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# Explicit and implicit beliefs about discrimination on the basis of sex

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**Introduction:** Worldwide, discrimination against women remains pervasive, affecting women's rights, resources, and opportunities. Research indicates that people generally recognize that women experience discrimination. A limitation of current research on beliefs about discrimination against women is that it has predominantly relied on explicit measures, which are susceptible to social desirability biases. To date, only one study has employed both implicit and explicit measures to assess beliefs about discrimination on the basis of sex. This study found that women were more strongly associated with discrimination than men on both types of measures, and that these measures were positively correlated. Building on this prior research, the current study examined sociodemographic and ideological predictors of implicit and explicit beliefs about sex-based discrimination. In addition, drawing on ambivalent sexism theory, it investigated whether different forms of sexism—hostile, benevolent, and shift sexism—function as mechanisms linking these predictors to such beliefs.

**Methods:** Participants ( $N = 290$ ; 50% female) were recruited via Project Implicit. They completed implicit (i.e., the Target/Perpetrator Brief-Implicit Association Test) and explicit measures of discrimination beliefs; measures of hostile, benevolent, and shift sexism, social-dominance orientation, religiosity, and political affiliation; and a demographic questionnaire.

**Results:** Women were associated with being targets of discrimination in both explicit and implicit measures; this association, however, was weaker in implicit measures. The sociodemographic and ideological factors predicted implicit and explicit beliefs with this relationship being mediated by the endorsement of sexism. Individuals who were male, religious, politically conservative, or high in social dominance orientation reported greater levels of both hostile and benevolent sexism. Hostile sexism, in turn, predicted weaker implicit and explicit beliefs about women being discriminated against. In contrast, benevolent sexism was associated with stronger explicit—but not implicit—beliefs that women face discrimination.

**Discussion:** These findings highlight the value of using both explicit and implicit measures when studying beliefs about discrimination on the basis of sex and their social and ideological correlates.

## KEYWORDS

implicit measures, discrimination based on sex, discrimination beliefs, sexism, ambivalent sexism theory, sociodemographic (SD) factors, social-dominance orientation, explicit measures

# 1 Introduction

Discrimination refers to unequal or unfair treatment that can result in reduced or denied access to rights, resources, and opportunities (Ryan and Branscombe, 2013). It can occur based on a variety of individual characteristics and/or group membership (Allport, 1954; Dovidio and Gaertner, 2004). Discrimination against women on the basis of sex<sup>1</sup> is the most pervasive form of discrimination (UN Women, 2023). Worldwide, women experience the highest frequency and severity of discrimination, de jure and de facto, and across public and private life domains (Amnesty International, 2025; UN Women, 2025). In public domains, women encounter discrimination, for example, in the employment sphere (Parker and Funk, 2017). Forms of employment discrimination against women include restricted access to paid work, lower compensation, worse work conditions, greater job insecurity, and more limited access to pension entitlements or benefits, relative to men (Ortiz-Ospina et al., 2019). In private domains, formal and informal discrimination emerges, for example, in issues related to sexuality, reproduction, and family rights, where women often face restricted capacity for self-determination, agency and unequal treatment (Canetto, 2018; United Nations Development Programme, 2020).

In an era marked by claims of “reverse discrimination” and resistance to interrogating and addressing structural inequalities (Anderson, 2018; Liotzis, 2025; Napier et al., 2020; Russen et al., 2025; Okuyan and Vollhardt, 2022), it is especially important to examine how individuals perceive discrimination on the basis of sex. Recent public discourse has seen a backlash against initiatives aimed at addressing systemic inequalities, with policies like affirmative action and broader diversity, equity, and inclusion (DEI) efforts being viewed as discriminatory (Aguinis et al., 2025; Guynn, 2023; Ellis, 2025; Ng et al., 2025). A narrative is that social equity efforts are an unjust challenge to earned status (Isom et al., 2021; Okuyan and Vollhardt, 2022; Zehnter and Nater, 2025). In this context, investigating beliefs about discrimination on the basis of sex is both timely and urgent.

The purpose of the present study is to examine beliefs about discrimination on the basis of sex, defined as perceptions of whether women or men are more likely to be viewed as targets of discrimination. Past research has documented that such beliefs can exist at both explicit and implicit levels (Marini et al., 2021, 2023; Reisner et al., 2025); however, little is known about their predictors or underlying mechanisms. Drawing on previous studies on explicit sex-based discrimination beliefs (Bareket and Fiske, 2023; Barreto and Doyle, 2023; Christopher and Mull, 2006; Duckitt and Sibley, 2010; Fitzpatrick Bettencourt et al., 2011; Glick and Fiske, 2001; Ruthig et al., 2017; Van Assche et al., 2019; Zehnter et al., 2021), this study investigated key sociodemographic and ideological predictors of implicit and explicit beliefs about sex-based discrimination. In addition, drawing on ambivalent sexism

theory (Glick and Fiske, 1996), it investigated whether different forms of sexism—hostile, benevolent, and shift sexism—function as mechanisms linking these predictors to such beliefs.

## 1.1 Beliefs about discrimination on the basis of sex

Studies on beliefs about discrimination have shown that most people recognize that women are the targets of substantial discrimination (Blodorn et al., 2011; Cameron, 2001; Evans and Herr, 1994; Inman and Baron, 1996; Kehn and Ruthig, 2013; Kobrynowicz and Branscombe, 1997; Lee et al., 2022; Wilkins et al., 2015). For example, research found that women and men gave similarly high endorsement to the view that women are discriminated against (Kobrynowicz and Branscombe, 1997; Bosson et al., 2012; Kehn and Ruthig, 2013; Nadeem, 2025). Higher feminism scores, along with depression in women and low self-esteem in men, also predicted this belief (Kobrynowicz and Branscombe, 1997). Moreover, research indicates that endorsement of the view that women are discriminated against varies depending on the time frame (e.g., currently vs. in the past) that respondents are asked to focus on, with lower endorsement that women are discriminated against when respondents are asked to focus on recent times (Bosson et al., 2012; Cassino, 2017; Kehn and Ruthig, 2013; Lee et al., 2022; Off et al., 2022; Wilkins et al., 2015).

A limitation of past studies on beliefs about discrimination on the basis of sex is that they predominantly relied on explicit measures, such as self-reports. Explicit measures may influence estimates of beliefs in women being discriminated against due to the potential social desirability of those beliefs—a likely situation in social-sciences (Dovidio and Gaertner, 2004; Dovidio et al., 2001; Gawronski and Hahn, 2018; Krumpal, 2013; Krumpal and Voss, 2020).

A way to address the limitations of explicit measures is to use implicit measures. Unlike explicit measures, implicit measures (e.g., the Implicit Association Test, IAT; Greenwald et al., 1998) infer mental contents through performance indicators of association-strength (e.g., response latency and errors). The implicit-measure approach is believed to reduce social desirability effects by limiting participants’ control over their responses (Greenwald and Banaji, 1995).

Research showed that there is not always a correspondence between explicit and implicit beliefs, especially beliefs about socially sensitive topics (Dovidio and Fazio, 1992; Fazio, 1990). This phenomenon is believed to reflect the dual nature of human cognition (Devine, 1989). On the one hand, explicit cognition involves controlled and deliberate processes that require mental effort and are generally under individual control. These are thought to align with socially shared norms and cultural standards (Heine et al., 2008; Peng et al., 1997). On the other hand, implicit cognition relies on automatic processes that operate outside of intentional control and that are believed to be shaped by long-term socialization experiences (DeHart et al., 2009; Dovidio et al., 2001; Fazio and Towles-Schwen, 1999; Greenwald and Banaji, 1995; Kahneman and Frederick, 2005). Since these two systems may respond to different cues and operate under distinct constraints,

<sup>1</sup> In this article, we use the term “discrimination on the basis of sex” to refer to discrimination directed toward individuals based on their biological sex, in line with prior research on this topic. Specifically, throughout this article, we use the terms women and females to refer to female individuals, and men and males to refer to male individuals.

discrepancies between implicit and explicit beliefs can emerge (Nosek, 2007).

Evidence of a divergence in explicit and implicit beliefs has emerged from studies on negative beliefs and attitudes toward women (Latu et al., 2011; Rudman and Kilianski, 2010), Black people (Dovidio et al., 2002; Marini et al., 2021, 2023), older adults (Nosek et al., 2002), people with disabilities (Dovidio et al., 2011), and people who are overweight (Marini, 2017; Marini et al., 2013). For instance, a study found that women exhibited less explicit negative attitudes toward female authority than men though women and men showed similar implicit negative attitudes toward female authority (Rudman and Kilianski, 2010). In another study, men were less likely than women to associate women with managerial success in implicit measures than in explicit measures (Latu et al., 2011). Similarly, a U.S. study found that White people endorsed the belief that people of color are discriminated when asked via explicit measures but not when the same belief was assessed via implicit measures (Marini et al., 2021, 2023).

To date, only one study has examined both implicit and explicit beliefs about discrimination on the basis of sex (Marini et al., 2021). This study employed a novel brief version of the IAT—the Target/Perpetrator B-IAT—specifically designed to assess whether women or men are perceived as the primary targets of discrimination. The results showed that, on both explicit and implicit measures, women were more strongly associated with discrimination than men, and that these measures were positively related, suggesting a degree of convergence. This implicit-explicit measures alignment in views of women contrasted with findings for beliefs about discrimination on the basis of other dimensions (e.g., discrimination based on race or body weight), where implicit and explicit measures diverged (Marini et al., 2021). Marini et al.'s study (Marini et al., 2021) provides evidence that the Target/Perpetrator B-IAT is a valuable tool for assessing various beliefs about discrimination at the implicit level. It also highlights that implicit and explicit measures can yield similar or different results depending on the kind of discrimination being assessed, underscoring the importance of using both approaches in research on beliefs about discrimination.

However, although the findings from Marini et al. (2021) are promising, they did not clarify for whom or why people hold implicit and explicit beliefs about sex-based discrimination. To address this gap and understand the key predictors and mechanisms leading to implicit and explicit beliefs about sex-based discrimination, we leverage ambivalent sexism theory (Glick and Fiske, 1996; Bareket and Fiske, 2023). Ambivalent sexism theory posits that sexism operates in seemingly opposite yet complementary ways: hostile sexism reflects overt antagonism toward women who challenge male dominance and traditional gender norms, whereas benevolent sexism reflects paternalistic and seemingly positive stances that idealize women as fragile and in need of men's protection (Glick and Fiske, 1996; Bareket and Fiske, 2023). More recently, a new form of shift sexism (Zehnter et al., 2021) has been proposed. Although not originally included in the ambivalent sexism theory, shift sexism can be seen as adjacent to hostile sexism, as it reflects a form of antagonism in which women are no longer perceived as disadvantaged and men are viewed as the new victims of discrimination (Zehnter et al., 2021).

Hostile sexism has been found to predict negative stereotypes of women (e.g., women as manipulative), negative evaluations toward women who do not conform to conventional expectations of femininity, denial of female and male inequality, opposition to female-male equality initiatives, and normalization of male violence against women (Bareket and Fiske, 2023; Beaugard and Sheppard, 2021; Chapleau et al., 2007; Chen and Farhart, 2020; Durán et al., 2010; Eagly and Carli, 2007; Gothreau et al., 2022). By contrast, benevolent sexism has been linked to support for initiatives aimed at protecting women who experienced victimization, such as the #MeToo movement (Beaugard and Sheppard, 2021; Chen and Farhart, 2020; Eagly and Carli, 2007; Gothreau et al., 2022). It is also associated with less negative views of older adults and sexual minorities (Bareket and Fiske, 2023; Barreto and Doyle, 2023). Shift sexism has been associated with a stronger belief, among women, of limited career opportunities and likelihood of success (Morando et al., 2023).

Hostile, benevolent, and shift sexism may help explain people's beliefs about sex-based discrimination. It is plausible that individuals may reject the idea that women face discrimination while also endorsing the notion that women are vulnerable to discrimination. Hostile and shift sexism—the first through overt antagonism toward women and the latter via narratives of men as victims—may contribute to the minimization of women's discrimination. By contrast, benevolent sexism may be associated with perceptions of women as victims of discrimination, but for paternalistic reasons, because sexism is about seeing women as weak and fragile.

In addition, previous work has also showed that several demographic and ideological factors predict sexism as well as beliefs and behaviors related to sex-based discrimination. These demographic and ideological factors include sex, age, education, religiosity, political orientation, and support for social dominance orientation (Bosson et al., 2012; Cameron, 2001; Kehn and Ruthig, 2013; Kobrynowicz and Branscombe, 1997; Lee et al., 2022; Wilkins et al., 2015). For example, being male, older, less educated, more religious, politically conservative, and more approving of social hierarchies are associated with higher endorsement of sexism (Bareket and Fiske, 2023; Christopher and Mull, 2006; Duckitt and Sibley, 2010; Fitzpatrick Bettencourt et al., 2011; Glick and Fiske, 2001; Ruthig et al., 2017; Van Assche et al., 2019). Similarly, these same factors have also been found to directly influence beliefs about sex-based discrimination (Boeckmann and Feather, 2007; Bosson et al., 2012; Cameron, 2001; Kehn and Ruthig, 2013; Kobrynowicz and Branscombe, 1997; Lee et al., 2022; Wilkins et al., 2015).

## 2 The current study

Building on this theoretical and empirical foundation, the current study investigated beliefs about sex-based discrimination, using both explicit (direct) and implicit (indirect) measures. Explicit beliefs were measured through self-reported questions while implicit beliefs were assessed using the Target/Perpetrator B-IAT (Target/Perpetrator Brief-Implicit Association Test; Marini et al., 2021, 2023), an instrument recently designed to quickly

assess beliefs about discrimination against various social categories, including sex-based discrimination (Marini et al., 2021).

The first aim of the study was to replicate the findings of Marini et al. (2021), the only study to date to examine both implicit and explicit beliefs about whether women or men are more likely to be targets of discrimination. Based on Marini et al.'s (2021) results, we hypothesized that women would be more strongly associated with discrimination than men in both the explicit and implicit measures (*H1*), and that the two measures would show a positive correlation (*H2*).

The second aim was to extend this previous research by examining a range of sociodemographic variables (e.g., sex, age, and education) and ideological factors (i.e., religiosity, political orientation and social dominance orientation) of implicit and explicit beliefs about sex-based discrimination.

The third aim of the study was to investigate whether different forms of sexism (i.e., hostile, benevolent, and shift sexism) serve as mechanisms linking these predictors to such beliefs.

Drawing on previous research employing explicit measures (Bosson et al., 2012; Cameron, 2001; Kehn and Ruthig, 2013; Kobrynowicz and Branscombe, 1997; Lee et al., 2022; Wilkins et al., 2015), which has found that beliefs about sex-based discrimination differ depending on the respondents' demographic characteristics and their ideological position, we expected that individuals who are male, less educated, more religious, or more politically conservative, would be less likely to associate women with discrimination, both explicitly and implicitly (*H3*).

Based on research showing that sociodemographic and ideological characteristics reliably predict sexism (Bosson et al., 2012; Cameron, 2001; Kehn and Ruthig, 2013; Kobrynowicz and Branscombe, 1997; Lee et al., 2022; Wilkins et al., 2015), and that sexism is linked to biased perceptions and denial that women are discriminated against (Bareket and Fiske, 2023; Beauregard and Sheppard, 2021; Chen and Farhart, 2020; Glick and Fiske, 1996; Gothreau et al., 2022; Ruthig et al., 2017), we hypothesized that the relationships between individual characteristics and explicit and implicit beliefs about sex-based discrimination would be mediated by endorsement of sexism. Specifically, we expected that higher levels of hostile sexism would be negatively associated with the belief that women are the primary targets of discrimination (*H4*; Bareket and Fiske, 2023; Barreto and Doyle, 2023; Glick and Fiske, 2001; Ruthig et al., 2017; Van Assche et al., 2019), and that benevolent sexism would be positively associated with the belief that women are the most discriminated against (*H5*). Finally, we anticipated that shift sexism (Zehnter et al., 2021) would be positively associated with the belief that men, rather than women, are now the primary victims of sex-based discrimination—or at least with the belief that men and women experience discrimination equally (*H6*). Shift sexism is a relatively new construct. Therefore, the empirical support for this hypothesis remains limited.

To test these hypotheses, we constructed a path model in which sociodemographic and ideological variables were hypothesized to predict both implicit and explicit beliefs about sex-based discrimination—directly and indirectly through the three forms of sexism.

While we expected similar results and directional patterns for both explicit and implicit beliefs, we are aware that implicit beliefs

are less influenced by intentional processes (Greenwald and Banaji, 1995). Thus, we anticipated that associations involving implicit beliefs may differ from those involving explicit beliefs.

## 3 Materials and methods

### 3.1 Participants

A total of 321 U.S.-based participants were recruited online between May and July 2022 via the Project Implicit website (<https://implicit.harvard.edu>). They were volunteer visitors to the site. No advertisements were used for recruitment. Participants accessed Project Implicit reportedly for personal interest, to have the opportunity to participate in research, and to receive educational feedback on a variety of social attitudes and beliefs.

Of the 321 participants initially enrolled, 290 completed at least one of the study's measures, resulting in an attrition rate of 9.7%. To assess whether our sample size had sufficient power to detect statistically significant implicit and explicit scores that differ from zero—representing neutrality, i.e., no specific belief about whether women or men are more likely to be perceived as targets of discrimination—we conducted a *post-hoc* power analysis. Following methodologies used in prior research employing both implicit and explicit measures (Marini et al., 2021, 2023; Siegel et al., 2011), we used one-sample *t*-tests against zero, assuming an effect size of Cohen's  $d = 0.25$  and a significance level of  $\alpha = 0.05$ . This analysis indicated that our sample size provided over 99% power to detect scores significantly different from zero ( $G^*$ Power 3; Faul et al., 2007). Regarding the path analysis, we ensured our sample size met established recommendations for structural equation modeling. Specifically, we followed guidelines suggesting a minimum of 200 participants (Boomsma, 1982, 1985), at least 10 participants per estimated variable (Nunnally, 1967; Kline, 2016), and a minimum ratio of 5 cases per estimated parameter (Bentler and Chou, 1987). Our sample size exceeds all of these criteria. Participants (50% females) ranged in age between 18 and 77 ( $M = 39.7$ ;  $SD = 14.2$ ); 61.8% identified as White, followed by Latinx American (11.4%), Asian American (10.3%), and African American/Black (9.7%); 72% had an undergraduate or higher degree; 45.6% identified as liberals, 29.3% were politically neutral, and 25% reported being politically conservative; 51.4% described themselves as somewhat or moderately religious, and 12.8% as very religious. A full description of the sample's sociodemographic is provided in [Supplementary Table S1](#).

### 3.2 Measures

#### 3.2.1 Implicit beliefs about discrimination

Implicit beliefs were measured via the Target/Perpetrator B-IAT (Marini et al., 2021, 2023). The Target/Perpetrator B-IAT is a new version of the Brief IAT (B-IAT; Sriram and Greenwald, 2009). This version was developed to quickly assess discrimination beliefs based on different social categories (e.g., ethnicity, sex, sexual orientation, age, and weight) (Marini et al., 2021, 2023). The Target/Perpetrator B-IAT infers discrimination beliefs by measuring individuals'

response latencies and errors in categorizing stimuli related to two social categories (e.g., Females and Males, Black people and White people) and two evaluative attributes, *Target of Discrimination* and *Perpetrator of Discrimination*. Categories and attributes that are strongly associated show faster latencies and fewer errors when they are categorized together than when they are not (Sriram and Greenwald, 2009). In the present study, we employed the Target/Perpetrator B-IAT developed to assess beliefs about discrimination on the basis of sex (Marini et al., 2021), that is, the association between the two categories *Female* and *Male* and the two attributes *Target of Discrimination* and *Perpetrator of Discrimination*.

The Target/Perpetrator B-IAT followed the task procedure described by Sriram and Greenwald (2009) for the standard B-IAT. It included four blocks of 20 trials each. In each block, participants were presented with stimuli belonging to two categories, *Female* (e.g., “Women,” “She”) and *Male* (e.g., “Men,” “He”), and two attributes, *Target of Discrimination* (e.g., “victim,” “oppressed”) and *Perpetrator of Discrimination* (e.g., “perpetrator,” “abuser”). Stimuli used in the Target/Perpetrator B-IAT are presented in [Supplementary Table S2](#). Stimuli appeared one at a time in the middle of the screen. Participants were instructed to focus on one category and one attribute (i.e., focal categories) and press a response key (e.g., the “I” key) if the stimulus belonged to the focal category or another response key (e.g., the “E” key) if it did not. When participants made an error, a red “X” popped up on the screen until a correct response was given.

The attribute *Target of Discrimination* was presented in all the blocks as a focal category while the categories *Female* and *Male* were alternated. If in a block participants focused on the categories *Female* and *Target of Discrimination* (Female+Target of Discrimination condition), in the subsequent block they focused on the categories *Male* and *Target of Discrimination* (Male+Target of Discrimination condition). Each condition appeared twice. The order of presentation of the two conditions was counterbalanced across participants.

The Target/Perpetrator B-IAT was preceded by two practice-blocks (20 trials each) in which participants practiced sorting the names of flowers and insects and words with positive and negative valence. In one block, the focal categories were flowers and good while in the other block the categories were insects and bad. Practice blocks were presented in a counterbalanced between-participant order (Marini et al., 2021, 2023).

Scores were computed using the B-IAT algorithm, as recommended by Nosek et al. (2014). We divided the difference between mean latencies of the two conditions (i.e., Female+Target of Discrimination and Male+Target of Discrimination) by their inclusive standard deviation. In this analysis, we removed latencies of the first four trials in each block, and those greater than 10,000 ms. In addition, we recoded latencies lower than 400 ms to 400 ms and those greater than 2,000 ms to 2,000 ms. Sessions with latencies faster than 300 ms for more than 10% of the trials were removed (4.5%) because these fast latencies indicate careless participation. Implicit scores could range from  $-2$  to  $+2$ , with zero indicating neutrality (i.e., no implicit association between the attributes and categories). Positive scores indicate the implicit belief that women are the primary target of discrimination

(i.e., Female+Target of Discrimination/Male+Perpetrator of Discrimination associations) while negative scores indicate the implicit belief that men are the primary target of discrimination (i.e., Male+Target of Discrimination/Female+Perpetrator of Discrimination associations). The internal consistency of the Target/Perpetrator B-IAT was good (split-half reliability = 0.80; De Houwer and De Bruycker, 2007).

### 3.2.2 Explicit beliefs about discrimination

Explicit discrimination beliefs were measured via two items that assess via self-report the associations between the categories and attributes also used in the implicit measure (Marini and Banaji, 2022). Participants rated how strongly they associated each attribute (i.e., Target of Discrimination or Perpetrator of Discrimination) with the categories *Female* and *Male* (i.e., “How strongly do you associate the concept Target of Discrimination with Female and Male?”, “How strongly do you associate the concept Perpetrator of Discrimination with Female and Male?”) on a 7-point scale ranging from 1 (“Strongly with Female”) to 7 (“Strongly with Male”). Responses to the two questions were recoded from  $+3$  to  $-3$  and then averaged to obtain a single score. Positive scores indicate the explicit belief that women are the primary target of discrimination (i.e., Female+Target of Discrimination/Male+Perpetrator of Discrimination associations) while negative scores indicate the explicit belief that men are the primary target of discrimination (i.e., Male+Target of Discrimination/Female+Perpetrator of Discrimination associations). Explicit items are available in [Supplementary Table S2](#). The correlation between the two items was  $r = 0.46, p < 0.001$ .

### 3.2.3 Ambivalent sexism inventory

Hostile and benevolent sexism were assessed using the short version of the *Ambivalent Sexism Inventory* (ASI; Glick and Whitehead, 2010). The ASI short version consists of 12 items: 6 items measure hostile sexism (e.g., “Women seek to gain power by getting control over men”; Cronbach’s  $\alpha = 0.87$ ) and 6 items measure benevolent sexism (e.g., “Women should be cherished and protected by men”; Cronbach’s  $\alpha = 0.81$ ). Participants indicated their agreement or disagreement on a 6-point scale ranging from 0 (“I strongly disagree”) to 5 (“I strongly agree”). Hostile and benevolent sexism scores were computed by averaging responses for each scale. Higher scores reflect greater levels of hostile and benevolent sexism.

### 3.2.4 Belief in shift sexism

The *Belief in Shift Sexism* (BSS; Zehnter et al., 2021) scale was used to measure the belief that men are more discriminated against than women. This scale has 15 items: three items evaluate the belief in an increase of discrimination against men (e.g., “In the U.S., discrimination against men is on the rise”), ten items assess the idea that society and feminism are responsible for the presumed increase in discrimination against men (e.g., “Feminism is about favoring women over men”), and two items are about the idea

that women's having equal rights, status, and resources requires taking away men's rights (e.g., "Giving women more rights often require taking away men's rights"). The BSS items were presented in a randomized order. The participants were asked to report their agreement or disagreement with each item on a 7-point scale ranging from 1 ("I strongly disagree") to 7 ("I strongly agree"). Scores were computed by averaging the responses. Three of the 15 items (i.e., items 2, 9, and 14) were reverse-coded. Higher scores indicate stronger beliefs that men are the primary target of sexism. The internal consistency of the BSS was high, with a Cronbach's  $\alpha$  of 0.90.

### 3.2.5 Social dominance orientation

The *Social Dominance Orientation* (SDO; Pratto et al., 2013) scale, short version, was used to evaluate the belief that some social groups are superior to others, and the belief that superior groups should have more power and privilege in society. The SDO short-form includes 4 items: two are about support for social dominance by some groups (i.e., "We should not push for group equality" and "Superior groups should dominate inferior groups"), and two are about support for social equality (i.e., "In setting priorities, we must consider all groups" and "Group equality should be our ideal"; reverse-coded items). Responses options range from 1 ("Extremely oppose") to 10 ("Extremely favor"). Scores were computed by averaging responses. Higher scores indicate a greater social-dominance orientation. All the explicit scales are available in [Supplementary Table S3](#). Cronbach's alpha for the SDO scale was 0.60, consistent with the internal reliability reported in the original validation study by Pratto et al. (2013).

### 3.2.6 Demographic, political orientation, and religiosity measures

Participants were asked to report their sociodemographic characteristics, including their age, sex, education as well as their religiosity and political orientation. Religiosity was evaluated on a 4-point scale ranging from 0 ("Not religious") to 3 ("Strongly religious"). Political orientation was measured via a scale ranging from 3 ("Strongly liberal") to -3 ("Strongly conservative"). The sociodemographic, religiosity, and political orientation data are reported in [Supplementary Table S4](#).

## 3.3 Procedure

After reading the consent form, and agreeing to participate in the study, respondents completed the following measures: the Target/Perpetrator B-IAT (Marini et al., 2021, 2023) and self-reported items assessing implicit and explicit beliefs about discrimination on the basis of sex. The other measures, which were randomly presented, were completed next. Participation took approximately 15–20 min. The study's protocol was approved by an institutional review board (11/01.04.2022).

## 3.4 Data analyses

Descriptive statistics and bivariate correlations among variables were computed. Pearson's correlation coefficient was used to evaluate the relationships between variables. One-sample *t*-tests were used to determine whether the implicit and explicit discrimination beliefs scores were significantly different from zero. Cohen's *d* was calculated to evaluate the effect size of the scores for implicit and explicit discrimination beliefs. Additionally, *z*-tests were conducted to compare the effect sizes of implicit and explicit discrimination belief scores. Data were analyzed using the Statistical Package for the Social Sciences (SPSS, version 26.0).

To test our model, a path analysis was conducted using the software R-Studio and Lavaan's package (Rosseel, 2012). The model included participants' sex, age, education, religiosity, political orientation, and social-dominance orientation as predictors; sexist ideologies (i.e., hostile sexism, benevolent sexism, and beliefs in sexism shift) as mediators; and implicit and explicit discrimination beliefs as outcomes. Effects-significance was tested by applying a bootstrapping analysis with 5,000 resamples and a 95% confidence interval (CI) (Preacher and Hayes, 2008). The model-goodness was evaluated using the following fit-indices: the chi-square test ( $\chi^2$ ), the comparative-fit index (CFI), the root mean-square error of approximation (RMSEA), and the standardized root-mean-square residual (SRMR). A model with a non-significant  $\chi^2$ , a CFI value greater than 0.90, and a RMSEA and SRMR value lower than 0.08 was considered an acceptable fit to the data (Kline, 2005; Tabachnick and Fidell, 2007).

## 4 Results

### 4.1 Implicit and explicit discrimination beliefs

Women were viewed as the primary target of discrimination both when the belief was measured implicitly ( $M = 0.23$ ,  $SD = 0.36$ , Cohen's  $d = 0.64$ ,  $t_{(289)} = 10.659$ ,  $p < 0.001$ , 95% C.I. [0.18, 0.27]) and when the belief was measured explicitly ( $M = 1.04$ ,  $SD = 1.10$ , Cohen's  $d = 0.95$ ,  $t_{(242)} = 14.772$ ,  $p < 0.001$ , 95% C.I. [0.90, 1.18]). However, the effect-size for implicit beliefs (Cohen's  $d = 0.64$ ) was smaller than the effect-size for explicit beliefs (Cohen's  $d = 0.95$ ;  $z = -3.20$ ,  $p < 0.01$ ), suggesting a weaker belief, at the implicit-measure level, in women being discriminated against. The implicit and explicit measures were positively correlated ( $r = 0.18$ ,  $p < 0.01$ ) indicating that participants who held stronger implicit discrimination beliefs also had stronger explicit discrimination beliefs.

### 4.2 Sexism

Participants endorsed low levels of hostile ( $M = 1.19$ ,  $SD = 1.05$ ), benevolent ( $M = 1.93$ ,  $SD = 1.17$ ), and shift sexism ( $M = 2.80$ ,  $SD = 1.10$ ). The three forms of sexism were correlated. Hostile and benevolent sexism showed positive correlations ( $r = 0.50$ ,  $p < 0.01$ ) indicating that participants who more strongly endorsed hostile sexism also more strongly agreed with benevolent sexism.

Similarly, shift sexism showed positive correlations with hostile ( $r = 0.69, p < 0.01$ ) and benevolent sexism ( $r = 0.41, p < 0.01$ ), indicating that participants who expressed stronger beliefs in shift sexism also showed higher levels of hostile and benevolent sexism.

### 4.3 Social dominance orientation

This study’s participants expressed low endorsement of social-dominance orientation ( $M = 2.42, SD = 1.47$ ).

### 4.4 Correlations among measures

Correlations among scores on the various measures and participants’ demographic data are displayed in [Table 1](#).

Implicit beliefs in women being the target of discrimination were negatively correlated with sex (coded as 1 = female, 2 = male;  $r = -0.23, p < 0.01$ ) and hostile sexism ( $r = -0.18, p < 0.01$ ). Implicit beliefs in women as the primary target of discrimination were positively associated with participants’ older age ( $r = 0.17, p < 0.01$ ), higher education-level ( $r = 0.15, p < 0.05$ ), and liberal political orientation ( $r = 0.26, p < 0.01$ ).

Explicit beliefs in women as the primary target of discrimination were negatively correlated with hostile ( $r = -0.28, p < 0.01$ ), shift sexism ( $r = -0.26, p < 0.01$ ), and social-dominance orientation ( $r = -0.15, p < 0.05$ ). Explicit beliefs in women as the primary target of discrimination were positively associated with participants’ higher education-level ( $r = 0.16, p < 0.05$ ) and liberal political orientation ( $r = 0.23, p < 0.01$ ).

## 4.5 Predicting implicit and explicit discrimination beliefs

The model ([Figure 1](#)) revealed good fit indices,  $\chi^2_{(1)} = 2.32, p < 0.05, CFI = 0.99, SRMR = 0.01, RMSEA = 0.07, 90\% CI (0.00, 0.19)$ . Estimated effects are reported in [Supplementary Table S5](#).

### 4.5.1 Direct effects

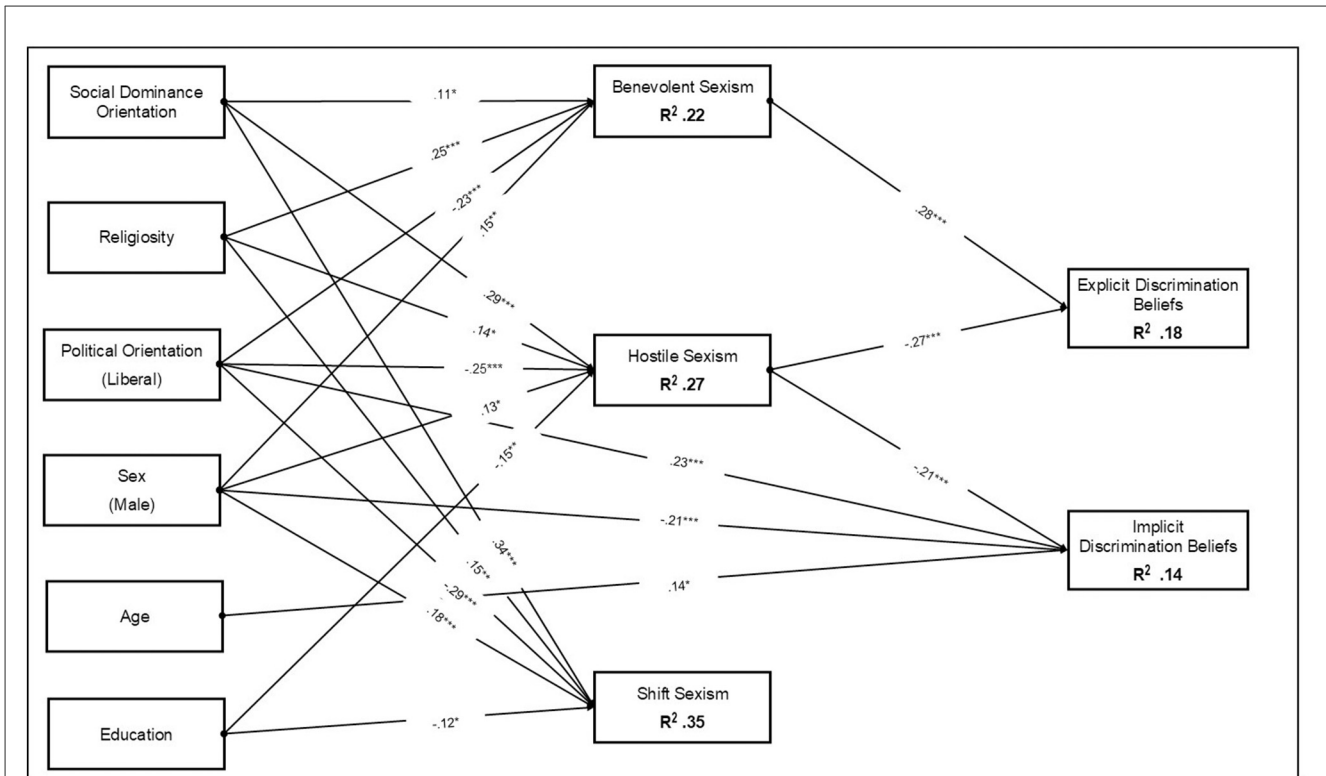
Significant direct effects of predictors and mediators on the outcome variables were found. Sex ( $b = -0.15, p < 0.001, 95\% CI [-0.066, -0.234]$ ), age ( $b = 0.003, p < 0.05, 95\% CI [0.001, 0.006]$ ), political orientation ( $b = 0.05, p < 0.001, 95\% CI [0.019, 0.075]$ ), and hostile sexism ( $b = -0.10, p < 0.05, 95\% CI [-0.129, -0.007]$ ) predicted implicit discrimination beliefs. Specifically, stronger implicit beliefs in women being most discriminated against were more likely to be observed among participants who were female, older, politically liberal, or lower in hostile sexism. Similarly, hostile sexism ( $b = -0.28, p < 0.01, 95\% CI [-0.472, -0.112]$ ) predicted explicit discrimination beliefs, such that participants who were lower in hostile sexism reported stronger explicit beliefs that women are most discriminated against. In addition, a direct effect on explicit discrimination beliefs emerged for benevolent sexism ( $b = 0.26, p < 0.001, 95\% CI [0.112, 0.406]$ ). Stronger explicit discrimination beliefs were associated with higher levels of benevolent sexism.

Additional statistically-significant direct effects were found between predictors and mediators. Participants’ sex, political orientation, religiosity, and social dominance predicted hostile sexism (sex:  $b = 0.27, p < 0.05, 95\% CI [0.485, 0.046]$ ; political

TABLE 1 Means, standard deviations, and correlations among the study’s variables.

Variable	N	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Implicit discrimination beliefs	290	0.23	0.36	1.00	0.18**	-0.18**	-0.09	-0.10	0.00	0.17**	-0.23**	0.13*	0.26**	-0.07
2. Explicit discrimination beliefs	243	1.04	1.10		1.00	-0.28**	0.03	-0.26**	-0.15*	-0.03	-0.12	0.17**	0.23**	-0.02
3. Hostile sexism	272	1.19	1.05			1.00	0.50**	0.69**	0.32**	0.01	0.13*	-0.20**	-0.38**	0.25**
4. Benevolent sexism	272	1.93	1.17				1.00	0.41**	0.14*	0.03	0.14*	-0.13*	-0.37**	0.34**
5. Shift sexism	269	2.80	1.10					1.00	0.37**	0.08	0.20**	-0.16**	-0.43**	0.29**
6. Social dominance orientation	273	2.42	1.47						1.00	0.12	-0.07	0.02	-0.10	0.07
7. Age (years)	290	39.7	14.2							1.00	-0.01	0.27**	-0.06	0.14*
8. Sex	290	-	.-								1.00	0.01	-0.14*	0.00
9. Education	290	-	-									1.00	0.17**	0.03
10. Political orientation	287	-	-										1.00	-0.42**
11. Religiosity	288	-	-											1.00

Implicit discrimination beliefs scores range from -2 to +2. Positive scores indicate stronger beliefs that women are the primary targets of discrimination, while negative scores suggest stronger beliefs that men are the primary targets. Explicit discrimination beliefs range from -3 to +3. Positive scores reflect beliefs that women are the primary targets, while negative scores reflect beliefs that men are the primary targets. Hostile sexism and benevolent sexism scores range from 0 to 5, with higher scores indicating stronger sexist attitudes. Shift sexism scores range from 1 to 7, with higher scores indicating stronger beliefs in shift sexism. Social dominance orientation scores range from 1 to 10, with higher scores indicating greater support for social dominance. Demographic variables include age, sex (1 = female, 2 = male), education (1 = elementary school to 10 = PhD), political orientation (-3 = strongly conservative to +3 = strongly liberal), and religiosity (0 = not religious to 3 = strongly religious). \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .



**FIGURE 1**  
Sociodemographic and ideological factors predicted implicit and explicit discrimination beliefs. Only significant pathways are included in the figure.  
\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

orientation:  $b = -0.15, p < 0.001, 95\% \text{ CI } [-0.227, -0.079]$ ; religiosity:  $b = 0.14, p < 0.05, 95\% \text{ CI } [0.021, 0.263]$ ; social dominance:  $b = 0.21, p < 0.001, 95\% \text{ CI } [0.131, 0.287]$ ), benevolent sexism (sex:  $b = 0.34, p < 0.05, 95\% \text{ CI } [0.594, 0.064]$ ; political orientation:  $b = -0.15, p < 0.001, 95\% \text{ CI } [-0.242, -0.064]$ ; religiosity:  $b = 0.28, p < 0.001, 95\% \text{ CI } [0.127, 0.414]$ ; social dominance:  $b = 0.10, p < 0.05, 95\% \text{ CI } [0.003, 0.179]$ ) and shift sexism (sex:  $b = 0.39, p < 0.001, 95\% \text{ CI } [0.605, 0.168]$ ; political orientation:  $b = -0.18, p < 0.001, 95\% \text{ CI } [-0.257, -0.109]$ ; religiosity:  $b = 0.16, p < 0.01, 95\% \text{ CI } [0.047, 0.262]$ ; social dominance:  $b = 0.25, p < 0.001, 95\% \text{ CI } [0.160, 0.331]$ ). Specifically, participants who were male, politically conservative, more religious, or more socially dominant were more likely to endorse hostile, benevolent, and shift sexism. Education had a direct effect only on hostile ( $b = -0.10, p < 0.01, 95\% \text{ CI } [-0.148, -0.021]$ ) and shift sexism ( $b = -0.10, p < 0.05, 95\% \text{ CI } [-0.130, -0.005]$ ), such that participants with lower education exhibited greater hostile and shift sexism.

### 4.5.2 Indirect effects

Estimation of indirect effects revealed that participants' sex, education, political orientation, religiosity, and social dominance predicted both implicit (sex:  $b = -0.02, 95\% \text{ CI } [-0.002, -0.047]$ ; education:  $b = 0.01, 95\% \text{ CI } [0.001, 0.016]$ ; political orientation:  $b = 0.01, 95\% \text{ CI } [0.002, 0.024]$ ; religiosity:  $b = -0.01, 95\% \text{ CI } [-0.030, -0.001]$ ; social dominance:  $b = -0.02, 95\% \text{ CI } [-0.031, -0.002]$ ),

and explicit discrimination beliefs (sex:  $b = -0.08, 95\% \text{ CI } [-0.014, -0.181]$ ; education:  $b = 0.02, 95\% \text{ CI } [0.007, 0.054]$ ; political orientation:  $b = 0.04, 95\% \text{ CI } [0.015, 0.087]$ ; religiosity:  $b = -0.04, 95\% \text{ CI } [-0.097, -0.008]$ ; social dominance:  $b = -0.06, 95\% \text{ CI } [-0.112, -0.022]$ ) through hostile sexism. That is, participants who were male, politically conservative, religious, or higher in social dominance were more likely to endorse hostile sexism, which in turn predicted weaker implicit and explicit beliefs in women being most discriminated against. In addition, indirect effects of sex ( $b = 0.09, 95\% \text{ CI } [0.021, 0.021]$ ), political orientation ( $b = -0.04, 95\% \text{ CI } [-0.082, -0.014]$ ), religiosity ( $b = 0.07, 95\% \text{ CI } [0.028, 0.139]$ ) and social dominance ( $b = 0.02, 95\% \text{ CI } [0.002, 0.059]$ ) on explicit discrimination beliefs were observed also through benevolent sexism. That is, participants who were male, politically conservative, more religious, or more socially dominant were more likely to endorse benevolent sexism, which predicted stronger explicit beliefs in women being most discriminated against. No indirect effects on implicit or explicit discrimination beliefs were observed through shift sexism.

## 5 Discussion

The present study used both explicit and implicit measures to investigate beliefs about discrimination on the basis of sex in a U.S.-based sample. Specifically, grounded in previous research on such beliefs (Bareket and Fiske, 2023; Barreto and Doyle, 2023; Christopher and Mull, 2006; Duckitt and Sibley, 2010; Fitzpatrick

Bettencourt et al., 2011; Glick and Fiske, 2001; Ruthig et al., 2017; Van Assche et al., 2019; Zehnter et al., 2021) and in ambivalent sexism theory (Glick and Fiske, 1996), this study aimed to identify the key predictors and mechanisms underlying these beliefs.

As predicted in *H1*, participants expressed the belief that women are the primary targets of discrimination, independent of whether this belief was assessed via explicit and implicit measures. The results align with Marini et al. (2021) and with other U.S. studies of self-reported beliefs about discrimination on the basis of sex (Bosson et al., 2012; Kehn and Ruthig, 2013; Kobrynowicz and Branscombe, 1997). The consistency in findings across studies suggests that women are still viewed as experiencing discrimination in the United States.

In line with *H2* and previous research (Marini et al., 2021), our study found a positive but weak correlation between implicit and explicit measures, indicating that while the two are related, they tap into distinct psychological processes. This aligns with findings by Hofmann et al. (2005), who showed that implicit–explicit correlations are typically modest and vary depending on various factors, including self-regulatory processes, motivational influences, and the degree of cognitive elaboration involved in explicit responses.

Importantly, the belief that women experience discrimination was weaker when assessed implicitly, especially among men, younger people, and more politically-conservative individuals. This is further indicated by the smaller effect size observed in implicit measures than in the explicit measures. Implicit measures are thought to capture established mental associations (Gawronski and Hahn, 2018; Greenwald and Banaji, 1995; Maass et al., 2000; Rudman, 2011). Evidence of a weaker implicit association between women and discrimination suggests a move away from the so-far common view that women experience discrimination. By their very nature, implicit beliefs are automatic and not easily accessible through introspection (Gawronski and Hahn, 2018; Greenwald and Banaji, 1995). This does not mean that they are inert. Rather, implicit beliefs may unintentionally influence people's thoughts, emotions, motivations, and behaviors (Greenwald and Banaji, 1995). Research has shown that implicit beliefs predict a wide range of behaviors, often outperforming explicit beliefs in this regard (Greenwald et al., 2009). For example, a meta-analysis of over two-hundred studies found that implicit beliefs make a more substantial and unique contribution to behavior (with a beta coefficient of 0.14) than explicit beliefs (with a beta coefficient of 0.11) (Kurdi et al., 2019). Because they operate automatically and are less prone to intentional control, implicit beliefs can be more consequential than explicit beliefs. Biased implicit beliefs may automatically translate into biased actions (Bertrand and Mullainathan, 2004; Green et al., 2007). For example, a weaker implicit belief that women experience discrimination may be expressed via automatic dismissing or minimizing evidence of discrimination against women (Judson, 2014). Moreover, a weaker implicit belief that women experience discrimination may sustain collective inertia in addressing the systemic discrimination that women experience (Ellemers and Barreto, 2009; Lewis, 2018).

The key findings of this study are that sociodemographic and ideological factors directly predicted implicit and explicit beliefs about discrimination against women, as hypothesized in *H3*, and

that this relationship was mediated by the endorsement of sexism. Specifically, in line with *H4*, individuals higher in hostile sexism were less likely to associate women with discrimination at both explicit and implicit levels. These results are consistent with other research findings indicating that hostile sexism is foundational to discriminatory beliefs and behavior against women (Bareket and Fiske, 2023; Glick et al., 2004; Sibley et al., 2007). In this study, the inverse relationship between hostile sexism and the implicit and explicit beliefs that women are targets of discrimination was particularly pronounced among males and among individuals higher in religiosity, political conservatism, and social-dominance orientation. These findings are consistent with those of previous research indicating that hostile sexism is most common among males (Glick et al., 2000, 2004; Glick and Fiske, 1996), religious individuals (Glick et al., 2002), politically conservative individuals (de Geus et al., 2022), and people who value hierarchies (Bareket and Fiske, 2023; Barreto and Doyle, 2023).

Furthermore, this study found that benevolent sexism also contributed to beliefs about discrimination on the basis of sex. As predicted in *H5*, unlike hostile sexism, stronger endorsement of benevolent sexism was associated with a stronger belief that women are the target of discrimination. This effect, however, emerged only when beliefs were measured explicitly.

These findings have implications for ambivalent sexism theory, highlighting the complementary roles of hostile and benevolent sexism in predicting a wide range of outcomes that contribute to sex-based inequalities and discrimination (Bareket and Fiske, 2023; Leaper, 2024). Specifically, our results show that ambivalent sexism not only reinforces sex-based inequalities through its influence on ideologies, prejudices, workplace discrimination, stereotyping, intimate relationships, and violence against women (Bareket and Fiske, 2023), but also influences beliefs about sex-based discrimination itself. Importantly, our findings suggest that hostile and benevolent sexism influence these beliefs through distinct modalities and mechanisms.

Hostile sexism appears to act directly to reinforce sex-based inequalities by reducing the view of women as victims of discrimination, both at explicit and implicit levels. This mechanism may function to protect men's power and the dominance of the male group (Bareket and Fiske, 2023), preventing women from gaining rights that could challenge their status if such discrimination were acknowledged. Indeed, hostile sexism is positively linked to social dominance ideologies (e.g., Christopher and Mull, 2006; Ruthig et al., 2017; Sibley and Overall, 2011; Schmitt and Wirth, 2009; Stewart, 2017) and to perceptions of the world as a competitive “dog-eat-dog” environment (Sibley et al., 2007). In addition, hostile sexism has been associated with lower support for women's rights (Masser and Abrams, 1999). Thus, minimizing the recognition of discrimination may serve to maintain sex inequality by preserving men's power and preventing women from acquiring rights or advantages that could compromise male dominance. If women's discrimination is not acknowledged, men face no risk of losing their privileged status.

By contrast, in our study, benevolent sexism was associated with stronger explicit beliefs that women are discriminated against. At first glance, this might appear positive and reflect

a heightened awareness of women's discrimination. However, according to ambivalent sexism theory (Glick and Fiske, 2001), our results likely reflect the nature of benevolent sexism in reinforcing men's power while maintaining the appearance of protection and care toward women (Bareket and Fiske, 2023), rather than representing a genuine acknowledgment of systemic discrimination. It asserts control over women through indirect, subtle, and more socially accepted means. Indeed, benevolent sexism is a form of cooperative and paternalistic prejudice (Glick and Fiske, 2001), which appears positive but ultimately reinforces inequality. It is associated with ideologies that emphasize the preservation of social norms and traditions (e.g., rightwing authoritarianism; Feather and McKee, 2012; Sibley and Overall, 2011), with values of conservation and resistance to change (Sibley et al., 2007), and with the endorsement of seemingly favorable stereotypes of women as fragile and in need of protection (Glick, 2013; Glick et al., 2000; Glick and Fiske, 1996; Maitner and Henry, 2018). Although it may not directly manifest as prejudice or overt discrimination against women, benevolent sexism subtly reinforces women's lower status (Barreto and Ellemers, 2005; Bareket and Fiske, 2023; Barreto et al., 2010; Glick, 2013). In this sense, it upholds traditional gender norms and operates through mechanisms of interdependence—primarily gender-based paternalism and role differentiation—thereby enforcing traditional gender relations (Jackman, 1994). In line with this theory, our results suggest that benevolent sexism could allow men to preserve a privileged position while maintaining a positive image as women's protectors, simultaneously subordinating women and legitimizing men's power and status. In other words, beliefs that women are discriminated against may partly stem from assumptions of women's weakness and perceptions of them as vulnerable and in need of protection, and partly serve as a way for men to legitimize their power over women and maintain paternalistic control (Barreto and Doyle, 2023), rather than reflecting a genuine acknowledgment of discrimination.

A key contribution of the present study lies in the findings of a divergence between explicit and implicit beliefs. Benevolent sexism was positively related to explicit beliefs of discrimination but showed no significant association with implicit beliefs of discrimination. These findings advance ambivalent sexism theory by highlighting the different pathways through which hostile and benevolent sexism may operate in relation to beliefs about sex-based discrimination. Whereas, hostile sexism appears to suppress both explicit and implicit recognition of discrimination against women, benevolent sexism may lead to explicit claims that women are discriminated against without influencing these beliefs at an implicit level. In practical terms, this suggests that benevolent sexism may operate primarily at a discursive or declarative level, reinforcing a narrative of women as victims but failing to generate an implicit representation of this belief. Because implicit measures often predict behavior more reliably than explicit ones (Cameron et al., 2012; Greenwald et al., 2009), this lack of implicit representation raises concerns about the translation of such explicit beliefs into concrete action in support of women. It may also help explain why hostile sexism is generally a stronger predictor of discriminatory behavior than benevolent sexism (Cross et al., 2017; Forbes et al., 2004; Gattino et al., 2020; Greenwood and Gautam,

2020; Guerrero-Molina et al., 2021; Herrera et al., 2014; Kessler et al., 2021; Loveland and Raghavan, 2017; Monzani et al., 2020; Morais et al., 2020; Ohse and Stockdale, 2008; Overall et al., 2021; Persson and Dhingra, 2021; Schwartz and Hunt, 2011). Indeed, research has shown that hostile sexism directly promotes violence, objectification, and workplace discrimination against women (Acar and Sümer, 2018; Girvan et al., 2015; Masser and Abrams, 2004). By contrast, benevolent sexism does not overtly promote violence or prejudice but indirectly justifies them (e.g., through victim-blaming; Durán et al., 2011; Lucarini et al., 2020) and subtly reinforces women's lower status by presuming reduced competence and restricting career advancement (Dardenne et al., 2007; Dumont et al., 2010; Hideg and Ferris, 2016).

Finally, contrary to *H6*, this study did not find that shift sexism mediates the relation between sociodemographic and ideological factors and implicit and explicit beliefs about discrimination. While this study uncovered a relation between certain respondent characteristics—(i.e., being male, politically conservative, more religious, and having higher social dominance)—and endorsement of shift sexism, this study did not find evidence to support the idea that shift sexism predicts a lower endorsement of the belief that women are the target of discrimination. Caveats are that the scale used to measure shift sexism was developed recently (Zehnter et al., 2021) and that it has been used only in a validation study in Italy (Morando et al., 2023). Therefore, there is a limited empirical base for interpreting this study's shift-sexism findings. In addition, it is important to note that the BSS scale does not directly measure perceptions of discrimination against women and men. Rather, it reflects a broader worldview, incorporating beliefs that discrimination against men is rising, that societal systems such as media and government increasingly favor women, and that feminism involves discriminating against men (e.g., "Giving women more rights often requires taking away men's rights"). These beliefs may not map onto direct assessments of whether women or men are primarily viewed as the target of discrimination. For instance, someone may believe that women are more discriminated against while still being critical of feminism or believing that men are disadvantaged in some domains. Conversely, another individual may believe men are more discriminated against but not see this as a result of the advancement in women's rights. This study's non-significant predictive role of the BSS may reflect this conceptual complexity.

## 5.1 Strengths, limitations, and future directions

The interpretation of the study's findings requires considering its strengths and limitations. A strength is that this study's sample was relatively older, more religious, and more politically conservative than most psychology studies' samples, which are generally composed of young university students, that is, individuals who are less religious and more liberal than the general population.

Another strength is the use of both implicit and explicit measures of beliefs about discrimination. The implicit measures

helped circumvent social-desirability biases, an important consideration given the comparative nature of our measures. Rather than assessing absolute perceptions of discrimination against women, our measures captured the extent to which individuals associate women, relative to men, as targets or perpetrators of discrimination. This comparative framing may increase sensitivity to social norms, as participants might feel pressure to align their responses with their community's expectations about sex-based discrimination. By integrating an implicit measure, we were able to access associations that may not be readily expressed through direct self-report.

It is important to note, however, that the comparative framing provides insight into relative perceptions, rather than absolute levels, of perceived discrimination. This means, for instance, that participants may more strongly associate women than men with being targets of discrimination, without necessarily believing that women face substantial discrimination overall. Similarly, individuals might readily link the concept of “target of discrimination” with women even if they believe that actual discrimination against women is minimal or overstated. Future research would benefit from examining how these relative associations correspond to, or diverge from, more direct evaluations of the extent of discrimination faced by women and men.

With its contributions, this study has multiple limitations that should be considered when interpreting the findings. First, most participants were White, highly educated, and low in social dominance orientation and in all forms of sexism. Additionally, the sample was U.S.-based, a limitation that is common to studies of beliefs about discrimination against women. There is evidence of national variations in beliefs, including explicit beliefs about discrimination against women (Lee et al., 2022) and implicit beliefs in math and science (Nosek et al., 2009), and beliefs about obesity (Marini et al., 2013). Thus, our findings may not generalize beyond U.S.-based individuals with similar educational backgrounds and ideologies. To improve generalizability, future research should explore this study's questions among individuals who represent a diversity of educational achievements and in communities with a diversity of ethnicities and cultures, in the U.S. and internationally.

Second, the study focused on views of discrimination against women and men, not otherwise specified. Views of discrimination against women and men described in terms of other characteristics (e.g., ethnicity) relevant to discrimination in their society likely differ from views of women and men in general. This is because individuals' experiences with discrimination vary depending also on their other characteristics, including their ethnicity, socioeconomic status, and ability (Potter et al., 2019). Future research should explore discrimination beliefs about women and men who vary by other discrimination-relevant features.

Third, the study did not examine the full range of factors that might influence the observed relationships. A valuable direction for future research is to examine how other forms of sexism—such as modern sexism, which reflects denial of ongoing sex discrimination and resistance to female-male equality policies (Swim et al., 1995; Napier et al., 2020)—might influence both implicit and explicit beliefs about sex-based discrimination. Given evidence that modern sexism is more strongly associated with

hostile than benevolent sexism (Zehnter et al., 2021), incorporating in future studies a measure of modern sexism could help clarify the ideological pathways through which different sexist beliefs influence perceptions of discrimination.

Fourth, this study is correlational. Path analysis allows for modeling and evaluating the plausibility of directional pathways based on theoretical frameworks and observed data; but it does not establish causal relationships. Causal inferences require experimental or longitudinal study designs. Future research using a diversity of designs is necessary to investigate causal mechanisms underlying the relationships observed in this and related studies.

## 5.2 Conclusions and implications

This study's findings highlight the value of using explicit and implicit measures, especially when conducting research about social-desirability-sensitive topics, such as beliefs about discrimination. The observed divergence between implicit and explicit-measures findings—with participants more strongly endorsing the view that women are targets of discrimination in explicit measures than in implicit measures—suggests that these measures capture different aspects of beliefs about discrimination. This study's combination of explicit and implicit measures allows for triangulation of findings, thereby enhancing the robustness of its conclusions.

The finding of a discrepancy in implicit-and explicit-measures patterns has implications for theory, research, and policy. Recognizing, at the explicit level, that women are discriminated against while having a weaker endorsement of the same idea at the implicit level may be an indication of a weaker commitment to the discrimination belief (Eagly and Steffen, 1984; Jost and Banaji, 1994). The weaker commitment may translate into weaker support for policies that promote equal rights for women and men. Prior research has shown that when discrimination of a particular group is not considered a pressing issue, individuals are less likely to endorse efforts to remediate the discrimination (Ellemers and Barreto, 2009). Given that implicit measures often better predict behavior (Cameron et al., 2012; Greenwald et al., 2009), lower implicit association between women and discrimination may contribute to a lower intention to act to advance female-male equality.

Moreover, this study's findings make visible the role of sexism in beliefs that women are discriminated against. They also suggest that implicit and explicit beliefs about discrimination against women have a unique relationship with hostile and benevolent sexism. Considering the role of sexism in discriminatory ideologies and behavior against women, targeting sexism could be an effective strategy for reducing female-discriminatory beliefs and practices. According to a recent systematic review (Bareket and Fiske, 2023), different approaches are required to reduce hostile and benevolent sexism. Specifically, exposure to information about sexism helps reduce hostile sexism (Zawadzki et al., 2014). In contrast, education about its subtlety and pervasiveness may be more effective in diminishing benevolent sexism (Becker and Swim, 2012).

Finally, this study and related studies' findings (e.g., Bosson et al., 2012; Cameron, 2001; Horowitz et al., 2017; Kehn and Ruthig, 2013; Kobrynowicz and Branscombe, 1997; Lee et al., 2022; Napier et al., 2020; Wilkins et al., 2015) confirm that beliefs about discrimination and sexist beliefs vary depending on sociodemographic (e.g., sex, age) and ideological (e.g., political orientation) factors. This points to the value of tracking sociodemographic and ideological factors in research on beliefs about discrimination against women and on sexist beliefs, and the importance of tailoring programs aimed at preventing discrimination based on the target population's sociodemographic and ideological characteristics.

To conclude, this study's findings contribute new insights into implicit and explicit beliefs about discrimination against women and men, and their relationship with the individual socio-ideological characteristics that underpin such beliefs. This study's and other studies' findings can inform future theoretical and empirical work, and also policy initiatives to prevent and reduce discrimination against women.

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## Ethics statement

The studies involving humans were approved by University of Campania "Luigi Vanvitelli". The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

## Author contributions

CG: Formal analysis, Data curation, Writing – original draft, Investigation, Conceptualization, Writing – review & editing, Methodology. SC: Writing – original draft, Writing – review & editing, Conceptualization. MM: Software, Writing – original draft, Resources, Investigation, Writing – review & editing, Project

## References

- Acar, F. P., and Sümer, H. C. (2018). Another test of gender differences in assignments to precarious leadership positions: examining the moderating role of ambivalent sexism. *Appl. Psychol.* 67, 498–522. doi: 10.1111/apps.12142
- Aguinis, H., Ashcraft, K., Benschop, Y., Blancero, D. M., Cheng, C., Cornelius, N., et al. (2025). Voices from the academy: a response to President Donald Trump's anti-DEI policies. *Equality Divers. Incl.: Int. J.* 44, 151–157. doi: 10.1108/EDI-03-2025-550
- Allport, G. W. (1954). *The nature of Prejudice*. Cambridge: Addison-Wesley.
- Amnesty International (2025). *Women's Rights*. Available online at: <https://www.amnesty.org/en/what-we-do/discrimination/womens-rights/> (Accessed September 21, 2024).
- Anderson, K. J. (2018). "Modern misogyny and backlash," in *APA Handbook of the Psychology of Women: History, Theory, and Battlegrounds*, eds. C.B. Travis, J.W. White, A. Rutherford, W.S. Williams, S.L. Cook, and K.F. Wyche (Washington, DC: American Psychological Association), 27–46. doi: 10.1037/0000059-002
- Baraket, O., and Fiske, S. T. (2023). A systematic review of the ambivalent sexism literature: hostile sexism protects men's power; benevolent sexism guards traditional gender roles. *Psychol. Bull.* 149, 637–698. doi: 10.1037/bul000400
- Barreto, M., and Doyle, D. M. (2023). Benevolent and hostile sexism in a shifting global context. *Nat. Rev. Psychol.* 2, 98–111. doi: 10.1038/s44159-022-00136-x
- Barreto, M., and Ellemers, N. (2005). The burden of benevolent sexism: how it contributes to the maintenance of gender inequalities. *Eur. J. Soc. Psychol.* 35, 633–642. doi: 10.1002/ejsp.270

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## Supplementary material

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/frsps.2025.1593847/full#supplementary-material>

- Barreto, M., Ellemers, N., Piebigo, L., and Moya, M. (2010). How nice of us and how dumb of me: the effect of exposure to benevolent sexism on women's task and relational self-descriptions. *Sex Roles* 62, 532–544. doi: 10.1007/s11199-009-9699-0
- Beauregard, K., and Sheppard, J. (2021). Antiwomen but proquota: disaggregating sexism and support for gender quota policies. *Polit. Psychol.* 42:12696. doi: 10.1111/pops.12696
- Becker, J. C., and Swim, J. K. (2012). Reducing endorsement of benevolent and modern sexist beliefs. *Soc. Psychol.* 43, 127–137. doi: 10.1027/1864-9335/a000091
- Bentler, P. M., and Chou, C. H. (1987). Practical issues in structural modeling. *Sociol. Methods Res.* 16, 78–117. doi: 10.1177/0049124187016001004
- Bertrand, M., and Mullainathan, S. (2004). Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *Am. Econ. Rev.* 94, 991–1013. doi: 10.1257/0002828042002561
- Blodorn, A., O'Brien, L. T., and Kordys, J. (2011). Responding to sex-based discrimination: gender differences in perceived discrimination and implications for legal decision making. *Group Process. Interg. Relat.* 15, 409–424. doi: 10.1177/1368430211427172
- Boeckmann, R. J., and Feather, N. T. (2007). Gender, discrimination beliefs, group-based guilt, and responses to affirmative action for Australian women. *Psychol. Women Q.* 31, 290–304. doi: 10.1111/j.1471-6402.2007.00372.x
- Boomsma, A. (1982). "Robustness of Lisrel against small sample sizes in factor analysis models," in *Systems Under Indirect Observation: Causality, Structure, Prediction*, eds. K. G. Jöreskog and H. Wold (Amsterdam: North Holland), 149–173.
- Boomsma, A. (1985). Nonconvergence, improper solutions, and starting values in LISREL maximum likelihood estimation. *Psychometrika* 50, 229–242. doi: 10.1007/BF02294248
- Bosson, J., Vandello, J., Michniewicz, K., and Lenes, J. (2012). American men's and women's beliefs about gender discrimination: for men, it's not quite a zero-sum game. *Masculinities Soc. Change* 1, 210–239. doi: 10.4471/mcs.2012.14
- Cameron, C. D., Brown-Iannuzzi, J. L., and Payne, B. K. (2012). Sequential priming measures of implicit social cognition. *Pers. Soc. Psychol. Rev.* 16, 330–350. doi: 10.1177/1088868312440047
- Cameron, J. E. (2001). Social identity, modern sexism, and perceptions of personal and group discrimination by women and men. *Sex Roles* 45, 743–766. doi: 10.1023/A:1015636318953
- Canetto, S. S. (2018). "Women and human rights: concepts, debates, progress, and implications," in *APA Handbook of the Psychology of Women: Perspectives on Women's Private and Public Lives*, eds. C.B. Travis, J.W. White, A. Rutherford, W.S. Williams, S.L. Cook, and K.F. Wyche (Washington, DC: American Psychological Association), 521–543. doi: 10.1037/0000060-028
- Cassino, D. (2017). *Why More American Men Feel Discriminated Against*. Available at: <https://hbr.org/2016/09/why-more-american-men-feel-discriminated-against> (Accessed October 10, 2024).
- Chapleau, K. M., Oswald, D. L., and Russell, B. L. (2007). How ambivalent sexism toward women and men support rape myth acceptance. *Sex Roles* 57, 131–136. doi: 10.1007/s11199-007-9196-2
- Chen, P., and Farhart, C. (2020). Gender, benevolent sexism, and public health compliance. *Polit. Gender* 16, 1036–1043. doi: 10.1017/S1743923X20000495
- Christopher, A. N., and Mull, M. S. (2006). Conservative ideology and ambivalent sexism. *Psychol. Women Q.* 30, 223–230. doi: 10.1111/j.1471-6402.2006.00284.x
- Cross, E. J., Overall, N. C., Hammond, M. D., and Fletcher, G. J. O. (2017). When does men's hostile sexism predict relationship aggression? The moderating role of partner commitment. *Soc. Psychol. Personal. Sci.* 8, 331–340. doi: 10.1177/1948550616672000
- Dardenne, B., Dumont, M., and Bollier, T. (2007). Insidious dangers of benevolent sexism: consequences for women's performance. *J. Pers. Soc. Psychol.* 93, 764–779. doi: 10.1037/0022-3514.93.5.764
- de Geus, R., Ralph-Morrow, E., and Shorrocks, R. (2022). Understanding ambivalent sexism and its relationship with electoral choice in Britain. *Br. J. Polit. Sci.* 52, 1–20. doi: 10.1017/S0007123421000612
- De Houwer, J., and De Bruycker, E. (2007). The implicit association test outperforms the extrinsic affective Simon task as an implicit measure of inter-individual differences in attitudes. *Br. J. Soc. Psychol.* 46, 401–421. doi: 10.1348/014466606X130346
- DeHart, T., Tennen, H., Armeli, S., Todd, M., and Mohr, C. (2009). A diary study of implicit self-esteem, interpersonal interactions and alcohol consumption in college students. *J. Exp. Soc. Psychol.* 45, 720–730. doi: 10.1016/j.jesp.2009.04.001
- Devine, P. G. (1989). Stereotypes and prejudice: their automatic and controlled components. *J. Pers. Soc. Psychol.* 56, 5–18. doi: 10.1037/0022-3514.56.1.5
- Dovidio, J. F., and Fazio, R. H. (1992). "New technologies for the direct and indirect assessment of attitudes" in *Questions About Questions: Inquiries Into the Cognitive Bases of Surveys*, ed. J. M. Tanur (New York, NY: Russell Sage Foundation), 204–237.
- Dovidio, J. F., and Gaertner, S. L. (2004). "Aversive racism" in *Advances in Experimental Social Psychology*, ed. M. P. Zanna (Cambridge: Elsevier Academic Press), 1–52. doi: 10.1016/S0065-2601(04)36001-6
- Dovidio, J. F., Kawakami, K., and Beach, K. R. (2001). "Implicit and explicit attitudes: examination of the relationship between measures of intergroup bias," in *Blackwell Handbook of Social Psychology: Intergroup Processes*, eds. R. Brown and S.L. Gaertner (Oxford: Blackwell Publishers Ltd.), 175–197. doi: 10.1002/9780470693421.ch9
- Dovidio, J. F., Kawakami, K., and Gaertner, S. L. (2002). Implicit and explicit prejudice and interracial interaction. *J. Pers. Soc. Psychol.* 82, 62–68. doi: 10.1037/0022-3514.82.1.62
- Dovidio, J. F., Pagotto, L., and Hebl, M. R. (2011). "Implicit attitudes and discrimination against people with physical disabilities," in *Disability and Aging Discrimination*, eds. R. Wiener and S. Willborn (New York, NY: Springer), 157–183. doi: 10.1007/978-1-4419-6293-5\_9
- Duckitt, J., and Sibley, C. G. (2010). Personality, ideology, prejudice, and politics: a dual-process motivational model. *J. Pers.* 78, 1861–1893. doi: 10.1111/j.1467-6494.2010.00672.x
- Dumont, M., Sarlet, M., and Dardenne, B. (2010). Be too kind to a woman, she'll feel incompetent: benevolent sexism shifts self-construal and autobiographical memories toward incompetence. *Sex Roles* 62, 545–553. doi: 10.1007/s11199-008-9582-4
- Durán, M., Moya, M., and Megías, J. L. (2011). It's his right, it's her duty: benevolent sexism and the justification of traditional sexual roles. *J. Sex Res.* 48, 470–478. doi: 10.1080/00224499.2010.513088
- Durán, M., Moya, M., Megías, J. L., and Viki, G. T. (2010). Social perception of rape victims in dating and married relationships: the role of perpetrator's benevolent sexism. *Sex Roles* 62, 505–519. doi: 10.1007/s11199-009-9676-7
- Eagly, A. H., and Carli, L. L. (2007). *Through the Labyrinth: The Truth About How Women Become Leaders*. Boston, MA: Harvard Business School.
- Eagly, A. H., and Steffen, V. J. (1984). Gender stereotypes stem from the distribution of women and men into social roles. *J. Pers. Soc. Psychol.* 46, 735–754. doi: 10.1037/0022-3514.46.4.735
- Ellemers, N., and Barreto, M. (2009). Collective action in modern times: how modern expressions of prejudice prevent collective action. *J. Soc. Issues* 65, 749–768. doi: 10.1111/j.1540-4560.2009.01621.x
- Ellis, N. T. (2025). *What is DEI, and why is it dividing America?* Available at: <https://edition.cnn.com/2025/01/22/us/dei-diversity-equity-inclusion-explained> (Accessed June 12, 2025).
- Evans, K. M., and Herr, E. L. (1994). The influence of racial identity and the perception of discrimination on the career aspirations of African American men and women. *J. Vocat. Behav.* 44, 173–184. doi: 10.1006/jvbe.1994.1012
- Faul, F., Erdfelder, E., Lang, A. G., and Buchner, A. (2007). G\*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behav. Res. Methods* 39, 175–191. doi: 10.3758/BF03193146
- Fazio, R. H. (1990). Multiple processes by which attitudes guide behavior: the mode model as an integrative framework. *Adv. Exp. Soc. Psychol.* 23, 75–109. doi: 10.1016/S0065-2601(08)60318-4
- Fazio, R. H., and Towles-Schwen, T. (1999). "The MODE model of attitude-behavior processes," in *Dual-Process Theories in Social Psychology*, eds. S. Chaiken and Y. Trope (New York, NY: Guilford), 97–116.
- Feather, N. T., and McKee, I. R. (2012). Values, right-wing authoritarianism, social dominance orientation, and ambivalent attitudes toward women. *J. Appl. Soc. Psychol.* 42, 2479–2504. doi: 10.1111/j.1559-1816.2012.00950.x
- Fitzpatrick Bettencourt, K. E., Vacha-Haase, T., and Byrne, Z. S. (2011). Older and younger adults' attitudes toward feminism: the influence of religiosity, political orientation, gender, education, and family. *Sex Roles* 64, 863–874. doi: 10.1007/s11199-011-9946-z
- Forbes, G. B., Adams-Curtis, L. E., and White, K. B. (2004). First- and second-generation measures of sexism, rape myths and related beliefs, and hostility toward women: their interrelationships and association with college students' experiences with dating aggression and sexual coercion. *Violence Against Women* 10, 236–261. doi: 10.1177/1077801203256002
- Gattino, S., De Piccoli, N., Grosso, M., Miozzo, S., Tanturri, G., and Rollero, C. (2020). Awareness of gender medicine among family doctors. A field investigation. *J. Prev. Interv. Community* 48, 147–160. doi: 10.1080/10852352.2019.1624354
- Gawronski, B., and Hahn, A. (2018). "Implicit measures: procedures, use, and interpretation," in *Measurement in Social Psychology*, eds. H. Blanton, J. LaCroix, and G. Webster (New York, NY: Taylor and Francis), 29–55. doi: 10.4324/9780429452925-2
- Girvan, E. J., Deason, G., and Borgida, E. (2015). The generalizability of gender bias: testing the effects of contextual, explicit, and implicit sexism on labor arbitration decisions. *Law Hum. Behav.* 39, 525–537. doi: 10.1037/lhb0000139
- Glick, P. (2013). *Gender Bias and the Ideology of Meritocracy at Work*. Available at: <https://www.hbs.edu/faculty/Shared%20Documents/conferences/2013-w50-research-symposium/glick.pdf> (Accessed November 2, 2024).
- Glick, P., and Fiske, S. T. (1996). The ambivalent sexism inventory: differentiating hostile and benevolent sexism. *J. Pers. Soc. Psychol.* 70, 491–512. doi: 10.1037/0022-3514.70.3.491

- Glick, P., and Fiske, S. T. (2001). An ambivalent alliance: hostile and benevolent sexism as complementary justifications for gender inequality. *Am. Psychol.* 56, 109–118. doi: 10.1037/0003-066X.56.2.109
- Glick, P., Fiske, S. T., Mladinic, A., Saiz, J. L., Abrams, D., Masser, B., et al. (2000). Beyond prejudice as simple antipathy: hostile and benevolent sexism across cultures. *J. Pers. Soc. Psychol.* 79, 763–775. doi: 10.1037/0022-3514.79.5.763
- Glick, P., Lameiras, M., and Castro, Y. R. (2002). Education and catholic religiosity as predictors of hostile and benevolent sexism toward women and men. *Sex Roles* 47, 433–441. doi: 10.1023/A:1021696209949
- Glick, P., Lameiras, M., Fiske, S. T., Eckes, T., Masser, B., Volpato, C., et al. (2004). Bad but bold: ambivalent attitudes toward men predict gender inequality in 16 nations. *J. Pers. Soc. Psychol.* 86, 713–728. doi: 10.1037/0022-3514.86.5.713
- Glick, P., and Whitehead, J. (2010). Hostility toward men and the perceived stability of male dominance. *Soc. Psychol.* 41, 177–185. doi: 10.1027/1864-9335/a000025
- Gothreau, C., Arceneaux, K., and Friesen, A. (2022). Hostile, benevolent, implicit: how different shades of sexism impact gendered policy attitudes. *Front. Polit. Sci.* 4:817309. doi: 10.3389/fpos.2022.817309
- Green, A. R., Carney, D. R., Pallin, D. J., Ngo, L. H., Raymond, K. L., Iezzoni, L. I., et al. (2007). Implicit bias among physicians and its prediction of thrombolysis decisions for black and white patients. *J. Gen. Intern. Med.* 22, 1231–1238. doi: 10.1007/s11606-007-0258-5
- Greenwald, A. G., and Banaji, M. R. (1995). Implicit social cognition: attitudes, self-esteem, and stereotypes. *Psychol. Rev.* 102, 4–27. doi: 10.1037/0033-295X.102.1.4
- Greenwald, A. G., McGhee, D. E., and Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: the implicit association test. *J. Pers. Soc. Psychol.* 74, 1464–1480. doi: 10.1037/0022-3514.74.6.1464
- Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., and Banaji, M. R. (2009). Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity. *J. Pers. Soc. Psychol.* 97, 17–41. doi: 10.1037/a0015575
- Greenwood, D., and Gautam, R. (2020). What's in a Tweet? Gender and sexism moderate reactions to antifat sexist humor on Twitter. *Humor* 33, 265–290. doi: 10.1515/humor-2019-0026
- Guerrero-Molina, M., Moreno-Manso, J. M., Guerrero-Barona, E., Garcia-Baamonde, M. E., Cruz-Marquez, B., and Bueso-Izquierdo, N. (2021). Aggressors condemned for intimate partner violence: sexist attitudes and distorted thoughts about women and the use of violence. *Curr. Psychol.* 42, 560–570. doi: 10.1007/s12144-021-01473-5
- Guynn, J. (2023). *DEI Under Siege: Why More Businesses are Being Accused of "Reverse Discrimination."* Available online at: <https://eu.usatoday.com/story/money/careers/2023/12/20/dei-reverse-discrimination-lawsuits-increase-woke/71923487007/> (Accessed June, 12 2025).
- Heine, S. J., Buchtel, E. E., and Norenzayan, A. (2008). What do cross-national comparisons of personality traits tell us? The case of conscientiousness. *Psychol. Sci.* 19, 309–313. doi: 10.1111/j.1467-9280.2008.02085.x
- Herrera, M. C., Herrera, A., and Exposito, F. (2014). Stop harassment! Men's reactions to victims' confrontation. *Eur. J. Psychol. Appl. Leg. Context* 6, 45–52. doi: 10.1016/j.ejpal.2014.06.006
- Hideg, I., and Ferris, D. L. (2016). The compassionate sexist? How benevolent sexism promotes and undermines gender equality in the workplace. *J. Pers. Soc. Psychol.* 111, 706–727. doi: 10.1037/pspi0000072
- Hofmann, W., Gawronski, B., Gschwendner, T., Le, H., and Schmitt, M. (2005). A meta-analysis on the correlation between the implicit association test and explicit self-report measures. *Pers. Soc. Psychol. Bull.* 31, 1369–1385. doi: 10.1177/0146167205275613
- Horowitz, J. M., Parker, K., and Stepler, R. (2017). *Wide Partisan Gaps in U.S. Over How Far the Country Has Come on Gender Equality.* Available online at: <https://www.pewresearch.org/social-trends/2017/10/18/wide-partisan-gaps-in-u-s-over-how-far-the-country-has-come-on-gender-equality/> (Accessed October 10, 2024).
- Inman, M. L., and Baron, R. S. (1996). Influence of prototypes on perceptions of prejudice. *J. Pers. Soc. Psychol.* 70, 727–739. doi: 10.1037/0022-3514.70.4.727
- Isom, D. A., Boehme, H. M., Mikell, T. C., Chicoine, S., and Renner, M. (2021). Status threat, social concerns, and conservative media: a look at White America and the Alt-Right. *Societies* 11:72. doi: 10.3390/soc11030072
- Jackman, M. R. (1994). *The Velvet Glove: Paternalism and Conflict in Gender, Class, and Race Relations.* Berkeley, CA: University of California Press. doi: 10.1525/9780520337794
- Jost, J. T., and Banaji, M. R. (1994). The role of stereotyping in system-justification and the production of false consciousness. *Br. J. Soc. Psychol.* 33, 1–27. doi: 10.1111/j.2044-8309.1994.tb01008.x
- Judson, S. (2014). *Sexist Discrimination and Gender Microaggressions: An Exploration of Current Conceptualizations of Women's Experiences of Sexism* (doctoral dissertation). Akron, OH: University of Akron. Available online at: [http://rave.ohiolink.edu/etdc/view?acc\\_num=akron1404865988](http://rave.ohiolink.edu/etdc/view?acc_num=akron1404865988) (Accessed September 11, 2025).
- Kahneman, D., and Frederick, S. (2005). "A model of heuristic judgment," in *The Cambridge Handbook of Thinking and Reasoning*, eds. K. J. Holyoak and R. G. Morrison (Cambridge: Cambridge University Press), 267–293.
- Kehn, A., and Ruthig, J. C. (2013). Perceptions of gender discrimination across six decades: the moderating roles of gender and age. *Sex Roles* 69, 289–296. doi: 10.1007/s11199-013-0303-2
- Kessler, A. M., Kennair, L. E. O., Grøntvedt, T. V., Bjørkheim, I., Drejer, I., and Bendixen, M. (2021). Perception of workplace social-sexual behavior as sexual harassment post #MeToo in Scandinavia. *Scand. J. Psychol.* 62, 846–857. doi: 10.1111/sjop.12763
- Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling.* New York, NY; London: Guilford.
- Kline, R. B. (2016). *Principles and Practice of Structural Equation Modeling.* New York, NY: Guilford Press.
- Kobrynowicz, D., and Branscombe, N. R. (1997). Who considers themselves victims of discrimination?: individual difference predictors of perceived gender discrimination in women and men. *Psychol. Women Q.* 21, 347–363. doi: 10.1111/j.1471-6402.1997.tb00118.x
- Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: a literature review. *Qual. Quant.* 47, 2025–2047. doi: 10.1007/s11135-011-9640-9
- Krumpal, I., and Voss, T. (2020). Sensitive questions and trust: explaining respondents' behavior in randomized response surveys. *Sage Open* 10:6223. doi: 10.1177/2158244020936223
- Kurdi, B., Seitchik, A. E., Axt, J. R., Carroll, T. J., Karapetyan, A., Kaushik, N., et al. (2019). Relationship between the implicit association test and intergroup behavior: a meta-analysis. *Am. Psychol.* 74, 569–586. doi: 10.1037/amp0000364
- Latu, I. M., Stewart, T. L., Myers, A. C., Lisco, C. G., Estes, S. B., and Donahue, D. K. (2011). What we 'say' and what we 'think' about female managers. *Psychol. Women Q.* 35, 252–266. doi: 10.1177/0361684310383811
- Leeper, C. (2024). The development of ambivalent sexism: proposals for an expanded model. *Br. J. Dev. Psychol. Advance online publication.* doi: 10.1111/bjdp.12521
- Lee, Y. J., Na, J., and Kim, B. K. (2022). Age, gender and one's perception of discrimination against men versus women in Korea. *Psychol. Rep.* 127, 2347–2367. doi: 10.1177/00332941221149175
- Lewis, J. A. (2018). "From modern sexism to gender microaggressions: understanding contemporary forms of sexism and their influence on diverse women" in *APA Handbook of the Psychology of Women: History, Theory, and Battlegrounds*, eds. C. B. Travis, J. W. White, A. Rutherford, W. S. Williams, S. L. Cook, and K. F. Wyche (Washington, DC: American Psychological Association), 381–397. doi: 10.1037/0000059-019
- Liotzis, V. (2025). The 'reverse sexism' thesis: a re-appraisal. *J. Hum. Values* 3, 278–290. doi: 10.1177/09716858251322319
- Loveland, J. E., and Raghavan, C. (2017). Coercive control, physical violence, and masculinity. *Violence Gen.* 4, 5–10. doi: 10.1089/vio.2016.0019
- Lucarini, A., Suitner, C., Brown, R., Craig, M. A., Knowles, E. D., and Casara, B. G. S. (2020). The #MeTooLate effect: victim blame and trust denial for sexual harassment not immediately reported. *Pers. Individ. Dif.* 167:110240. doi: 10.1016/j.paid.2020.110240
- Maass, A., Castelli, L., and Arcuri, L. (2000). "Measuring prejudice: implicit versus explicit techniques," in *Social Identity Processes: Trends in Theory and Research*, eds. D. Capozza and R. Brown (London: SAGE Publications Ltd.), 96–116. doi: 10.4135/9781446218617.n7
- Maitner, A. T., and Henry, P. J. (2018). Ambivalent sexism in the United Arab Emirates: quantifying gender attitudes in a rapidly modernizing society. *Group Process. Intergr. Relat.* 21, 831–843. doi: 10.1177/1368430217740433
- Marini, M. (2017). Underweight vs. overweight/obese: which weight category do we prefer? Dissociation of weight-related preferences at the explicit and implicit level. *Obes. Sci. Pract.* 3, 390–398. doi: 10.1002/osp4.136
- Marini, M., and Banaji, M. R. (2022). An implicit gender-sex-science association in the general population and STEM faculty. *J. Gen. Psychol.* 149, 299–326. doi: 10.1080/00221309.2020.1853502
- Marini, M., Sriram, N., Schnabel, K., Maliszewski, N., Devos, T., Ekehammar, B., et al. (2013). Overweight people have low levels of implicit weight bias, but overweight nations have high levels of implicit weight bias. *PLoS ONE* 8, e83543. doi: 10.1371/journal.pone.0083543
- Marini, M., Waterman, P. D., Breedlove, E., Chen, J. T., Testa, C., Reisner, S. L., et al. (2021). The target/perpetrator brief-implicit association test (B-IAT): an implicit instrument for efficiently measuring discrimination based on race/ethnicity, sex, gender identity, sexual orientation, weight, and age. *BMC Public Health* 21:158. doi: 10.1186/s12889-021-10171-7
- Marini, M., Waterman, P. D., Breedlove, E. R., Chen, J. T., Testa, C., Pardee, D. J., et al. (2023). Using implicit measures of discrimination: White, Black, and Hispanic participants respond differently to group-specific racial/ethnic categories vs. the general category 'people of color' in the USA. *J. Racial Ethn. Health Dis.* 10, 1682–1692. doi: 10.1007/s40615-022-01353-z

- Masser, B., and Abrams, D. (1999). Contemporary sexism: the relationships among hostility, benevolence, and neosexism. *Psychol. Women Q.* 23, 503–517. doi: 10.1111/j.1471-6402.1999.tb00378.x
- Masser, B., and Abrams, D. (2004). Reinforcing the glass ceiling: the consequences of hostile sexism for female managerial candidates. *Sex Roles* 51, 609–615. doi: 10.1007/s11199-004-5470-8
- Monzani, D., Vergani, L., Pizzoli, S. F. M., Marton, G., Mazzocco, K., Bailo, L., et al. (2020). Sexism interacts with patient-physician gender concordance in influencing patient control preferences: findings from a vignette experimental design. *Appl. Psychol. Health Well-Being* 12, 471–492. doi: 10.1111/aphw.12193
- Morais, R., Bernardes, S. F., and Verdonk, P. (2020). Gender awareness in medicine: adaptation and validation of the Nijmegen Gender Awareness in Medicine Scale to the Portuguese population (N-GAMS). *Adv. Health Sci. Educ.* 25, 457–477. doi: 10.1007/s10459-019-09936-y
- Morando, M., Zehnter, M. K., and Platania, S. (2023). Reverse sexism and its impact on job satisfaction and career planning: Italian validation of the belief in sexism shift scale. *Soc. Sci.* 12:357. doi: 10.3390/socsci12060357
- Nadeem, R. (2025). *How Much Discrimination do Americans Say Groups Face in the U.S.?* Available online at: <https://www.pewresearch.org/politics/2025/05/20/how-much-discrimination-do-americans-say-groups-face-in-the-u-s/> (Accessed June 28, 2025).
- Napier, J. L., Suppes, A., and Bettinsoli, M. L. (2020). Denial of gender discrimination is associated with better subjective well-being among women: a system justification account. *Eur. J. Soc. Psychol.* 50, 1191–1209. doi: 10.1002/ejsp.2702
- Ng, E., Fitzsimmons, T., Kulkarni, M., Ozturk, M. B., April, K., Banerjee, R., et al. (2025). The anti-DEI agenda: navigating the impact of Trump's second term on diversity, equity and inclusion. *Equality Divers. Incl.* 44, 137–150. doi: 10.1108/EDI-02-2025-0116
- Nosek, B. A. (2007). Implicit–explicit relations. *Curr. Dir. Psychol. Sci.* 16, 65–69. doi: 10.1111/j.1467-8721.2007.00477.x
- Nosek, B. A., Banaji, M. R., and Greenwald, A. G. (2002). Harvesting implicit group attitudes and beliefs from a demonstration web site. *Group Dyn. Theory Res. Pract.* 6, 101–115. doi: 10.1037/1089-2699.6.1.101
- Nosek, B. A., Bar-Anan, Y., Sriram, N., Axt, J., and Greenwald, A. G. (2014). Understanding and using the brief implicit association test: recommended scoring procedures. *PLoS ONE* 9:e110938. doi: 10.1371/journal.pone.0110938
- Nosek, B. A., Smyth, F. L., Sriram, N., Lindner, N. M., Devos, T., Ayala, A., et al. (2009). National differences in gender-science stereotypes predict national sex differences in science and math achievement. *Proc. Natl. Acad. Sci. U. S. A.* 106, 10593–10597. doi: 10.1073/pnas.0809921106
- Nunnally, J. C. (1967). *Psychometric Theory*. New York, NY: McGraw-Hill.
- Off, G., Charron, N., and Alexander, A. (2022). Who perceives women's rights as threatening to men and boys? Explaining modern sexism among young men in Europe. *Front. Polit. Sci.* 4:909811. doi: 10.3389/fpos.2022.909811
- Ohse, D. M., and Stockdale, M. S. (2008). Age comparisons in workplace sexual harassment perceptions. *Sex Roles* 59, 240–253. doi: 10.1007/s11199-008-9438-y
- Okuyan, M., and Vollhardt, J. R. (2022). The role of group versus hierarchy motivations in dominant groups' perceived discrimination. *Group Process. Interg. Relat.* 25, np54–np80. doi: 10.1177/13684302211053543
- Ortiz-Ospina, E., Roser, M., and Hasell, J. (2019). *Economic Inequality by Gender*. Available online at: <https://ourworldindata.org/economic-inequality-by-gender> (Accessed October 1, 2024).
- Overall, N. C., Chang, V. T., Cross, E. J., Low, R. S. T., and Henderson, A. M. E. (2021). Sexist attitudes predict family-based aggression during a COVID-19 lockdown. *J. Fam. Psychol.* 5, 1043–1052. doi: 10.1037/fam0000834
- Parker, K., and Funk, C. (2017). *Gender Discrimination Comes in Many Forms for Today's Working Women*. Available online at: <https://www.pewresearch.org/short-reads/2017/12/14/gender-discrimination-comes-in-many-forms-for-todays-working-women/> (Accessed September 21, 2024).
- Peng, K., Nisbett, R. E., and Wong, N. Y. C. (1997). Validity problems comparing values across cultures and possible solutions. *Psychol. Methods* 2, 329–344. doi: 10.1037/1082-989X.2.4.329
- Persson, S., and Dhingra, K. (2021). Moderating factors in culpability ratings and rape proclivity in stranger and acquaintance rape: validation of rape vignettes in a community sample. *J. Interpers. Violence* 37, NP11358–NP11385. doi: 10.1177/0886260521991294
- Potter, L., Zawadzki, M. J., Eccleston, C. P., Cook, J. E., Snipes, S. A., Sliwinski, M. J., et al. (2019). The Intersections of race, gender, age, and socioeconomic status: implications for reporting discrimination and attributions to discrimination. *Stigma Health* 4, 264–281. doi: 10.1037/sah0000099
- Pratto, F., Çıdam, A., Stewart, A. L., Zeineddine, F. B., Aranda, M., Aiello, A., et al. (2013). Social dominance in context and in individuals: contextual moderation of robust effects of social dominance orientation in 15 languages and 20 countries. *Soc. Psychol. Personal. Sci.* 4, 587–599. doi: 10.1177/1948550612473663
- Preacher, K. J., and Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behav. Res. Methods* 40, 879–891. doi: 10.3758/BRM.40.3.879
- Reisner, S. L., Johnson, N., Chen, J. T., Marini, M., LeBlanc, M. E., Mayer, K. H., et al. (2025). Analyzing multiple types of discrimination using implicit and explicit measures, comparing target vs. Dominant groups, in a study of smoking/vaping among community health center members in Boston, Massachusetts (2020–2022). *Int. J. Equity Health* 24:110. doi: 10.1186/s12939-025-02456-9
- Rossee, Y. (2012). lavaan: an R package for structural equation modeling. *J. Stat. Softw.* 48, 1–36. doi: 10.18637/jss.v048.i02
- Rudman, L. (2011). *Implicit Measures for Social and Personality Psychology*. London: Sage Publications Ltd. doi: 10.4135/9781473914797
- Rudman, L., and Kilianski, S. (2010). Implicit and explicit attitudes toward female authority. *Pers. Soc. Psychol. Bull.* 26, 1315–1328. doi: 10.1177/0146167200263001
- Russen, M., Dawson, M., and Madera, J. M. (2025). Think leader, think man? The role of implicit bias, status-legitimizing beliefs, and gender in hospitality leadership discrimination. *J. Hosp. Tour. Manag.* 62, 321–328. doi: 10.1016/j.jhtm.2025.02.002
- Ruthig, J. C., Kehn, A., Gamblin, B. W., Vanderzanden, K., and Jones, K. (2017). When women's gains equal men's losses: predicting a zero-sum perspective of gender status. *Sex Roles* 76, 17–26. doi: 10.1007/s11199-016-0651-9
- Ryan, M. K., and Branscombe, N. R. (2013). *The Sage Handbook of Gender and Psychology*. Los Angeles, CA: SAGE Publications Inc. doi: 10.4135/9781446269930
- Schmitt, M. T., and Wirth, J. H. (2009). Evidence that gender differences in social dominance orientation result from gendered self-stereotyping and group-interested responses to patriarchy. *Psychol. Women Q.* 33, 429–436. doi: 10.1111/j.1471-6402.2009.01520.x
- Schwartz, S. L., and Hunt, J. S. (2011). Considering her circumstances: how ethnicity and cultural relativist arguments affect sexual harassment judgments by undergraduate and community mock jurors. *Behav. Sci. Law* 29, 419–438. doi: 10.1002/bsl.972
- Sibley, C. G., and Overall, N. C. (2011). A dual process motivational model of ambivalent sexism and gender differences in romantic partner preferences. *Psychol. Women Q.* 35, 303–317. doi: 10.1177/0361684311401838
- Sibley, C. G., Wilson, M. S., and Duckitt, J. (2007). Antecedents of men's hostile and benevolent sexism: the dual roles of social dominance orientation and right-wing authoritarianism. *Pers. Soc. Psychol. Bull.* 33, 160–172. doi: 10.1177/0146167206294745
- Siegel, E. F., Sigall, H., and Huber, D. E. (2011). The IAT is sensitive to the perceived accuracy of newly learned associations. *Eur. J. Soc. Psychol.* 42, 189–199. doi: 10.1002/ejsp.859
- Sriram, N., and Greenwald, A. G. (2009). The brief implicit association test. *Exp. Psychol.* 56, 283–294. doi: 10.1027/1618-3169.56.4.283
- Stewart, A. L. (2017). Men's collective action willingness: testing different theoretical models of protesting gender inequality for women and men. *Psychol. Men Masculin.* 18, 372–381. doi: 10.1037/men0000068
- Swim, J. K., Aikin, K. J., Hall, W. S., and Hunter, B. A. (1995). Sexism and racism: old-fashioned and modern prejudices. *J. Pers. Soc. Psychol.* 68, 199–214. doi: 10.1037/0022-3514.68.2.199
- Tabachnick, B. G., and Fidell, L. S. (2007). *Using Multivariate Statistics*. Boston, MA: Allyn and Bacon.
- UN Women (2023). *Progress on the Sustainable Development Goals: The Gender Snapshot 2023*. Available online at: <https://www.unwomen.org/en/digital-library/publications/2023/09/progress-on-the-sustainable-development-goals-the-gender-snapshot-2023> (Accessed September 21, 2024). doi: 10.18356/9789210029063
- UN Women (2025). *One in Four Countries Report Backlash on Women's Rights in 2024*. In: *UN Women – Headquarters*. Available at: <https://www.unwomen.org/en/news-stories/press-release/2025/03/one-in-four-countries-report-backlash-on-womens-rights-in-2024> (Accessed June, 12 2025).
- United Nations Development Programme (2020). *Tackling Social Norms: A Game Changer for Gender Inequalities*. Available online at: <https://www.un-ilibrary.org/content/books/9789210051705> (Accessed October 11, 2024). doi: 10.18356/ff6018a7-en
- Van Assche, J., Koç, Y., and Roets, A. (2019). Religiosity or ideology? On the individual differences predictors of sexism. *Pers. Individ. Differ.* 139, 191–197. doi: 10.1016/j.paid.2018.11.016
- Wilkins, C. L., Wellman, J. D., Babbitt, L. G., Toosi, N. R., and Schad, K. D. (2015). You can win but I can't lose: bias against high-status groups increases their zero-sum beliefs about discrimination. *J. Exp. Soc. Psychol.* 57, 1–14. doi: 10.1016/j.jesp.2014.10.008

Zawadzki, M. J., Shields, S. A., Danube, C. L., and Swim, J. K. (2014). Reducing the endorsement of sexism using experiential learning: the workshop activity for gender equity simulation (WAGES). *Psychol. Women Q.* 38, 75–92. doi: 10.1177/0361684313498573

Zehnter, M. K., Manzi, F., Shrout, P. E., and Heilman, M. E. (2021). Belief in sexism shift: defining a new form of contemporary sexism and introducing the belief

in sexism shift scale (BSS scale). *PLoS ONE* 16:e0248374. doi: 10.1371/journal.pone.0248374

Zehnter, M. K., and Nater, C. (2025). Beyond being beneficiaries: Two mechanisms explain why women have more favourable attitudes towards gender quotas than men. *Eur. J. Soc. Psychol.* 55, 1–16. doi: 10.1002/ejsp.3113