e., competitive vs. vulnerable). This research also uncovered evidence for heretofore-untested bias against female defendants involved in civil automobile accident litigation. We also found evidence of female driver stereotype-consistent perceptions (i.e., the belief that women are inattentive drivers), which may help explain the observed bias against female defendants. Specifically, across two different types of accidents we found that participants high on sexism attributed more responsibility for a car accident to female versus male drivers. As we learn more about the ways in which gender stereotypes impact real-world legal decisions, we will be better equipped to target such stereotypes and develop policy designed to counteract discrimination.

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