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Prejudice Asymmetry: The Cultural Acceptance of Sexism

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by

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Abstract

Sexism tends to be a culturally accepted form of prejudice. I propose the relatively strong trivialization of societal sexism stems from the unique benefits that men receive from the gender status hierarchy, compared to other types of group-based hierarchies. Three studies examined why people, men in particular, trivialize or justify gender bias in relation to other types of group-based biases. Study 1 was a correlational study that examined whether participants downplay the existence and social harm of gender bias in relation to racial, religious, and sexual orientation bias, moderated by participant gender. Participants reported stronger trivialization and denial of gender bias, compared to other three types of bias. Study 2 experimentally tested whether White men's justifications for gender bias, in relation to racial bias, stems from the dyadic benefits men receive in interpersonal relationships with women. White men high in proximal benefits reported stronger essentialist justifications in the gender bias, compared to the racial bias condition. Study 3 examined whether heterosexual men, compared to heterosexual women and gay men, endorse stronger justifications for gender bias, compared to sexual orientation bias. Heterosexual men endorsed stronger essentialist justifications in the gender bias, compared to the sexual orientation bias condition. Implications of these findings are discussed.

Introduction

Sexism tends to be a culturally accepted form of prejudice. Studies repeatedly find that men reject gender bias confrontations more than race bias confrontations (Czopp & Monteith, 2003; Gulker, Mark, & Monteith, 2013). People rate racist jokes and statements as more offensive and confrontation worthy than sexist jokes (Woodzicka, Mallett, Hendricks, & Pruitt, 2015), and several forms of blatant discrimination toward women seem less offensive than comparable behaviors toward Black people (Cowan & Hodge, 1996; Rodin, Price, Bryson, & Sanchez, 1990). In addition, people report lower motivation to control expressions of gender bias compared to racial bias (Klonis, Plant, & Devine, 2005). Importantly, sexism is still pervasive in modern societies (Glick & Fiske, 2011; Jackman 1994; Swim, Aikin, Hall, & Hunter, 1995; Tougas, Brown, Beaton, & Joly, 1995). Given this, the goal of my dissertation is to examine why people – men in particular – trivialize sexism.

Taken together, these findings suggest two conclusions: first, people do not perceive bias or discrimination toward women to be as offensive and prejudicial as racism (and possibly bias toward other disadvantaged social groups); second, people are less personally motivated to avoid bias toward women relative to racial (and possibly other) minorities. While these findings strongly suggest that people do not perceive sexism to be a societal problem relative to other forms of prejudice, no studies have directly tested why people trivialize sexism relative to other types of prejudice. Therefore, the first goal of my dissertation is to establish that people, men in particular, downplay the existence and social harm of sexism in relation to other types of group-based prejudices. The second goal of my dissertation is to examine whether this relative

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trivialization and justification of sexism is the result of a stronger motivation to maintain the gender status hierarchy, compared to racial and sexual orientation hierarchies.

To examine these questions, I will draw from social dominance and system justification theory (Jost & Banaji, 1994; Sidanius, Pratto, & Bobo, 1994), and provide an overview of Glick and Fiske's (1999) theory of stereotype content. Social dominance theory explains why men, high status group members, are motivated to maintain the gender status hierarchy, and system justification theory expands on these tenets by suggesting that both high and low status group members are motivated to justify status differences between men and women. Combining the assumptions of these two theories explains why high status group members, men, are doubly motivated to maintain the status quo. Glick and Fiske's (1999) theory of stereotype content explains why the gender status hierarchy has unique characteristics that differentiate it from other status hierarchies. These theories help address the question of why men downplay the existence and social harm of sexism relative to racism and potentially other types of prejudice. I propose that men's stronger motivation to maintain the gender status hierarchy relative to other status hierarchies promotes the trivialization of gender bias.

Importantly, I am not suggesting that women receive more bias or are more systemically disadvantaged than other stigmatized social groups in the US. I simply aim to address the question of why gender bias is a relatively accepted form of bias in the US. Of course, one might argue that people trivialize sexism more than racism because sexism really is a less serious social problem than racism. However, demonstrating the objective severity of sexism versus other group-based prejudices is beyond the scope of this study. Instead, I take it as a given that sexism, racism, and other forms of widespread prejudice pose serious threats to social justice and individual's well being. Given that, my focus here is on understanding why gender bias is a

relatively accepted form of bias in a culture that reports strong endorsement of equality ideals.

First, past findings on the trivialization of sexism are discussed.

Acceptance of Sexism

In recent decades, there has been a cultural shift toward endorsing egalitarian values (Gaertner & Dovidio, 1986), and more social pressure to disavow blatant prejudice (McConahay, 1986). Since people who display prejudicial attitudes or behaviors are often stigmatized, people who harbor inner prejudices are more likely to conceal their external prejudices (Dovidio & Gaertner, 1998; Pettigrew & Meertens, 2006). Interestingly, people report relatively low concerns for concealing external expressions of gender bias (Klonis, Plant, & Devine, 2005). This suggests a particularly high tolerance or even a preference for gender bias in a cultural climate that ostensibly purports strong egalitarian values. While people who score low on prejudice measures typically report stronger concerns about being confronted with their biased behavior compared to high prejudice people, this effect does not emerge in gender bias confrontations (Czopp & Monteith, 2003). High and low prejudice participants respond very similarly when confronted with their gender bias (e.g., amusement, low discomfort, and low self-directed guilt), providing more evidence that bias based on gender is a relatively accepted and normative form of bias in the US.

The trivialization of sexism relative to other prejudices often occurs among men and women, but the trend appears more consistent and strong among men. Both men and women report that exclusion and derogation of Black people by White people is more prejudicial compared to the same treatment of women by men (Rodin et al., 1990). However, some studies demonstrate that this effect (perceiving sexism as not as offensive or prejudicial as racism) is particularly strong among men. For instance, White men rate comparable hate speech directed

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toward women as less offensive compared to hate speech toward Black people, while White women perceive them as equally offensive (Cowan & Hodge, 1996). In addition, when men are informed that they scored high on a sexism measure, compared to racism, they are much less likely to react with a desire to change their attitudes (Gulker et al., 2013). These findings indicate particularly weak norms among men to appear un-sexist or to even acknowledge that sexism exists in the US. Thus, my dissertation will focus on men's trivialization of sexism.

Confronting men about their gender biases is often met with indifference. Men report feeling less negative self-directed affect and discomfort when told that they behaved in a sexist manner compared to when participants were told that they behaved in a racist manner (Czopp & Monteith, 2003). The confronter's group membership also plays a significant role in people's reactions to prejudice confrontations. While people are more accepting of acknowledging their racial bias with a White confronter compared to a Black confronter, people trivialize messages about gender bias even with a male confronter (Gulker et al., 2013). Moreover, men view women who confront sexism as less likable compared to women who do not confront a sexist remark (Dodd, Giuliano, Boutell, & Moran, 2001). Further, men who highly identify with their gender are less supportive of sexism confrontations, particularly when the confrontation is perceived as aggressive (Becker & Barreto, 2014). While there is a growing body of research that shows positive social outcomes for racial bias confrontations, these positive effects do not typically emerge in gender bias confrontations. Therefore, the more consistent rejection of gender bias confrontations suggests pervasive cultural norms that normalize bias against women.

While past research repeatedly finds that people downplay sexism in comparison to racism, it is less clear if this trend emerges with other types of prejudice. People's reaction to anti-gay hate speech did not statistically differ from their reactions to anti-woman speech

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(Cowan & Hodge, 1996). Alternatively, people rate exclusion based on sexual orientation and race as more prejudiced than exclusion based on gender (Rodin, Price, Bryson, & Sanchez, 1990). Thus, there are limited and mixed findings on this research question. Therefore, one research goal is to test people's perceptions of the prevalence of sexism compared to other forms of prejudice as well as racism.

Presenting men with evidence of systemic gender bias often evokes antagonizing responses. A recent study utilized naturalistic data-collection for men and women's online reactions to an empirical article that demonstrated the existence of gender bias in Science, Technology, Engineering, and Math (STEM; Moss-Racusin, Molenda, & Cramer, 2015). The article of interest was a peer-reviewed journal article (Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012) that detailed clear evidence of faculty bias in STEM fields. Men were much more likely to post comments that trivialized the findings such as disagreement with the results of the study (e.g., "gender bias does not exist"), biological and essentialist justifications (e.g., "men are born smarter than women"), and to offer general criticisms of social science and the researchers, compared to women commentators. Since presenting men with evidence of gender bias in STEM threatens the legitimacy of the academic system, men may have been attempting to restore legitimacy by either trivializing or justifying gender bias. Therefore, the backlash caused from presenting evidence of gender bias may stem from men's feelings of psychological threat that results in attempts to restore the legitimacy of their higher status.

Trivializing and justifying gender bias represent two routes to restore the legitimacy of the gender status hierarchy. Trivializing systemic bias downplays the social harm of sexism by claiming it does not exist or that women make up claims of sexism. Alternatively, justifying the existence of gender bias legitimizes the gender status hierarchy by denying women competence

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usually through essentialist belief systems (e.g., "men are biologically more competent").

Essentialist beliefs posit that men and women are fundamentally different, which results in

different material and social outcomes for men women (Crompton & Lyonette, 2005). Thus,

people who endorse essentialist justifications for gender bias acknowledge that people or

institutions may favor men over women, but believe this treatment is fair because of men's

superior competence. My dissertation will expand upon the Moss-Racusin et al. (2015) findings

by untangling the motivation behind men's antagonistic and defensive response to empirical

evidence that suggests gender bias exists in STEM disciplines. To understand why men may

deny and justify the existence or social harm of gender bias, I turn to system justification and

social dominance theories.

System Justification and Social Dominance Theory

System justification theory proposes that people should be motivated to justify all

systems of inequality present in their social system, because it is psychologically uncomfortable

to acknowledge that you live in a society that is unfair or oppresses different social groups (Jost

& Banaji, 1994). However, all human societies contain social hierarchies in which some groups

have more power, status, and access to resources than other groups. Thus, when people are

reminded of social inequities, they become motivated to rationalize them (Jost, Banaji, & Nosek,

2004). For example, people living in the US should be motivated to rationalize the group-based

hierarchies they encounter regularly, such as racial/ethnic hierarchies, sexual orientation

hierarchies, religious hierarchies, and the gender status hierarchy.

To my knowledge, there have been no direct tests of whether all systems of inequality

require the same level of justification. It remains unclear whether certain status hierarchies

promote stronger system defenses or status-legitimizing beliefs from high-status group members

in an effort to maintain status differences. My dissertation investigates if different types of status hierarchies elicit equally strong psychological defense mechanisms aimed at protecting hierarchical relations between the low and high-status group. Social dominance theory proposes that high status group members are motivated to maintain hierarchical relations, because the system of inequality affords their in-group more structural power (Pratto et al., 2000). Stronger motivation to maintain a status hierarchy presumably leads to stronger system defenses when the high status group member's status is threatened. My dissertation examines how certain social hierarchies may elicit stronger motivation to justify status inequalities depending on how much the high status group depends on the low status group for resources, labor, or interpersonal relationships.

Across societies, people learn from cultural worldviews that dominant group members wield more power and have access to more resources, compared to subordinate group members who are stereotyped as not worthy or capable of a higher status (Pratto, 1999). Dominant cultural worldviews suggest that these differences in status are justified or even natural (Pratto et al., 2000). However, I propose that not all social hierarchies are created equal. The gender status hierarchy has unique socio-historical circumstances that differentiate it from other group-based status hierarchies (Glick & Fiske, 1999). Due to stable and cross-cultural status differences between men and women, social dominance theorists distinguish the gender status hierarchy from other types of "arbitrarily" set social hierarchies such as race or religious hierarchies (Sidanius et al., 1994). To further explain why the characteristics of the gender status hierarchy differ in relation to other group-based hierarchies, I turn to Glick and Fiske's (1999) principles of stereotype content.

Theory of Stereotype Content

Glick and Fiske (1999) propose two reasons why gender stereotypes are unique relative to other social group stereotypes due to the specific socio-historical circumstances of gender relations. Because of the (a) historical interdependence between men and women that is rooted in paternalism and (b) men's strong dependence on women, the gender status hierarchy represents a unique system of inequality that is cooperative and provides distinct privileges to the high status group. Due to these two reasons, I propose that the unique circumstances of the gender status hierarchy results in stronger motivation among men to maintain gender inequality compared to other types of inequality, and subsequently this promotes the trivialization and justification of gender bias and sexism. Next, I will expand on the reasons taken from Glick and Fiske's (1999) theory of stereotype content that differentiate gender stereotypes from other group-based stereotypes.

Traditional gender relations are characterized by *exploitative interdependence,* which occurs when social groups with stable status differences, such as men and women, interact with each other regularly (Glick & Fiske, 1999). These intergroup relations are typically cooperative even though the subordinate group is being exploited for labor or relationships. In contrast, most other status hierarchies do not require a high level of interdependence between the low and high status group. For example, recent housing data suggests White and Black people are relatively segregated (Rothstein, 2015). Racial segregation is associated with a host of negative outcomes for racial minorities (Rothstein, 2015), but the low interdependence it creates between White and Black people fosters intergroup status differences that are perceived as less stable and legitimate than gender status differences. In addition to men and women's high level of interdependence, traditional heterosexual relationships have historically been paternalistic (Glick & Fiske, 2001).

Paternalism involves patronizing attitudes where women are offered resources and protection in return for their cooperation in unequal gender relations that afford women less authority and power. The assumption of paternalism is that women are less competent than men and thus need men's protection to survive. In turn, women are praised for conforming to subordinate stereotypes and expected to be nurturing and responsible for domestic duties, because men rely on women's cooperation to fulfill these roles.

Next, the high status group's level of dependence on the lower status group creates the prescriptive nature of stereotypes (Glick & Fiske, 1999). That is, the more the dominant group relies on the subordinate group for resources, labor or close relationships, the more stereotypes will become prescriptive (i.e., how group members *ought* to behave) in addition to descriptive. Descriptive stereotypes satisfy people's need to explain and justify the circumstances of their social system (Jost & Banaji, 1994). For example, believing that women lack leadership skills justifies why women are underrepresented in top organizational positions. Alternatively, prescriptive stereotypes satisfy the high status group's motivation to maintain inequality by creating cultural rules for how low status group members *should* behave. For example, encouraging women to avoid assertive or dominant behaviors helps maintain women's underrepresentation in top organizational positions, because it restricts their ability to adopt traditional leadership styles.

Men's high level of dependence on women creates stronger gender stereotype prescriptions compared to other group-based stereotypes (Fiske & Stevens, 1993). For instance, consider racial stereotypes. Glick and Fiske (1999) argue that racial stereotypes have become less prescriptive since the end of the slavery system in the U.S., because White people have become less dependent on Black people for labor and resources. Thus, racial stereotypes have

mostly lost their prescriptive edge and have now become descriptive.   In contrast, the current organization of gender inequality advantages men's in-group by providing them with access to more resources and authority, but men still rely on women for heterosexual relationships, unpaid domestic labor, and low-paying "feminine" jobs within the workforce. Since gender stereotypes still remain highly prescriptive (Prentice & Carranza, 2002), this suggests that gender relations are still characterized by a strong dependence on women by men. The combination of paternalistic, heterosexual relationships plus men's dependence on women in public (e.g., devalued labor in the workforce) and private (e.g., child-rearing) domains leads to a stronger social desire for women to conform to gender stereotypes compared to other social groups.

The prescriptive nature of gender stereotypes legitimizes traditional, yet unequal gender relations. That is, if people desire women to display low status traits and conform to low status roles, then it will seem relatively fair and normative for women to be treated as if they have less competence than men. Among low status group members, violating low status roles or traits often results in social sanctions. For example, women who display high status behaviors in the workplace are viewed as unlikable, and this negatively influences their workplace outcomes (Rudman & Glick, 2001). Since there are different cultural rules for men and women's behavior, different life outcomes for men and women (e.g., women's underrepresentation in leadership positions or women's higher poverty rates) will be expected and even seem like the natural result of men and women's different characteristics. Again, the desire for women to display low status traits should be especially strong among, men, the high status group. Therefore, men may justify gender bias relative to other types of group-based bias because they have a stronger desire for women to adopt low status traits and roles, and acknowledging the existence of gender bias

undermines the legitimacy of traditional gender relations. Next, I detail the unique benefits men receive from the gender status hierarchy.

Distal and Proximal Benefits

Depending on the characteristics of the status hierarchy, high status group members may reap distal or proximal benefits from the low status group's subordination (Lee, Pratto, & Johnson, 2011). Distal benefits refer to advantages accrued at the structural level such as increased access to high paying jobs, higher wages, healthcare, and political representation. Across group-based hierarchies, high status group members receive structural advantages, which are typically reflected in low status group members wielding less political and organizational power and having fewer rights. I will refer to these types of hierarchical benefits as distal and structural throughout the paper. Since hierarchical relations offer a variety of structural benefits to the high status group, high status group members should be motivated to maintain unequal group relations by endorsing and distributing status-legitimizing beliefs (Sidanius et al., 1994). Status legitimizing beliefs maintain group-based inequality by imbuing the high status groups' dominant social position with legitimacy and a sense of fairness (Jost et al., 2004). More specifically, status legitimizing beliefs assert that high status group members hold a higher status due to their higher competency, which makes them better equipped to wield social power than low status groups (Ridgeway, 2001). Because high status groups reap distal benefits from status hierarchies, this should promote the endorsement of status legitimizing beliefs (See Figure 1).

Proximal benefits refer to privileges gained at an interpersonal level such as wielding more authority and control over decisions in family settings or having a partner who does the majority of the domestic work. Unique to the gender status hierarchy, the high status group, men, receives proximal benefits within interpersonal settings (e.g., domestic labor, child-rearing, and

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women's decision-making and autonomy is more constrained in traditional heterosexual relationships compared to men) in addition to distal benefits at the structural level (Lee, Pratto, & Johnson, 2011). Importantly, these proximal privileges are unique to the gender status hierarchy because in other, non-gender-based hierarchies, dominant group-members typically only reap benefits from their high status at the more distal, structural level. To illustrate, men who are racial minorities still receive benefits from women's subordination at the proximate, domestic level even though they are disadvantaged at the structural level compared to White men in the US. The more societal benefits a social group receives from a status hierarchy, the more motivated they should be to maintain the hierarchy, resulting in stronger endorsement of status legitimizing beliefs. Therefore, the combination of proximal and distal benefits men receive from the gender status hierarchy should promote relatively strong status-legitimizing beliefs, compared to other non-gender social hierarchies (See Figure 2). To expand on the proximal and distal privileges men receive from women's subordination, the sexual division of labor is discussed.

Sexual Division of Labor in the Workplace and the Home

The sexual division of labor represents the most rigid and cross-culturally consistent division of labor that we know of. Men are tasked with agentic goals and earning resources, whereas women are often relegated to unpaid domestic work and child-rearing duties. Even within more egalitarian cultures like the US where women occupy the paid labor force in relatively high numbers, a sexual division of labor among paid employment is still observed where women take on more low-status, communal work that pays less such as childcare (Glick, Wilk, & Perreault, 1995). Similarly, there is also a division of labor within organizations where women occupy lower status positions within the organization, while men are over-represented in upper management and

leadership positions (Acker, 1990; Barreto, Ryan, & Schmitt, 2009). These types of workplace advantages reflect distal benefits men receive from women's lower status.

The sexual division of labor benefits men in a number of ways. First, men benefit from women's unpaid labor within the home. In the US, women still do more housework each day, and they also devote more time to child rearing compared to men (Sayer, 2005). Even among women who earn more money than their husbands outside the home, they still report spending more time on household duties each day than their husbands (Thebaud, 2010). This allows men to devote more time to their paid employment, which can directly or indirectly result in more promotions, raises, and general level of respect within the workplace. These advantages reflect proximal benefits that men earn from women's subordination in household settings. Interestingly, proximal privileges gained through the gender status hierarchy may extend beyond heterosexual relationships. Daughters do more housework than sons per day, and they do more work than sons to receive comparable allowances (Goldscheider, Bernhardt, & Lappegard, 2015). Thus, the proximal benefits men receive from women's subordination starts early and continues throughout adulthood.

Second, men benefit from the ghettoization of women in the workforce into low paying jobs. The devaluation hypothesis proposes that women and femininity are devalued in society, and thus occupations that employ high numbers of women will be less valued than masculine occupations (Magnusson, 2008). For example, the proportion of female employees in a given occupation is associated with lower wages (Cohen & Huffman, 2003; England 1992). Jobs perceived to be traditionally masculine are typically associated with higher wages than jobs that are perceived to be feminine or communal (Kilbourne, England, Farkas, Beron, & Weir, 1994). Within organizational hierarchies, men also benefit from the status hierarchy by being perceived

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as more competent, thereby more likely to get promotions and earn top leadership positions. To illustrate, women who are perceived as comparably competent as men are often viewed as much less likable, which negatively impacts their workplace opportunities compared to men (Heilman, 2012).

While the distribution of men and women into different social roles creates and perpetuates gender stereotypes (Eagly & Wood, 2000), I propose that the proximal and distal benefits that result from the sexual division of labor is a primary motivating factor for justifying the existence and social harm of systemic sexism. That is, men gain many benefits from women's unpaid or devalued labor, thus they should be motivated to continue these unequal gender relations. I suggest that the combination of distal and proximal privileges that men receive from women's subordination and the sexual division of labor results in stronger motivation to maintain the gender status hierarchy compared to other types of group-based inequality. This relatively high motivation to maintain gender inequality should be reflected in stronger system defenses and endorsement of status-legitimizing beliefs, particularly when the gender status hierarchy is under threat. Thus, men's high level of dependence on women should result in stronger endorsement of status-legitimizing beliefs such as the endorsement of essentialist beliefs about gender, especially when men are experiencing psychological threat.

While most men reap distal benefits from women's subordination, the level of proximal benefits men receive varies. For example, gay men, compared to heterosexual men, receive lower levels of proximal benefits from the gender status hierarchy, because they do not reap benefits from traditional heterosexual relationships where women are expected to do the majority of the domestic labor and child rearing. Thus, men who gain high levels of proximal benefits

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through heterosexual relationships should demonstrate stronger status legitimizing beliefs in response to status threats, compared to men who only have same-sex relationships.

The level of proximal benefits heterosexual men gain will also vary depending on individual characteristics such as current relationship status (e.g., married, cohabitating, or single) or their beliefs about gender egalitarianism. Notably, heterosexual men who desire non-traditional, heterosexual relationships (e.g., both partners earn incomes and participate in domestic duties) may receive numerous benefits from interdependence with women such as a higher household income, but this does not reflect exploitative interdependence, nor does it require unequal gender relations. That is, exploitive interdependence is not inherent in heterosexual relationships, but typically exists in more traditional heterosexual relationships where men are given more status and authority. Thus, the proximal benefits I refer to in this dissertation reflect an inequitable power dynamic where women are granted less authority in interpersonal relationships. Again, not all heterosexual relationships demonstrate this power differential, but this dynamic is still common historically and cross-culturally. Moreover, heterosexual men high in gender egalitarianism can still receive benefits from relationships with women such as shared household responsibilities, but these types of benefits do not stem from hierarchical relations between men and women and should not result in status legitimizing beliefs about gender. Therefore, I will use a measure of proximal benefits as a potential moderator in Study 2, and I will use sexual orientation as a moderator in Study 3 as an alternative way to operationalize the proximal benefits men gain from the gender status hierarchy.

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Status-Legitimizing Beliefs and System Threats

According to dominance perspectives, much of the work relegated to low status groups is considered drudgery (i.e., routine house cleaning, cooking, childcare, etc.), and is largely unpaid. While high status group members should be motivated to avoid this work, much of the tasks considered drudgery are necessary for daily living. Thus, the high status group must endorse status-legitimizing beliefs (i.e., belief systems that justify or rationalize status differences between social groups) that simultaneously justify their in-group's higher status and appeases the lower status group enough to maintain their subordination and cooperation (Jackman, 1994). Thus, in cultures that value egalitarianism, the high status group cannot justify the gender status hierarchy with a hostile attribution (i.e., women are incompetent), instead they must come up with complementary ideologies that attribute some positive and negative qualities to each group, while, importantly, still attributing the stereotypes that reflect competence in socially valued domains to men (Glick and Fiske, 1996). For example, people endorse complementary stereotypes of men and women, where they attribute higher agency to men and higher communion to women (Kay et al., 2007). These stereotypes justify the sexual division of labor and the gender status hierarchy since women take on more unpaid, domestic and caretaking responsibilities, while men occupy more leadership positions in the paid labor force.

The motivation to maintain gender inequality may be observed either overtly or more subtly among men. Some men may explicitly endorse ideologies that assert men's dominance (e.g., believing men are more competent and capable than women, termed old fashioned sexism; holding antagonizing views toward women and their abilities, termed hostile sexism), while this motivation may be observed more subtly among other men. For example, modern sexist ideologies are a subtle and "politically correct" way to assert that women's shortcomings are due

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to a relative lack of competence by claiming that men and women have an equal opportunity to succeed in the US, because sexism no longer exists (Swim, Aikin, Hall, & Hunter, 1995). Therefore, when women fail to reach high status social positions, this is attributed to traits or abilities inherent to their social group instead of a biased social system. Unsurprisingly, men are more likely than women to endorse these modern sexist ideologies. Moreover, denying the existence of sexism and gender bias may function as one of the most effective and politically correct status-legitimizing beliefs in a culture that promotes egalitarianism. Men can still report strong endorsement of egalitarian ideals while reporting low concerns about appearing sexist if they also believe that sexism against women does not exist or that men are actually the victims of gender bias in today's cultural climate.

Ignoring bias is critical for maintaining the status quo, because it justifies status differences between groups by claiming that the status difference is the natural result of the group's traits and abilities instead of a social system that oppresses the low status group (Pratto et al., 2000). Men receive psychological (e.g., lower levels of depression and neuroticism) and material benefits (e.g., entitled to higher compensation for similar work) from believing gender relations are legitimate (Jost et al., 2004). Acknowledging the existence of sexism threatens the legitimacy of the gender status hierarchy by recognizing that the social system arbitrarily privileges men (Major et al., 2002). Therefore, I hypothesize that men's relatively strong dependence on women is what causes men's low recognition and acceptance of sexism compared to other types of prejudice.

I propose that denying or justifying the existence and social harm of gender bias functions as a way for men to defend their higher status, especially when men's higher status is under threat. Challenges to the legitimacy of men's higher status often results in defensive

behavior from men in an attempt to restore the legitimacy of their status (Morton, Postmes, Haslam, & Hornsey, 2009). Exposing men to information detailing the prevalence of systemic gender bias may represent a status threat, particularly among men who report high levels of gender-based proximal benefits, because it suggests that men's higher status is the result of an unfair social system. Therefore, presenting men with evidence of gender bias should activate their system justification motives leading to feelings of psychological threat, especially among men high in gender-based proximal benefits. This should result in defensive behaviors from men such as endorsing essentialist beliefs about gender and women's lack of competence.

Psychological threat. Similar to this logic, exposure to modern sexist ideologies decreases men's anxiety and increases women's anxiety (Barreto & Ellmers, 2005). Presumably, this trend emerges because modern sexist ideologies validate men's higher social status and unequal gender relations by denying the existence of societal sexism. Claiming that the US has reached complete gender equality suggests that any difference in life outcomes between men and women is the natural result of men and women's different characteristics, which legitimizes gender inequality. Therefore, presenting men with information about pervasive societal sexism may actually increase their anxiety, because it suggests that men's dominant social position is due to an unfair system that oppresses women. To quell their anxiety and restore the legitimacy of their higher status, men should be motivated to reject findings that suggest gender bias plays a role in women's lack of structural power. Thus, my proposed studies will examine if men experience heightened anxiety and provide stronger disagreement with results when presented with evidence of systemic gender bias compared to racial bias or sexual orientation bias, since men should be especially threatened by acknowledging gender bias.

Alternatively, men's feelings of psychological threat may manifest as anger or hostility. Presenting findings of systemic gender bias may suggest that part of men's accomplishments are unearned and due to a system that arbitrarily privileges their in-group, which may activate angry or hostile responses in men. For example, men are more likely to react to gender bias confrontations with irritation or annoyance compared to racial bias confrontations (Czopp & Monteith, 2003). Another possibility is that men may also experience reduced feelings of positive affect. One study found that after a gender threat men showed a reduction in positive affect instead of an increase in negative affect (Bosson, Weaver, Caswell, Burnaford, 2012). That is, they may be reluctant to self-report increases in negative emotions, so measuring their positive emotions may serve as a subtle way to detect feelings of threat. To reduce these negative feelings men may experience after reading about systemic gender bias, I propose that they will engage in stronger rejection of empirical findings and justifications for women's underrepresentation. Therefore, I will also measure men's state level negative and positive affect as a potential mediator in my proposed experiments.

Pilot Study 1

The goal of Pilot Study 1 was to test if downplaying the existence of sexism occurs in relation to other types of prejudice (i.e., religious discrimination, heterosexism, and racism), and whether participant gender moderates this relationship. The target social groups were selected because they represent social groups that regularly experience discrimination and systemic bias in the US. I collected this data as part of a larger study, and thus will need to replicate these findings in my proposed dissertation studies.

Participants and procedure. Ninety-four men and 68 women were recruited from the University of South Florida's psychology participant pool. Participants were granted 0.5 course credit upon the completion of the survey. After signing the informed consent, participants were asked to rate their perceptions of bias toward four target social groups based on their personal opinions. Participants completed the following measures.

Measures. Participants were asked to rate their belief in the existence of prejudice for four target social groups in a within-subjects design (i.e., women, Black people, Muslims, and LGB individuals). The order of presentation for the four social groups was randomized for each participant. Participants were asked, "To what extent do you believe sexism against women [Racism against black people; Heterosexism against lesbians, gay men, and bisexual (LGB) people; Religious Discrimination against Muslim people] exists in the United States?" Responses were recorded on a scale of 1 (*sexism against [group] does not exist in the United States) to* 7 *(sexism against [group] is extremely prevalent in the United States*). I collapsed across the three non-gender social groups to compare to people's belief in the existence of sexism. Of note, I included several other questions about group-based bias for each target social group, and each of these items came before the items about the existence of prejudice.

Results and discussion. A mixed ANOVA demonstrated a significant gender (men v. women) X social target (women v. non-gender social targets) interaction ($F(1, 160) = 6.79$, $p < .01$, $\eta_p^2 = .04$), such that men reported weaker beliefs in the existence of sexism ($M = 4.56$, $SE = 0.18$, 95% CI [4.21, 4.91]) compared to the other three types of prejudice ($M = 5.17$, $SE = 0.15$, 95% CI [4.87, 5.46]) ($F (1, 160) = 27.75$, $p < .01$, $\eta_p^2 = .15$). The difference was not significant among women's ratings of sexism ($M = 5.35$, $SE = 0.21$, 95% CI [4.94, 5.76]), and the other three types of prejudices ($M = 5.50$, $SE = 0.18$, 95% CI [5.15, 5.85]) ($p = .29$; See Figure 3). In

addition, a main effect emerged ($F(1, 160) = 5.56$, $p < .02$, $\eta_p^2 = 03$), such that women reported higher overall levels of prejudice for the four target social groups ($M = 5.42$, $SE = 0.18$, 95% CI [5.07, 5.78]), compared to men ($M = 4.86$, $SE = 0.15$, 95% CI [4.56, 5.16]).

The pilot data revealed that men, compared to women, downplay the existence of sexism relative to racism against black people, religious prejudice against Muslims, and sexual prejudice against LGB people. The pilot study also revealed that women report stronger beliefs in the existence of prejudice against stigmatized social groups in general, compared to men. Since women hold a subordinate identity due to the gender status hierarchy, they may be more willing to acknowledge that other disadvantaged social groups receive similar treatment. The proposed studies will examine why men tend to deny the existence of gender bias compared to other types of group-based biases that are common in the US.

Overview of Studies

In three studies I examined whether men's justification of gender bias is motivated by a relatively strong desire to maintain the gender status hierarchy. I propose that since men gain both proximal and distal benefits from women's subordination, they should be more motivated to endorse status legitimizing beliefs about gender (e.g., essentialist beliefs about gender) than about other disadvantaged groups, which only benefit high status group members at the distal, structural level (refer back to Figures 1 and 2). Study 1 is a correlational study that examined women and men's perceptions of the pervasiveness and social harm of gender bias relative to racial, religious, and sexual orientation bias, moderated by participant gender. The downplaying of gender bias relative to other types of group-based bias should be the strongest among men, compared to women, to establish the proposed phenomenon of stronger trivialization of sexism, compared to other types of prejudice.

Study 2 and 3 aimed to unravel why men demonstrate a relatively strong trivialization of sexism. Study 2 is an experiment that tested whether presenting evidence of systemic gender bias, compared to racial bias, in STEM disciplines increases White men's status legitimizing responses, mediated by an increase in psychological threat, and moderated by their level of group-based proximal benefits. Importantly, STEM disciplines represent socially valued domains (Davis, 1989). Status hierarchies are maintained by legitimizing the high status group's dominance among domains that are perceived as requiring a high level of competence and agency such as STEM (Ridgeway, 2001). Therefore, threats to high status group members' dominance in STEM fields should prompt status-legitimizing responses. Study 3 sought to conceptually replicate Study 2's experiment but examined men's reaction to gender bias versus sexual orientation bias in STEM. Thus, Study 3 tested the reactions of heterosexual men, gay men, and heterosexual women to evidence of systemic gender bias in STEM, compared to systemic sexual orientation bias. Because heterosexual men reap the most benefits from women's subordinate status due to the combination of proximal and distal privileges, they should demonstrate higher motivation to maintain the gender status hierarchy, compared to gay men and heterosexual women. Gay men primarily reap distal benefits from women's subordination, while heterosexual women reap neither distal nor proximal benefits from the gender status hierarchy. Therefore, gay men and heterosexual women should demonstrate lower motivation to maintain unequal gender relations, compared to heterosexual men.

Study 1

Overview and Hypotheses

The goal of Study 1 was to establish that men, compared to women, downplay the existence and social harm of gender bias relative to other types of group-based bias selected from Pilot Study 1. Men, compared to women, should have a stronger motivation to maintain gender-related status differences, because the gender status hierarchy provides men with proximal and distal benefits. Since I propose that men have a relatively strong motivation to maintain the gender status hierarchy, compared to women, they should show the strongest denial of gender bias in relation to the other three types of bias. In addition, men, compared to women, should also perceive comparable ambiguously-biased behaviors aimed toward women as less harmful, compared to the other three target social groups. White, heterosexual, non-Muslim men and women responded to perceptions of bias in the US for four target social groups (women, Black people, Muslims, and LGB individuals) and rated comparable ambiguously-biased behaviors targeted toward the four social groups on perceived prejudice, harm, and offensiveness in a mixed model design with gender as a categorical moderator.

Hypothesis 1. Men, compared to women, will report the lowest belief in the existence of gender bias, compared to the other three types of group-based prejudice.

Hypothesis 2. Men, compared to women, will report the strongest trivialization of gender bias, compared to the other three types of group-based prejudice.

Hypothesis 3. Men, compared to women, will rate the ambiguously-biased situations as the least harmful when framed using a female target, compared to the other three target groups.

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Method

    Participants. A G power analysis revealed that I needed to collect 325 men and women (162 per group) to detect a small to medium effect size with an alpha of .05 and power set at .80 for a mixed model ANOVA with four factors. Two hundred and ninety participants (222 women; 66 men; 2 participants deleted due to missing data) were collected from the University of South Florida's participant pool.   The low number of male of participants in the participant pool prevented me from collecting enough men to detect a small-moderate effect size for the between-subjects ANOVA for Hypothesis 3, thus I did not test Hypothesis 3. Participants received 0.5 points of course credit for participating in the online study. To eliminate potential racial, religious, and sexual orientation confounds, my sample consists of White, Heterosexual, non-Muslim men and women.

    Procedure. Participants were exposed to an online Qualtrics study titled, "Trends in the United States." After they signed the informed consent, participants were asked to report their opinions on four target social groups that regularly experience discrimination in the United States: women, Black people, Muslims, and LGB people. The order of the four target social groups presented was randomized for each participant. Consistent with the Latin Square design, participants were assigned to one four pre-specified orders for ratings of the social target groups. Next, participants rated the perceived social harm of four different situations. The four types of situations were randomized such that participants only rated one situation per target social group, and the type of situation selected for each target social group was randomized for each participant. The four types of ambiguously biased situations remained constant across participants, but what social group they are applied to was randomized for each participant. Because participants were randomly assigned to rate one of four different situations for each

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target, order confounds may occur. To ensure that the order of trials is evenly split across participants, I employed another Latin Square design such that participants were randomly assigned to one of four pre-specified orders.

Measures. Participants completed the following measures.

Prejudice situations. Situations for Study 1 were selected based on a separate pilot test (Pilot Study 2) where participants were asked to rate the perceived harm of ambiguously biased situations for either women or Black people. I selected the types of situations for Pilot Study 2 based on different forms of bias and discrimination stigmatized groups are at risk of receiving in the US. There were three main categories of situations. The first category reflected situations where women or Black people's competence was challenged. The second category reflected group-based exclusion situations where women or Black people were ignored in public settings or excluded from work-related projects. The final category reflected more blatant types of discrimination such as harassment, threats, and violence aimed toward women or Black people. I included a variety of situations to determine whether different types of ambiguously biased situations elicit different reactions from participants depending on whether it is framed in the context of gender or racial bias. Pilot Study 2 asked men and women ($n = 160$) to rate the believability of different types of prejudicial situations when put in the context of race or gender bias (e.g., "A women [Black person] was the victim of violence from men [White people]"). All four situations types presented below were rated above the mid-point on a 7-point scale ($Ms = 4.40 – 5.68$, $SDs = 1.18 – 1.82$), indicating that each situation type was highly believable when framed as either racial or gender bias. Study 1 expands on Pilot Study 2 by including Muslim and LGB targets in addition to women and Black people. Importantly, I selected situations from Pilot

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Study 2 for Study 1 that could also be believably applied to Muslims and LGB people. See below for the situations selected for Study 1.

Participants rated one of four different situations that could be considered prejudicial for each target social group (i.e., women, Black people, Muslims, and LGB people). The situations were written such that they can be believably applied to each of the four target social groups. All participants rated their opinions on three items following each situation (i.e., "How prejudicial do you find this situation?"; "How offensive do find this situation?"; and "How harmful do you find this situation?"). Responses were recorded on a scale of 1 (*not at all*) to 7 (*very*). I collapsed across the three items to create a perceived harm composite for each situation type.

Competence. A woman [Black person / member of the LGB community / person who identified as Muslim] applied for a promotion to an executive position, but members of management – who were all men [White / heterosexual / not Muslim] – concluded that the applicant was not qualified. The three competence items demonstrated excellent internal reliability ($\alpha = .96$).

Group-based exclusion. A woman [Black person / member of the LGB community / person who identified as Muslim] was excluded from a group of men [White / heterosexual / not Muslim] who were working together on a class project. The three items yielded excellent reliability ($\alpha = .91$).

Slurs. People in a passing car yelled rude slurs at a woman [Black person / member of the LGB community / person who identified as Muslim] who was walking alone down the street. Three items demonstrated good internal consistency ($\alpha = .80$).

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Threats. A woman [Black person / member of the LGB community / person who identified as Muslim] was called an insulting name on twitter for making a political comment. The three threat items yielded excellent internal consistency ($\alpha = .92$).

Perceptions of bias.   Two composites below served as separate outcome variables. These composites are based on items from Pilot Study 1. Participants responded to the following items based on their own personal opinions.

Prejudice prevalence. Two items directly assessed participants' perceptions of the prevalence of prejudice for each target group. Participants rated their agreement with the following statements: "Gender [Racial/ Sexual orientation/ Religious] bias against women [Black People/LGB people/ Muslim people] is pervasive in the US," "Gender [Racial/ Sexual orientation/ Religious] discrimination against women [Black People/LGB people/ Muslim people] is pervasive in the United States." All items were recorded on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). Two items were averaged to create one total "denial of prejudice" composite for gender ($\alpha = .92$) and the other three target social groups were averaged into one composite ($\alpha = .94$).

Trivialization of bias. Trivialization of bias was assessed with two items for each target social group (i.e., "Women [Black People/LGB people/ Muslim people] over exaggerate claims of gender [Racial/ Sexual orientation/ Religious] bias"; "Women [Black People/LGB people/ Muslim people] are not harmed by gender [Racial/ Sexual orientation/ Religious] bias in the US anymore." Each item is rated on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*), and both items were averaged to create a "trivialization composite" for gender bias ($\alpha = .71$), and the other three types of bias ($\alpha = .88$).

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Demographics. Participants indicated their age, education level, political orientation, religiosity, and their current city and state of residence.

Results

Because of the unequal male and female sample sizes, I created a randomly generated matched comparison group for women. I used random.org to generate a set of 66 numbers ranging anywhere between 1-222 (i.e., the total number of women). I chose random.org for random number generation, because it generates randomness via atmospheric noise. Notably, the results do not differ depending on whether I use the full sample of women or the subset of 66, thus I only present the results using the randomly generated matched comparison group. See Table 1 for correlations and descriptive statistics among the study variables.

Hypothesis Tests. To test Hypotheses 1-2, I ran two mixed ANOVAs with a repeated measures independent variable with two levels (gender v. the other three social groups), and participant gender as a between-subjects moderator. Then to further probe the within-subjects contrasts of target social group, I conducted two mixed ANOVAs with four levels, one for each of the four target social groups, and participant gender as a between-subjects moderator.

For H1, I selected belief in the existence of bias as the repeated measures factor. Collapsing across the non-gender types of bias, a main effect of target social group emerged $F(1, 130) = 10.89$, $p < .001$, $\eta_p^2 = 0.08$, but the social group X participant gender interaction was not significant ($p = 0.28$). Participants reported less gender bias ($M = 4.94$, $SE = 0.14$), compared to the non-gender bias composite ($M = 5.21$, $SE = 0.12$; $p < .001$, 95% CI [-.43, -.11]). Since gender did not interact with social group, this provides partial support for H1. Both men and women report weaker beliefs in the existence of sexism, compared to other types of group-based bias. See Figure 4.

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Looking separately at each of the four target social groups, similar effects emerge. A main effect of target social group emerged, $F(3, 128) = 5.80$, $p < .001$, $\eta_p^2 = 0.04$, but the social group X participant gender interaction was not significant ($p = 0.42$). Collapsing across gender and looking at the within-subjects pairwise comparisons, people reported significantly less gender bias ($M = 4.94$, $SE = 0.14$), compared to racial bias ($M = 5.15$, $SE = 0.14$; $p < .05$, 95% CI [-.40, -.008]), anti-Muslim bias ($M = 5.36$, $SE = 0.13$; $p < .001$, 95% CI [-.62, -.22]), and a marginal effect emerged for sexual orientation bias ($M = 5.13$, $SE = 0.14$; $p = .06$, 95% CI [-.38, .014]).

For H2, I selected "trivialization of bias" as the repeated measures factor. A main effect of target social group emerged, $F(1, 130) = 4.32$, $p < .05$, $\eta_p^2 = 0.03$, but the social group X participant gender interaction did not emerge ($p = 0.34$). Participants reported stronger gender trivialization ($M = 2.88$, $SE = 0.12$), compared to the bias composite ($M = 2.71$, $SE = 0.11$; $p < .05$, 95% CI [.001, .38]). Since gender did not interact with trivialization of bias, this provides partial support for H2 (see Figure 5). Both men and women tend to trivialize sexism more than other types of group-based bias.

Looking separately at the four target social groups, a main effect of emerged for trivialization of bias, $F(3, 128) = 2.60$, $p = .05$, $\eta_p^2 = 0.02$, and a significant social group X participant gender interaction emerged for the within-subjects contrasts, $F(1, 128) = 5.38$, $p = .02$, $\eta_p^2 = 0.04$. Further probing the within-subjects contrasts, pairwise comparisons reveal that men reported significantly more trivialization of gender bias ($M = 3.19$, $SE = 0.17$), compared to racial bias ($M = 2.90$, $SE = 0.18$; $p < .05$, 95% CI [.02, .55]), and anti-Muslim bias ($M = 2.80$, $SE = 0.17$; $p < .01$, 95% CI [.11, .67]), but not sexual orientation bias ($M = 3.15$, $SE = 0.18$; $p = .78$). Women did not yield any significant within-subject comparisons ($ps > .24$). In addition, men

report stronger trivialization of gender bias compared to women ($M = 2.56$, $SE = 0.17$; $p < .01$, 95% CI [.16, 1.10]).

To test Hypothesis 3, I ran four 2 (participant gender: women v. men) X 4 (target social group: women v. Black people v. Muslims v. LGB people) between-subjects ANOVAs. Each of the four situation types (i.e., competence, group-based exclusion, slurs, and threats) were tested in a separate ANOVA, such that I compared the same situation across the four different social target groups per ANOVA. No interactions ($Fs < .1.61$, $ps > .16$) or main effects of condition ($Fs < .2.46$, $ps > .08$) emerged for the four different situations. According to G Power, to detect a small-moderate effect size for a 2 X 4 between subjects ANOVA, I would need at least 55 participants per cell, thus I was severely underpowered.

Discussion

As expected, people tend to downplay the existence of gender bias compared to other types of bias. When collapsing across the three types of non-gender bias, participants report stronger trivialization of gender bias and lower belief in the existence of gender bias. Looking separately at the pairwise comparisons for men's ratings of trivialization for the four different types of prejudice, a similar pattern emerges. Men trivialize the existence gender bias more than racial and religious bias, but the effect did not emerge for sexual orientation bias. Notably, women demonstrated no differences in their trivialization of bias. This provides preliminary evidence that White, heterosexual, non-Muslim men tend to trivialize sexism more than other types of prejudice. White, heterosexual, non-Muslim men benefit from racial, sexual orientation, religious, and gender hierarchies. These in-group benefits often manifest in status legitimizing beliefs such as the trivialization of prejudice (e.g., "low status groups exaggerate the bias they face"). These beliefs legitimize the perceived meritocracy of a status hierarchy. Thus, White,

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heterosexual, non-Muslim men's relative strong gender bias trivialization potentially suggests a stronger motivation to legitimize the gender status hierarchy compared to other status hierarchies that benefit their in-group. Studies 2 and 3 aimed to investigate why men tend to trivialize sexism compared to other types of prejudice.

The low number of male participants is a critical limitation for Study 1. This likely prevented me from detecting interaction effects as well as the between subjects contrasts for Hypothesis 3. More data from men is needed to evaluate Hypothesis 3.

Study 2

Overview and Hypotheses

Study 2 aims to experimentally test if White men's relatively strong trivialization of sexism is motivated by the proximal benefits men receive from traditional, heterosexual relationships. This study employed a one-way between-subjects design with the independent variable as type of bias article (race bias v. gender bias) with group-based proximal benefits as a potential continuous moderator. White men read a journal article that either concludes that women's or Black people's underrepresentation in science, technology, engineering, and math (STEM) fields is due to systemic bias. Then White men rated their level of agreement with the results from the journal article. A measure of psychological threat served as a mediator between exposure to evidence of bias and participants' rejection of the empirical findings.

Since men may interpret evidence of systemic gender bias as an offense to their accomplishments in STEM as well as an attempt to undermine men's dominance in high status disciplines, men should experience heightened psychological threat. Psychological threat may be observed among men in three distinct ways. First, men may experience heightened anxiety from threats to their higher status. Alternatively, men may demonstrate stronger feelings of hostility or reduced positive affect in response to the gender bias condition. It may be easier to detect men's feelings of hostility or reduced positive affect, since men may be resistant to acknowledge or disclose they are feeling threatened and anxious. I propose that heightened psychological threat evoked from threats to men's higher status is what leads to men's denial of systemic bias against women. To quell feelings of threat, men can reject empirical findings or

engage in other system defenses such as increasing essentialist justifications for women's underrepresentation or rejecting the discipline of social science entirely.

Since STEM disciplines represent societally valued domains (Davis, 1989), White men should be generally motivated to maintain their higher status in STEM fields. If White men are more threatened by evidence of systemic gender bias compared to racial bias in STEM as measured by psychological threat, this suggests White men have a stronger motivation to maintain gender inequality, compared to racial inequality. Further, presenting evidence of systemic bias should activate psychological threat and increase status-legitimizing responses, specifically among men high in gender-based proximal benefits. Men high in gender-based proximal benefits represent the men who expect to gain the most dyadic privileges from heterosexual relationships, which should directly increase their motivation to maintain their higher status relative to women.

One way for the high-status group to legitimize their higher status is to justify or deny the existence of bias in socially valued domains against lower status groups. These different types of status legitimizing responses were taken from Moss-Racusin et al. (2015), where researchers conducted a content analysis of online reactions to an empirical journal article that provided evidence for the existence of gender bias in STEM. Researchers identified three main categories that status legitimizing responses fell under: essentialist justifications for women's underrepresentation in STEM, rejection of the study results, and general criticism of social science and the researchers. I recreated these three status-legitimizing responses for my outcome variables.

Providing alternative justifications (e.g., biological or essentialist explanations) for inter-group status differences bolsters the status quo by making status differences seem natural and

inevitable (Pratto et al., 2000). Alternatively, denying the existence of bias in a social system functions as a status legitimizing response, because acknowledging that a social system arbitrarily favors the high-status group undermines the legitimacy of their higher status (Major et al., 2002). Therefore, rejecting empirical findings or criticizing social science research reflects different ways to deny the existence of sexism or racism in STEM and legitimize men and White people's higher status. Providing non-bias related justifications for women's or Black people's underrepresentation in STEM also legitimizes men's and White people's higher status in STEM by suggesting the academic system is fair and meritocratic. Since I propose that men gain proximal as well as distal benefits from the gender status hierarchy, compared to racial status hierarchies in the US, White men should react with stronger psychological threat and rejection of evidence of gender bias among STEM fields.

Hypotheses 4a, 4b, and 4c. Men will increase their justifications for women's, compared to Black people's, underrepresentation in STEM when exposed to the gender bias condition compared to the race bias condition (H4a), moderated by group-based proximal benefits (H4b), mediated by psychological threat (H4c).

Hypotheses 5a, 5b, and 5c. Men will reduce their perceptions of trustworthiness of social science research when exposed to the gender bias condition compared to the race bias condition (H5a), moderated by group-based proximal benefits (H5b), mediated by psychological threat (H5c).

Hypotheses 6a, 6b, and 6c. Men will report lower percentages for bias in STEM when exposed to the gender bias condition compared to the race bias condition (H6a), moderated by group-based proximal benefits (H6b), mediated by psychological threat (H6c).

Hypotheses 7a, 7b, and 7c. Men will agree less with the study results when exposed to the gender bias condition compared to the race bias condition (H7a), moderated by group-based proximal benefits (H7b), mediated by psychological threat (H7c).

Method

Participants. According to G Power, to detect a small to medium effect size with an alpha of .05 and power set at .80, I need 300 participants. Thus, I recruited two hundred White men from Amazon's Mechanical Turk (mTurk) and 95 from the USF psychology participant pool. Participants were paid $0.75 to complete the study on mTurk and granted 0.5 course credit to complete the study in the psychology pool. Similar to Study 1, I only recruited White men to eliminate potential gender and racial confounds.

Procedure. Participants were exposed to an online study in Qualtrics titled, "Trends in Academia." After they agreed to the informed consent, participants responded to a measure of group-based proximal benefits depending on their condition. Next, participants were randomly assigned to read an ostensible peer reviewed journal article abstract that either provides evidence for the existence of gender or racial bias in STEM fields. Both articles presented comparable empirical examples of bias and conclude that women or Black people's underrepresentation in STEM is due to systemic bias. See Appendix A for the full articles. After participants read the article, they responded to a word completion task to assess their cognitive activation of psychological threat as well as a self-report measure of their positive and negative affect. Last, participants responded to several items that measure their agreement and support for the study results. Participants were debriefed at the end of the survey.

Measures. Participants completed the following measures.

Proximal benefits. I created items based on Glick and Fiske's (1996) conceptualization of heterosexual intimacy and paternalism for the context of gender and racial relations. Participants responded to four-items (i.e., "Do you expect to one day have a close personal relationship with a female person [Black person] who will help with household chores?"; "Do you expect to one day have a close personal relationship with a female person [Black person] who will help with child-rearing?"; "Do you expect to one day have a close personal relationship with a female person [Black person] who you will rely on for emotional support?"; "Do you expect to one day have a close personal relationship with a female person [Black person] where you would consider yourself the "decision-maker?") that were averaged to create one proximal benefits composite that served as a continuous moderator ($\alpha = .84$). The gender-based proximal benefits (skweness = -0.77, *SE* = .15; kurtosis = -0.04, *SE* = 0.31) and race-based proximal benefits (skweness = 0.21, *SE* = .15; kurtosis = -0.85, *SE* = 0.31) were normally distributed. Responses were recorded on a scale from 1 (*not at all*) to 7 (*very much*).

Psychological threat. To measure men's cognitive activation of anxiety and threat, men responded to a word completion task (Vandello et al., 2008). Men filled in 7 words out of a total of 24 that could be completed with anxiety-related or unrelated words such as STRE_ _. This word could be completed as "stress" or "street." The seven anxiety related words include stress, threat, shame, weak, loser, upset, and bother. Percentage of anxiety-completed compared to total possible words served as the mediator.

***Affective responses*.** For a more direct assessment of men's affective reaction to the manipulation, they received the Positive and Negative Affect Scale (Watson, Clark, Tellegren, 1988). Men responded to three hostility related words (i.e., hostile, irritated, and upset; $\alpha = .77$), three psychological threat words (i.e., distressed, guilty, ashamed; $\alpha = .80$), and three positive

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affect words (i.e., excited, enthusiastic, and inspired; α = .87). Participants were instructed to indicate the extent to which they feel each emotion "right now as in the present moment," in order to measure state level affect after the manipulation. Responses were recorded on a scale of 1 (*very slightly or not at all*) to 5 (*extremely*). I averaged across the three sets of words to create a single composite for each type of affect.

Status legitimizing responses. A pilot study (Pilot Study 3) was conducted to provide construct validity for the following outcome measures. Thirty-seven men and women were recruited from Amazon's Mechanical Turk. First, participants responded to a measure of social dominance orientation. Social dominance is an attitude orientation that reflects people's preference for group-based inequality and social hierarchies (Sidianius et al., 1994). People who score high in this attitude orientation should theoretically be the most motivated to maintain existing social hierarchies such as the gender status hierarchy. Therefore, people's social dominance scores should negatively correlate with people's belief in the existence of sexism. Next, men and women read the gender bias in STEM article (See Appendix A) and responded to the outcome measures presented below. Social dominance orientation revealed a strong relationship with non-bias related justifications for women's underrepresentation in STEM ($r =$ .83, $p < .001$) and belief in the existence of bias against women in STEM ($r = -.51, p < .001$). This suggests that people who are more likely to deny the existence of bias against women and justify women's underrepresentation in STEM are the people who are the most motivated to maintain status hierarchies. Perceptions of the trustworthiness of social science were not correlated with social dominance orientation ($r = -.23, p = .33$).

Men rated their agreement with three types of status legitimizing responses listed below, which were presented in a random order. All ratings were recorded on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). Each composite averaged across two items.

Justifications for underrepresentation. Two items (i.e., "Women (Black people) are better suited for less competitive fields" and "Men (White people) are naturally better at STEM fields") were averaged to create one "justification of bias" composite (α = .88).

Trustworthiness of social science. Two items (i.e., *"*How trustworthy do you think the study is? [reverse coded]" and "How competent do you think the researchers are who conducted the study?") were averaged to create one "trust" composite (α = .60).

Agreement with study results. Two items (i.e., "How much do you agree with the results of the study (that STEM faculty members are biased against women [Black people]?" *"*Bias against women [Black people] definitely exists in STEM fields") were averaged to create one "agreement" composite (α = .85). To provide an alternative way to assess participant agreement with study results, I included two ratio-type items: *"*What percentage of STEM faculty do you think are biased against women [Black people]?" "What percentage of women [Black people] are treated unfairly in STEM." Participants recorded their answers on a sliding sale from 0 to 100. These two ratio-type items were averaged and served as a "perceived bias" outcome variable (α = .89).

Attention checks. Participants responded to two items that measure how much attention they paid to the gender or race bias article. The first item asked, "What did the researchers in the article you read conclude about women's (Black people's) underrepresentation in STEM?" 1. Women's [Black people's] underrepresentation is due to systemic gender bias, 2. Women's [Black people's] underrepresentation is due to lifestyle choices, 3. Women's [Black people's]

underrepresentation is due to differences in biology. Forty people answered this item incorrectly. The second item asked, "Which of the following statements is taken from the article on gender [racial] bias you read earlier in the survey?" 1. Researchers conclude that men and women [White and Black people] have an equal opportunity to succeed in STEM, 2. Researchers conclude that men [White people] in STEM are privileged by their gender compared to women (Black people), 3. Neither statement was included in the article. Fifty-three people failed this item. Participants were equally likely to fail the attention checks across conditions (e.g., attention check 1: $t(259) = -0.03$, $p = .97$; attention check 2: $t(259) = 0.42$, $p = .66$) To be included in the analyses, participants had to answer at least one of the attention checks correctly ($n = 247$).

Demographics. Participants indicated their age, education level, political orientation, religiosity, and their current city and state of residence.

Results

See Table 2 for correlations and descriptive statistics among all study variables. Participants who failed both manipulation checks were filtered out of analyses. Results remain the same whether using the full sample or only people who correctly answered at least one of the two manipulation checks.

Sample effects. To evaluate whether the difference in sample source influenced my results, I ran four separate ANOVAs where I selected bias condition as a fixed factor and sample source as a random factor for each dependent variable. Importantly, sample source did not interact with condition for any of the four dependent variables (*Fs* < 1.8*, ps* > .67*).* A main effect emerged for sample source on justifications such that men from mTurk ($M = 2.12$, $SD = 0.19$) provided stronger bias justifications across conditions compared to men from the USF participant

pool ($M = 3.11$, $SD = 0.13$; $F(1, 258) = 18.15$, $p < .001$, $\eta_p^2 = 0.07$). No other main effects emerged ($Fs < .07$, $ps > .83$).

Proximal benefits. To evaluate the validity of the proximal benefits measure, I compared men's ratings for racial v. gender proximal benefits. Due to the high level of dyadic interdependence between men and women, White men should report stronger gender-based proximal benefits. Accordingly, a paired t test revealed that White men report stronger gender-based proximal benefits ($M = 5.17$, $SD = 1.53$), compared to race-based proximal benefits ($M = 3.00$, $SD = 1.82$; $t(247) = 14.29$, $p < .001$, 95% CI [1.53, 2.03]).

Hypothesis tests. First, I investigated the effect of condition on each of the four dependent variables (H4a-H7a). I predicted an effect of condition such that gender bias, compared to the racial bias condition, would yield stronger status legitimizing responses among White men. Independent samples t tests revealed that the justification of underrepresentation was the only dependent variable that yielded a significant effect of condition, $t(247) = 2.75$, $p < .01$, 95% CI [.17, 1.05], such that White men reported stronger justifications in the gender bias condition ($M = 3.00$, $SD = 1.82$) compared to the racial bias condition ($M = 2.39$, $SD = 1.68$), thus supporting H4a. No other effects of condition emerged for the other dependent variables ($ps > .13$). Therefore, H5a- H7a were not supported, because White men did not demonstrate a difference in their trust in the research, perceptions of bias, and agreement with the study results for the gender and racial bias condition.

To analyze the expected moderated mediation patterns, I used Hayes' (2013) PROCESS macro (Model 8) with 10,000 bootstraps. For each regression, I selected condition (gender bias v. racial bias) as the (X) variable, all four psychological threats as the mediators, and group-based proximal benefits as the moderator. I investigated whether group-based proximal benefits

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moderate the relationship between condition and psychological threat as well as condition and the dependent variables (H4b-H7b), such that White men high in gender-based proximal benefits should demonstrate the strongest psychological threat and the strongest endorsement of status-legitimizing beliefs. Last, I investigated whether psychological threat indirectly predicted status-legitimizing responses after men have been exposed to the gender bias, compared to the race bias condition (H4c-H7c). Condition was coded "0" for gender bias and "1" for racial bias. See Table 4 for the means associated with the proximal benefits by condition interaction.

In the first model, selecting justifications as the dependent variable, a conditional direct effect emerged for White men high in proximal benefits, b = -1.02, SE = .38, $p < .01$, 95% CI [-1.76, -.29], such that men high in proximal benefits reported stronger justifications in the gender bias condition, compared to the racial bias condition. The conditional direct effect was not significant for men low in proximal benefits (p =.25). No conditional indirect effects emerged. Therefore, H4b was supported (White men high in proximal benefits reported stronger gender, compared to racial, justifications), but not H4c because the mediators were non-significant. See Table 5.

No other conditional direct or indirect effects emerged for the other three models. See Tables 6, 7, and 8. Therefore, H5b-H8c were not supported.

Exploratory analyses. I reran each of my hypothesis tests selecting a single proximal benefit item as the moderator instead of the composite (i.e., "Do you expect to one day have a relationship with a woman [Black person] where you would consider yourself the decision maker?"). I selected this item, because it directly measures men's desire to hold an inequitable relationship with women where they are granted more power and authority, consistent with my theorizing on exploitative interdependence. Rerunning each model, selecting this single item as

the moderator, produced near identical results to my original hypothesis tests. A conditional

direct effect emerged for men high in proximal benefits when justification of underrepresentation

was selected as the dependent variable, $b = -1.03$, $SE = .40$, $p < .01$, 95% CI [-1.82, -.24]. White

men high in proximal benefits endorsed stronger gender, compared to racial, justifications. The

conditional direct effect was not significant for men low in proximal benefits ($p = .75$). No other

significant effects emerged in any of the models.

Discussion

Study 2 found that White men justify gender bias in STEM more than racial bias in

STEM. The justification dependent variable reflects essentialist beliefs about women's lack of

competence (e.g., "men are biologically better at STEM"). This indicates that White men report

stronger gender, compared to racial, status legitimizing beliefs in response to empirical evidence

of systemic bias. This effect was further qualified by a conditional direct effect of proximal

benefits, such that White men high in proximal benefits report stronger justifications for

underrepresentation in response to the gender bias article. This suggests that White men high in

gender-based proximal benefits report stronger gender, compared to racial, status legitimizing

beliefs. Men high in proximal benefits are those who feel entitled to dyadic benefits from

heterosexual relationships. Since these men report stronger gender-specific justifications, it

provides preliminary evidence that men who desire dyadic benefits from women are more likely

to deny women's competence in high status fields like STEM. One way to maintain women's

subordinate status within the home is to propagate or endorse the belief that women are better

suited for domestic work instead of competitive fields like STEM.

One limitation of Study 2 is that each item of the proximal benefit measure does not tap

into the unequal dynamic inherent in paternalistic relationships. However, one item does directly

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measure this power difference (i.e., "Do you expect to one day have a relationship with a woman [Black person] where you would consider yourself the decision maker?"). Therefore, to more directly evaluate how exploitative interdependence moderates the relationship between the study variables, I selected this single item to be the moderator in each model for exploratory analyses. The results were almost identical to the results when selecting the composite as the moderator. White men high in the single item measure of proximal benefits demonstrated the expected pattern of effects such that they reported stronger gender essentialist justifications, compared to racial. Importantly, the conditional effect was only significant for men high in proximal benefits. Thus, White men who expect to have exploitative interdependence with women where they hold more authority in the relationship are the men who report stronger justifications for women's underrepresentation in STEM. This further suggests that gender essentialism may function as a motivated response, specifically from men who desire proximal benefits from women, to protect unequal gender relations.

The psychological threat variables did not emerge as significant mediators. This is perhaps because the gender bias article was not threatening to men. That is, if men can justify gender bias as a legitimate result of women's lack of competence, then these study results should not be anxiety inducing. This may also be why men demonstrate equally strong perceptions of gender and racial bias in STEM. Men do not need to downplay the existence of gender bias in STEM if they believe that faculty members favor male over female applicants, because men are more competent and better suited for STEM. A more threatening article might conclude, "even though women outperform men in STEM classes, they are still unfairly underrepresented in STEM disciplines." This should serve as a more threatening manipulation for men motivated to maintain unequal gender relations because it refutes the idea that women are less competent than

men. The article I presented to participants concluded that faculty members favor male applicants, which can be easily legitimized if you endorse essentialist beliefs about gender. Future studies should include a more explicit challenge to the status quo.

Study 3

Overview and Hypotheses

Study 3 was a conceptual replication of Study 2 where social group membership served as a moderator instead of group-based proximal benefits. I recruited heterosexual men, gay men, and heterosexual women to test how group membership influences people's reactions to evidence of systemic bias. I used a modified manipulation from Study 2 where instead of presenting people with evidence of racial bias in STEM, I presented evidence of sexual orientation bias in STEM. Therefore, Study 3 employed a 2 (gender bias v. sexual orientation bias condition) X 3 (heterosexual men v. gay men and heterosexual women) between-subjects design.

Heterosexual men should have stronger motivation to maintain the gender status hierarchy, compared to gay men and heterosexual women. While gay men receive distal benefits from gender status hierarchies (See Figure 1), heterosexual men receive both proximal (domestic) and distal (structural) benefits from the gender status hierarchy (See Figure 2). Therefore, even though gay men will likely show stronger status legitimizing responses when confronted with evidence of gender bias compared to sexual orientation bias, because gay men are still part of the high status group in the gender status hierarchy, they should still demonstrate weaker status legitimizing responses compared to heterosexual men. Further, heterosexual men should be the most threatened by acknowledging gender bias and, consequently, most motivated to downplay or justify its existence relative to sexual orientation bias. Thus, heterosexual men

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should show stronger status legitimizing responses (justifications or denial of gender bias) after experiencing heightened psychological threat, compared to gay men and heterosexual women.

Since gay men and heterosexual women belong to subordinate groups, it is possible they may be more sensitive to systemic social bias targeted toward disadvantaged social groups. To account for this, I will control for stigma consciousness. Individuals high in stigma consciousness reflect people with a high awareness of social bias aimed toward their social group (Pinel, 1999). For example, women high in stigma consciousness are more likely to identify daily sexist experiences, compared to women low in stigma consciousness. In addition, it is also possible that gay men and heterosexual women are more politically liberal than heterosexual men, which may be associated with stronger beliefs in systemic social bias toward disadvantaged social groups. Therefore, I included political ideology as a potential covariate to ensure that gay men and heterosexual women are not more supportive of the gender bias results as a function of their more liberal worldview. Moreover, since gay men and heterosexual women may be more sensitive to perceptions of bias for disadvantaged social groups, this should result in them reporting stronger agreement with the study results across conditions compared to heterosexual men.

Hypothesis 8a and 8b. Heterosexual men, compared to gay men and heterosexual women, will report stronger justifications for the study results when exposed to the gender bias condition compared to the sexual orientation bias condition (H8a), mediated by psychological threat (H8b).

Hypotheses 9a and 9b. Heterosexual men, compared to gay men and heterosexual women, will report less trust in the research findings when exposed to gender bias, compared to sexual orientation bias, condition (H9a), mediated by psychological threat (H9b).

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Hypotheses 10a and 10b. Heterosexual men, compared to gay men and heterosexual women, will report lower percentages of perceived bias in STEM when exposed to the gender bias, compared to the sexual orientation condition (H10a), mediated by psychological threat (H10b).

Hypotheses 11a and 11b. Heterosexual men, compared to gay men and heterosexual women, will report less agreement with study results exposed to the gender bias condition compared to the sexual orientation bias condition (H11a), mediated by psychological threat (H11b).

Method

Participants and procedure. According to G Power, to detect a small to medium effect size with an alpha of .05 and power set at .80, I needed to collect 368 participants for three groups (122 per group). Accordingly, I collected 353 (heterosexual men = 130; heterosexual women = 115; and gay men = 102; 6 participants filtered out for missing data; White = 40; Black = 90; Asian = 89; Native American = 82; Middle Eastern = 37) participants from Amazon's Mechanical Turk. To recruit participants based on their sexual orientation, I used Turk Prime Panels to recruit gay men. Turk Prime Panels pull from the same pool as mTurk but provide the option to recruit from specialized populations. All participants were paid $1.30 to complete the study. Participants followed the same procedure detailed in Study 2, but participants were randomly assigned to read either a gender bias or sexual orientation bias in STEM article (See Appendix A). In addition, participants responded to the following measures for potential covariates at the end of the study.

Measures. Participants completed the following measures.

Affective responses. Men completed the same word completion task from Study 2. Percentage of anxiety-completed compared to total possible words served as the mediator. Higher scores indicate a higher amount of anxiety-related words.

Men responded to three hostility related words (i.e., hostile, irritated, and upset; α = .81), three psychological threat words (i.e., distressed, guilty, ashamed; α = .85), and three positive affect words (i.e., excited, enthusiastic, and inspired; α = .85). I averaged across the three sets of words to create a single composite for each type of affect.

Status legitimizing responses. Participants responded to the following measures. All of the following measures reflect the same items presented to participants in Study 2.

Justifications for underrepresentation. Two-items were averaged to create one "justification of bias" composite (α = .91). Higher scores indicate stronger justifications of bias.

Trustworthiness of social science. The two-items that measure the participants' "trust" in social science research were averaged to create on composite (α = .74). Higher scores indicate stronger trust ratings.

Agreement with study results. The two ratio items that measure the amount of bias in STEM were averaged to create one "perceived bias" composite (α = .87). In addition, the two items that measure participant agreement with the study results were averaged to create one "agreement" composite (α = .75). Higher scores indicate more perceived bias and stronger agreement.

Attention checks. Participants responded to the same two items from Study 2 that measure how much attention they paid to the bias in STEM articles. Seventy people answered the first attention check incorrectly, and 84 people answered the second attention check incorrectly. Attention check failure rates did not differ by condition (e.g., attention check 1:

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t(337) = -0.29, *p* = .77; attention check 2: *t*(337) = 0.98, *p* = .33). Participants had to answer at least one attention correctly to be include in analyses (*n* = 308).

      Stigma consciousness questionnaire (SCQ). Pinel's (1999) 10-item SCQ measures the extent to which gay people expect to be stereotyped by heterosexual people (e.g., "Most heterosexuals have a problem viewing gay men as equals"; Lewis, Derlega, Griffin, & Krowinski, 2003; α = .74). Heterosexual men received the same stigma consciousness scale, but with regard to stereotypes about heterosexuals (e.g., "Stereotypes about heterosexual people have not affected me personally"; reverse coded). All items are rated on scales of 1 (*strongly disagree*) to 5 (*strongly agree*). Heterosexual women completed the same scale, but with regard to stereotypes about women. All ten items were averaged to create a stigma consciousness composite (α = .82). Higher scores indicate greater stigma consciousness. See Appendix B for the full versions of the heterosexual and gay men scales.

      Political ideology. Political orientation was measured with two items ("Which of the following best describes your political ideology in general?" and "Which of the following best describes your political ideology when it comes to social issues?"). Both items were rated on a scale of 1 (*extremely liberal*) to 7 (*extremely conservative*) and averaged to create one political orientation composite (α = .97).

      Demographics. Participants indicated their age, racial heritage, education level, political orientation, religiosity, and their current city and state of residence.

Results

      Covariate selection. Table 3 shows correlations among all variables and descriptive statistics. Stigma consciousness was the only potential covariate that met criteria for inclusion as a covariate (see Porter & Raudenbush, 1987) in that it correlated with at least one of the

dependent measures ($ps = 0.001 - 0.23$) and did not correlate with the independent variables ($ps > 0.2$). Political ideology did not meet selection requirements (i.e., correlated with one of the independent variables ($p < 0.001$). Each Hypothesis Test controls for stigma consciousness. Results stay the same with or without controlling for stigma consciousness.

Hypothesis tests. Hypotheses 8a-11a state that heterosexual men, but not heterosexual women and gay men, will increase status legitimizing responses in the gender, compared to sexual orientation, bias condition. Therefore, heterosexual men should increase their justifications of gender bias (H8a), report less trust in the research (H9a), less gender bias in STEM (H10a), and less agreement with the study results (H11a) when confronted with evidence of gender bias in STEM. To test these hypotheses, I submitted the four dependent variables to four separate 3 (participant's social group: heterosexual women vs. heterosexual men vs. gay men) x 2 (gender bias vs. sexual orientation bias) ANCOVAs, treating stigma consciousness as a covariate. Condition was coded "0" for gender bias and "1" for sexual orientation bias.

ANCOVA assumptions. I assessed the normality of each of the four dependent variables split by social group membership. Each variable among the three social groups (i.e., heterosexual men, heterosexual women, and gay men) was normally distributed (see George & Mallery, 2010). The range of skewness included -1.13 to 1.57 ($SEs = 0.22$ to 0.25), and kurtosis ranged from -1.29 to 2.21 ($SEs = 0.45$ to 0.49). Thus, the raw values are reported for the Hypothesis tests.

The ANCOVA, selecting justifications as the dependent variable, produced the predicted group-by-bias type interaction, $F(2, 302) = 3.81$, $p = .02$, $\eta_p^2 = 0.03$, which qualified a main effect of participant social group, $F(2, 302) = 13.76$, $p < .001$, $\eta_p^2 = 0.08$. Heterosexual men endorsed essentialist justifications more in the gender bias condition than they did in the sexual

orientation bias condition, $F(1, 302) = 4.03$, $p < .05$, $\eta_p^2 = 0.01$, while women's and gay men's endorsement of justifications did not differ by condition, ($Fs < 3.40$, $ps > .07$). In addition, probing the pairwise contrast of the gender bias condition, $F(2, 262) = 3.96$, $p = .02$, $\eta_p^2 = 0.03$, heterosexual men reported stronger gender bias justifications compared to gay men ($M_{diff} = 1.23$, $SE = 0.36$, $p < .001$, 95% CI [.55, 1.97), but the mean difference was not significant when compared to women ($p = 0.16$). Thus, H8a was supported (see Figure 6).

The ANCOVA, selecting trust in the research as the dependent variable, produced a non-significant group-by-bias type interaction ($F = 1.67$, $p = .19$), but a main effect of participant social group membership emerged, $F(2, 302) = 4.65$, $p < .01$, $\eta_p^2 = 0.04$, such that women ($M = 4.23$, $SD = 0.11$) trusted the studies more than gay men ($M = 3.77$, $SE = .11$; $p < .01$, 95% CI [.16, .76), but not compared to heterosexual men ($p > .20$). H9a was not supported.

The ANCOVA, selecting amount of perceived bias in STEM as the dependent variable, produced a marginal group-by-bias type interaction, $F(2, 302) = 2.82$, $p = .06$, $\eta_p^2 = 0.02$, which qualified a main effect of participant social group membership, $F(2, 302) = 3.39$, $p < .05$, $\eta_p^2 = 0.02$, and a marginal main effect of condition, $F(2, 302) = 2.93$, $p = .08$, $\eta_p^2 = 0.01$. Heterosexual men ($M = 50.07$, $SE = 2.61$) reported lower percentages of perceived bias than gay men ($M = 60.16$, $SE = 2.50$; $p < .01$, 95% CI [-17.71, -2.46]), but not compared to heterosexual women ($p > .20$). H10a was not supported.

The ANCOVA, selecting agreement with the study results as the dependent variable, produced a non-significant group-by-bias type membership interaction, ($F = 0.48$, $p = .64$), but a main effect of bias type emerged, $F(2, 302) = 10.84$, $p < .001$, $\eta_p^2 = 0.04$, such that people agreed more strongly with gender bias ($M = 5.48$, $SE = .11$) compared to sexual orientation bias condition ($M = 5.02$, $SD = 0.11$). H11a was not supported.

To evaluate the expected moderated mediation patterns, I used Hayes' (2013) PROCESS macro (Model 8) with 10,000 bootstraps. I selected condition (gender bias coded "0" v. sexual orientation bias coded "1") as my (X) variable, all four psychological threat variables as mediators, and participant social group membership as my moderator (W), controlling for stigma consciousness. Participant social group membership was dummy coded such that heterosexual men represent the primary comparison group.

In the first model (see Figure 7), the social group-by-condition interaction on justifications via positive feelings (the index of moderated mediation) was significant, $b = -.29$, $SE = .15$, 95% CI [-.62, -.03]. Moreover, the conditional indirect effect of bias condition on justifications via positive affect was significant for heterosexual men, $b = -.19$, $SE = .10$, 95% CI [-.43, -.01], but not for heterosexual women, $b = .10$, $SE = .11$, 95% CI [-.11, .33], or gay men $b = .10$, $SE = .10$, 95% CI [-.07, .33]. This indicates that the gender bias condition increased heterosexual men's positive affect, which indirectly predicted heterosexual men's endorsement of essentialist gender beliefs. No other conditional indirect effects emerged for the other three mediators. Since an unanticipated pattern emerged for the positive affect mediator, H8b was not supported (see Table 9).

In the second model, selecting trust in the research as the dependent variable, the indexes of moderated mediation and conditional indirect effects were non-significant (see Table 10). H9 was not supported.

In the third model (see Figure 8), the social group-by-condition interaction on perceived bias via positive feelings (the index of moderated mediation) was significant, $b = -2.62$, $SE = 1.56$, 95% CI [-.6.13, -.10]. Moreover, the conditional indirect effect of bias condition on perceived bias via positive affect was significant for heterosexual men, $b = -1.72$, $SE = 1.05$,

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95% *CI* [-.4.01, -.01], but not for heterosexual women, *b* = .89, *SE* = 1.01, 95% *CI* [-.92, 3.16],

or gay men *b* = .98, *SE* = .92, 95% *CI* [-.63, 3.09]. Similar to Model 1, this suggests that the

gender bias condition increased heterosexual men's positive affect, which indirectly predicts

heterosexual men's perceptions of gender bias in STEM. No other conditional indirect effects

emerged for the other three mediators. H10b was not supported (see Table 11).

In the fourth model, the social group-by-condition interaction on agreement with the

study results via positive affect (the index of moderated mediation) was not significant, nor were

the conditional indirect effects. H11b was not supported. See Table 12.

Exploratory analyses. Given the unexpected finding that positive affect mediates the

relationship between the gender bias condition and two types of status legitimizing beliefs (i.e.,

essentialist justifications and perceptions of bias), I ran two exploratory analyses to further probe

these findings. Similar to my Hypothesis tests, I used Hayes' (2013) PROCESS macro (Model 8)

with 10,000 bootstraps. I selected condition (gender bias coded "0" v. sexual orientation bias

coded "1") as my (X) variable, but I selected essentialist justifications and perceptions of bias as

the mediators and positive affect as the outcome variable, and participant social group

membership as my moderator (W) for each model, controlling for stigma consciousness.

Participant social group membership was dummy coded such that heterosexual men represent the

primary comparison group. Thus, these analyses are identical to H8 and H10, but switch the

mediator and outcome variable to assess the directional nature of this relationship.

When selecting essentialist justifications as the mediator, no significant conditional

indirect effects emerge. Similarly, no conditional indirect effects emerge when I selected

perceptions of bias as the mediator.

Discussion

Study 3 found that heterosexual men, compared to gay men and heterosexual women, demonstrate stronger justifications of gender bias compared to sexual orientation bias in STEM. This finding provides support for my theory (see Figures 1 and 2), because it indicates that heterosexual men, compared to gay men, report stronger status legitimizing beliefs about gender, presumably because of the proximal benefits they receive from the gender status hierarchy. It is also noteworthy that I controlled for stigma consciousness, thus heterosexual men's relatively strong gender-status legitimizing beliefs are not only a function of them being less of aware of stigma due to their higher social status. Therefore, endorsing essentialist beliefs about gender to justify gender bias in high status fields is a response specific to heterosexual men.

Why might heterosexual, compared to gay men, report stronger gender essentialist beliefs? Heterosexual men have more to gain from unequal gender relations. That is, heterosexual men receive dyadic benefits from traditional, heterosexual relationships such as housework and childrearing. The paternalistic nature of traditional male-female relationships also affords women less authority and decision-making abilities (Glick & Fiske, 2001). This exploitative interdependence does not benefit men who do not desire traditional heterosexual relationships. Because these social groups maintain different levels of interdependence with women, they should all have varying motivation to maintain the gender status hierarchy. While heterosexual men receive distal and proximal benefits from the gender status hierarchy, gay men typically only receive distal benefits. These additional in-group benefits may result in stronger justifications for women's subordinate social status among heterosexual, compared to gay men.

Unexpectedly, positive affect mediated the relationship between condition (gender bias v. sexual orientation bias) and two of the dependent variables, such that heterosexual men increased in positive affect after exposure to the gender bias condition, which indirectly predicted stronger

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endorsement of essentialist justifications and perceptions of gender bias in STEM. The increase in positive affect indicates that presenting men with findings that STEM faculty members favor male over female applicants, compared to STEM faculty favoring heterosexual over LGB applicants, is status-affirming instead of status-threatening. Notably, exploratory analyses revealed that conditional indirect effects only emerge when positive affect is selected as the mediator and not the outcome variable. This suggests that heterosexual men increase in positive affect directly after reading the gender bias condition, which predicts their endorsement of essentialist justifications and perceptions of gender bias in STEM. If heterosexual men can attribute bias in STEM to women's lack of competence, then findings that indicate gender bias is prevalent in STEM seem fair and even a natural result of a meritocratic school system. This is consistent with past research that finds exposure to modern sexist ideologies decreases men's anxiety, because it asserts that women's shortcomings are due to inherent group characteristics instead of an unfair social system (Barreto & Ellmers, 2005). A more direct threat to the gender status hierarchy may be a study result that concludes, "even though women outperform men in STEM classes, they still receive unfair sexist treatment." This should challenge the status quo for two-fold reasons: 1) it directly rejects the assumption that women lack STEM competence, and 2) it directly asserts that women receive sexist treatment even though they do not deserve it.

General Discussion

The most consistent finding across my studies is that men report relatively strong justifications (e.g., women lack competence) for gender bias in STEM. White men justify gender bias more than racial bias (Study 2), and heterosexual men, compared to heterosexual women and gay men, justify gender bias more than sexual orientation bias in STEM (Study 3). Notably, I did not observe differences between men's belief in the existence of different types of bias in STEM fields. This suggests that men acknowledge the existence of gender bias (at least as much as racial and sexual orientation bias) in STEM fields, but they provide stronger justifications for gender bias. Men's acknowledgement of gender bias in STEM may be attributable to how the lack of women in STEM is a highly publicized issue. Thus, they acknowledge women are underrepresented in STEM and that faculty members may favor male applicants over female applicants, but they are more likely to think it is due to women's lack of competence. Denying women's competence legitimizes the gender status hierarchy.

Recall that Pilot Study 3 found an exceptionally strong correlation between social dominance orientation and essentialist justifications for gender bias in STEM ($r = .83, p < .001$). This suggests that people who endorse essentialist beliefs about women's lack of competence in STEM also demonstrate a strong motivation to protect status hierarchies. Combining the finding from Pilot Study 3 with the results form Studies 2 and 3 provides evidence that men's (especially heterosexual men's) relatively strong tendency to justify the existence of gender bias in STEM is a motivated response to protect traditional gender relations. Thus, heterosexual men's denial of

women's competence in high status domains may stem from the unique benefits they receive from the gender status hierarchy.

Limitations and Future Directions

Proximal benefits. Not all heterosexual men desire traditional, heterosexual relationships with women. Heterosexual men who seek egalitarian relationships with women do not receive the same type of proximal benefits from exploitative interdependence, and thus should not present the same desire for women to hold low status roles. To more effectively examine the relationship between proximal benefits and status legitimizing beliefs, future studies should use a more face valid measure of proximal benefits. That is, a measure that assesses to what extent men desire a traditional, heterosexual relationships (e.g., a desire for women to do the majority of the housework, child-rearing, and to hold less dyadic power). I could not use this type of measure as a moderator for Study 2, because it only applies to gender relations not race relations. The items from Study 2 measured participants' expectation to have an interpersonal relationship with a woman or Black person but did not directly tap into the underlying paternalism in traditional, heterosexual relationships. Future studies could manipulate whether women are gaining structural power (system threat) or lagging behind men (system affirmation) and use a gender-based proximal benefits measure as a moderator and essentialist justifications for women's lack of structural power as the dependent variable. This experiment would evaluate whether men who desire gender-based proximal benefits are the most threatened by women's status gains and subsequently respond with the strongest status legitimizing beliefs.

Perceptions of bias in STEM. Essentialist justifications for bias in STEM was the only dependent variable that demonstrated the predicted pattern of effects. The other three dependent variables (i.e., trust in the research, amount of perceived bias in STEM, and general agreement

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with the study results) produced mostly null effects across Studies 2 and 3. These null effects suggest that men acknowledge similar levels of racial, gender, and sexual orientation bias in STEM. The only difference appears to be that White men justify gender bias more than racial bias (Study 2) and heterosexual men justify gender bias more than sexual orientation bias in STEM (Study 3). Thus, men may acknowledge that faculty members favor male over female applicants, but believe this treatment is fair because women do not have adequate competence to excel in STEM disciplines. Future studies should measure system justification as a dependent variable to assess whether men increase their feelings of societal fairness when exposed to evidence of gender bias in STEM, compared to other types of group-based bias.

Psychological threat mediators. Since positive affect was the only significant mediator, future studies should employ implicit measures that evaluate a broader range of men's responses to evidence of systemic bias. Psychological threat responses are not necessarily in the individual's conscious awareness, and some people may even be motivated to hide signs of psychological threat. Alternatively, if evidence of gender bias in STEM is status affirming instead of status threatening (as suggested by the positive affect mediator in Study 3), then implicit measures should assess the activation of fairness and justice schemas. Thus, lexical decision tasks may be able to better detect this type of reaction. This was demonstrated by Kay and Jost (2003) where they found complementary stereotypes activate justice schemas via a lexical decision task. Exposing men to evidence of gender, compared to racial or sexual orientation, bias in STEM may also activate justice schemas if men endorse essentialist beliefs about gender.

Study 1 sample size. The small number of men collected in Study 1 posed a serious limitation, particularly for testing Hypothesis 3. I plan to collect more male participants for

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future studies to examine whether men perceive less social harm for gender prejudice, compared to racial, religious, and sexual orientation prejudice.

MeToo era. I started running pilot studies for my dissertation before the start of the "MeToo" era. This is a critical cultural shift, because the MeToo era brought gender bias in the workplace to the forefront of a national dialogue. Now that people are exposed to countless reports of gender harassment across workplaces it may be difficult to deny the existence of workplace bias. A more effective mechanism than asserting gender bias does not exist may be to justify women's underrepresentation and lack of status with essentialist beliefs (i.e., men are naturally more suited for high status workplaces).

Conclusions

Men justify gender bias more than racial and sexual orientation bias. White, heterosexual men are at the top of gender, racial, and sexual orientation status hierarchies. Since status hierarchies provide high status group members with group-based advantages, they become motivated to maintain status hierarchies by endorsing status legitimizing beliefs. However, White men endorse stronger gender, compared to racial, status legitimizing beliefs, especially White men high in proximal benefits. Similarly, heterosexual men endorse stronger gender, compared to sexual orientation, status legitimizing beliefs, and this effect is specific to heterosexual not gay men. This dissertation presents some of the first findings to suggest that since heterosexual men receive proximal in addition to distal benefits from the gender status hierarchy, they may be especially motivated to protect unequal gender relations, compared to other status hierarchies that only afford the high-status group distal benefits.

How can these findings be distilled into social action? One implication of these results is that not all men endorse status legitimizing beliefs about gender. This is critical for collective

action, because there are two criteria necessary for social change: status hierarchies need to be perceived as unstable and illegitimate (Jost et al., 2004). That is, people need to think that status differences between men and women are malleable, and that the current status structure that provides men with more authority and power is unfair. The more people that reject status legitimizing beliefs, such as gender essentialism, the more the gender status hierarchy will become destabilized. Men high in motivation to maintain the gender status hierarchy are unlikely to change their worldview to incorporate more egalitarian beliefs about gender. However, men low in motivation to protect the gender status hierarchy (e.g., gay men and men low in proximal benefits) can function as allies to women to help promote a more equitable social system. I am proposing a bottom-up process of social change where large portions of our culture can band together to reject status legitimizing beliefs even if many high status people endorse and propagate these belief systems. Social change occurs by changing people's endorsement of descriptive norms (Bicchierri & Mercier, 2014). Descriptive norms that attribute more competence and agency to men uphold an inequitable social system that devalues women and their abilities. If a majority of the population endorses gender equality and rejects beliefs about women's lack of competence, incremental social change can begin.

One positive take away from this line of research is that we should strive to present win-win messages about gender relations to promote egalitarianism. Women's status gains need not come at men's expense. Men's zero-sum thinking about gender is associated with resistance to gender equal norms (Kuchynka, Bosson, Vandello, & Puryear, 2018), therefore we should demonstrate that gender equality benefits men too. For example, male and female athletes earn more Olympic medals in countries with higher gender equality (Berdahl, Uhlmann, & Bai, 2015). Studies consistently find that the most satisfied married, heterosexual couples are those

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that endorse egalitarianism (Gray-Little & Burks, 1983). More equal divisions of childcare among mothers and fathers is associated with higher sexual intimacy and relationship satisfaction (Carlson, Hanson, & Fitzroy, 2016). Thus, men can gain equitable proximal benefits from heterosexual relationships that do not involve exploitative interdependence, which results in better life outcomes for men and women.

Table 1. Correlations Among and Descriptive Statistics for All Study Variables for Study 1

	1	2	3	4	5	6	7	8	9	10	11
1. Participant Gender	–										
2. Gender Bias	.12	–									
3. Gender Trivialization	-.25***	-.67***	–								
4. Other Bias	.19***	.80***	-.55***	–							
5. Other Trivialization	-.18*	-.67***	.77***	-.67***	–						
6. Racial Bias	.15†	.74***	-.55***	.91***	-.64***	–					
7. Racial Trivialization	-.10	-.59***	.70***	-.58***	.87***	-.62***	–				
8. Muslim Bias	.17†	.72***	-.47***	.92***	-.60**	.78***	-.52***	–			
9. Muslim Trivialization	-.14†	-.59***	.67***	-.55***	.88***	-.50***	.66***	-.58***	–		
10. SO Bias	.22*	.74***	-.49***	.89***	-.57***	.69***	-.44***	.70***	-.44***	–	
11. SO Trivialization	-.25**	-.59***	-.70***	-.61***	.89***	-.57***	.66***	-.47***	.69***	-.61***	–
Mean: Men	–	4.75	3.19	4.93	2.95	4.91	2.90	5.11	2.80	4.77	3.15
Women		5.14	2.56	5.50	2.47	5.39	2.62	5.61	2.39	5.49	2.39
SD: Men	–	1.64	1.54	1.52	1.41	1.69	1.53	1.60	1.50	1.69	1.60
Women		1.51	1.17	1.24	1.13	1.39	1.32	1.34	1.32	1.53	1.37

Note. †$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$. "SO" stands for sexual orientation. "Other Bias" and "Other Trivialization" refer to the other three types of bias: sexual orientation, racial, and anti-Muslim bias.

Table 2. Correlations Among and Descriptive Statistics for All Study Variables for Study 2

Variable	1	2	3	4	5	6	7	8	9	10
1. Condition	_									
2. Justifications	-.17**	_								
3. Trust	-.09	-.29***	_							
4. Perceived Bias	-.09	-.13***	.51***	_						
5. Agreement with Study Results	-.01	-.29***	.64***	.74***	_					
6. Hostile	-.06	.17***	-.007	.17**	.02	_				
7. Explicit Threat	-.08	.14***	.06	.26***	.15*	.70***	_			
8. Positive Affect	-.02	.23***	.03	.17**	.11†	.12†	.12*	_		
9. Implicit Threat	.09	-.009	-.03	-.10	-.09	-.13*	..09	-.15*	_	
10. Proximal Benefits	-.52***	.03	.13*	.17**	.12	.13*	.09	.10	-.09	_
Mean	_	2.78	3.85	46.74	5.03	1.86	1.85	2.40	0.35	4.32
SD	_	1.78	0.87	25.34	1.55	0.88	0.95	1.11	0.18	1.88

Note. †$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$. Condition is coded "0" for gender and "1" for race.

Table 3. Correlations Among and Descriptive Statistics for All Study Variables for Study 3

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Condition	_										
2. Justifications	.05	_									
3. Trust	-.18***	-.07	_								
4. Perceived Bias	-.09	.07	-.29***	_							
5. Agreement with Study Results	-.19***	.02	.45***	.67***	_						
6. Hostile	.03	.36***	-.02	.37**	.24***	_					
7. Explicit Threat	-.02	.47***	-.02	.35***	.23***	.83***	_				
8. Positive Affect	.02	.46***	.11*	.29**	.21***	.33***	.39***	_			
9. Implicit Threat	-.04	-.31***	.10†	-.05	-.03	-.22***	-.24***	-21***	_		
10. Stigma Consciousness	.07	.19**	-.14*	-.23***	-.16***	-.14**	-.05	.04	-.07		
11. Political Orientation	-.08	0.14**	-.14*	-.08	-.12*	.20***	.27***	.26***	-.10	.17**	
Mean: H. Women	_	3.33	4.59	58.11	5.36	2.11	1.96	2.68	0.30	2.78	3.83
H. Men		3.50	4.39	49.10	5.14	1.96	1.99	2.65	0.31	3.56	3.68
Gay Men		2.10	4.39	60.16	5.38	2.17	2.01	2.51	0.31	2.77	2.72
SD: H. Women	_	1.91	1.35	25.06	1.31	1.07	1.05	1.21	0.20	0.65	1.99
H. Men		1.86	1.32	24.72	1.47	1.07	1.15	1.18	0.17	0.55	1.83
Gay Men		1.43	1.58	24.85	1.33	1.08	1.02	1.14	0.17	0.63	1.65

Note. †$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$. "H. Women" and "H. Men" refers to heterosexual women and men. Condition is coded "0" for gender and "1" for sexual orientation.

Table 4. Estimated Means for the Interaction Effects upon Each Dependent Variable in Study 2

	Gender Bias	Sexual Orientation Bias
	M(SE)	*M(SE)*
Outcome: Justifications		
Low Proximal Benefits	3.12	2.57
High Proximal Benefits	2.96	2.02
Outcome: Trust		
Low Proximal Benefits	3.81	3.75
High Proximal Benefits	4.01	3.70
Outcome: Perceptions of Bias		
Low Proximal benefits	48.33	38.42
High Proximal Benefits	49.09	56.70
Outcome: Agreement with Study Results		
Low Proximal Benefits	4.70	4.76
High Proximal Benefits	5.16	5.51

Table 5. Output from Model Predicting Justifications from Bias Condition, Mediated by Positive Affect, Hostility, Explicit Psychological Threat, and Implicit Psychological Threat, and Moderated by Proximal Benefits (Study 2)

	Positive Affect (M_1)			Hostility (M_2)			Explicit Psychological Threat (M_3)			Implicit Psychological Threat (M_s)			Justifications (Y)		
	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI
Condition (*X*)	0.08	0.16	-0.24, 0.40	0.03	0.13	-0.23, 0.28	-0.09	0.14	-0.36, 0.18	-0.03	0.03	-0.02 0.08	-0.81**	0.25	-1.31 -0.31
Positive Affect (M_1)													0.36**	0.09	0.16 0.55
Hostility (M_2)													0.30†	0.17	-0.03 0.33
Explicit Threat (M_3)													0.02	0.16	0.30 0.33
Implicit Threat (M_4)													0.52	0.61	-0.68 1.73
Proximal Benefits (*W*)	0.07	0.04	-0.02, 0.15	0.06	0.03	-0.01, 0.13	0.02	0.07	-0.05, 0.09	-0.003	0.007	. -0.02 0.01	-0.11 †	0.07	-0.25 0.02
$X \times W$	0.07	0.09	-0.10, -0.24	0.001	0.04	-0.14, 0.14	0.07	0.07	-0.07, 0.22	-0.02	0.01	-0.04 0.01	-0.10	0.13	-0.37 0.16
Constant	2.43**	0.08	2.27, 2.59	1.86	0.07	1.73, 1.99	1.89**	0.07	1.74, 2.02	0.34**	0.01	0.31 0.36	1.01*	0.43	0.15 1.86
	$R^2 = 0.013$ $F(3, 245) = 1.14, p = .33$			$R^2 = 0.017$ $F(3, 245) = 1.47, p = .22$			$R^2 = 0.012$ $F(3, 245) = 1.05, p = .36$			$R^2 = 0.016$ $F(3, 244) = 1.34, p = .25$			$R^2 = 0.115$ $F(7, 240) = 4.48, p < .01$		

Note. $^\dagger p < .10$; *$p < .05$; **$p < .01$.

Table 6. Output from Model Predicting Trust from Bias Condition, Mediated by Positive Affect, Hostility, Explicit Psychological Threat, and Implicit Psychological Threat, and Moderated by Proximal Benefits (Study 2)

	Positive Affect (M_1)			Hostility (M_2)			Explicit Psychological Threat (M_3)			Implicit Psychological Threat (M_s)			Trust (Y)		
	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI
Condition (*X*)	0.08	0.16	-0.24, 0.40	0.03	0.13	-0.23, 0.28	-0.09	0.14	-0.36, 0.18	-0.03	0.03	-0.02 0.08	-0.15	0.12	-0.39 0.08
Positive Affect (M_1)													0.14**	0.18	0.05 0.24
Hostility (M_2)													-0.09	0.08	-0.26 0.06
Explicit Threat (M_3)													0.33**	0.08	0.18 0.47
Implicit Threat (M_4)													-0.22	0.29	-0.79 0.35
Proximal Benefits (*W*)	0.07	0.04	-0.02, 0.15	0.06	0.03	-0.01, 0.13	0.02	0.07	-0.05, 0.09	-0.003	0.007	. -0.02 0.01	0.007	0.03	-0.05 0.07
$X \times W$	0.07	0.09	-0.10, -0.24	0.001	0.04	-0.14, 0.14	0.07	0.07	-0.07, 0.22	-0.02	0.01	-0.04 0.01	-0.09	0.06	-0.22 0.03
Constant	2.43**	0.08	2.27, 2.59	1.86	0.07	1.73, 1.99	1.89**	0.07	1.74, 2.02	0.34**	0.01	0.31 0.36	13.09**	0.21	2.69 3.50
	$R^2 = 0.014$ $F(3, 245) = 1.14, p = .33$			$R^2 = 0.017$ $F(3, 245) = 1.47, p = .22$			$R^2 = 0.012$ $F(3, 245) = 1.05, p = .36$			$R^2 = 0.016$ $F(3, 244) = 1.34, p = .25$			$R^2 = 0.16$ $F(7, 240) = 6.51, p < .01$		

Note. $^†p < .10$; $*p < .05$; $**p < .01$.

Table 7. Output from Model Predicting Perceived Bias from Bias Condition, Mediated by Positive Affect, Hostility, Explicit Psychological Threat, and Implicit Psychological Threat, and Moderated by Proximal Benefits (Study 2)

	Positive Affect (M_1)			Hostility (M_2)			Explicit Psychological Threat (M_3)			Implicit Psychological Threat (M_s)			Perceived Bias (Y)		
	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI
Condition (*X*)	0.08	0.16	-0.24, 0.40	0.03	0.13	-0.23, 0.28	-0.09	0.14	-0.36, 0.18	-0.03	0.03	-0.02 0.08	0.48	3.64	-6.68 7.65
Positive Affect (M_1)													2.77†	1.42	-0.03 5.58
Hostility (M_2)													-1.16	2.47	-6.02 3.70
Explicit Threat (M_3)													6.77**	2.30	0.03 5.58
Implicit Threat (M_4)													-6.86	8.75	-24.1 10.37
Proximal Benefits (*W*)	0.07	0.04	-0.02, 0.15	0.06	0.03	-0.01, 0.13	0.02	0.07	-0.05, 0.09	-0.003	0.007	. -0.02 0.01	1.70†	0.98	-0.23 3.63
$X \times W$	0.07	0.09	-0.10, -0.24	0.001	0.04	-0.14, 0.14	0.07	0.07	-0.07, 0.22	-0.02	0.01	-0.04 0.01	2.82	1.94	-1.02 6.61
Constant	2.43**	0.08	2.27, 2.59	1.86	0.07	1.73, 1.99	1.89**	0.07	1.74, 2.02	0.34**	0.01	0.31 0.36	33.34**	6.18	21.17 45.56
	$R^2 = 0.014$ $F(3, 245) = 1.14, p = .33$			$R^2 = 0.017$ $F(3, 245) = 1.47, p = .22$			$R^2 = 0.012$ $F(3, 245) = 1.05, p = .36$			$R^2 = 0.016$ $F(3, 244) = 1.34, p = .25$			$R^2 = 0.12$ $F(7, 239) = 4.56, p < .01$		

Note. $^\dagger p < .10$; $*p < .05$; $**p < .01$.

Table 8. Output from Model Predicting Agreement from Bias Condition, Mediated by Positive Affect, Hostility, Explicit Psychological Threat, and Implicit Psychological Threat, and Moderated by Proximal Benefits (Study 2)

	Positive Affect (M_1)			Hostility (M_2)			Explicit Psychological Threat (M_3)			Implicit Psychological Threat (M_s)			Agreement (Y)		
	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI
Condition (*X*)	0.08	0.16	-0.24, 0.40	0.03	0.13	-0.23, 0.28	-0.09	0.14	-0.36, 0.18	-0.03	0.03	-0.02 0.08	0.27	0.23	-0.18 0.71
Positive Affect (M_1)													0.11	0.09	-0.06 0.29
Hostility (M_2)													-0.36*	0.15	-0.66 -0.05
Explicit Threat (M_3)													0.44**	0.14	0.15 0.76
Implicit Threat (M_4)													-0.71	0.55	-1.80 0.36
Proximal Benefits (*W*)	0.07	0.04	-0.02, 0.15	0.06	0.03	-0.01, 0.13	0.02	0.07	-0.05, 0.09	-0.003	0.007	. -0.02 0.01	0.13*	0.06	0.004 0.24
$X \times W$	0.07	0.09	-0.10, -0.24	0.001	0.04	-0.14, 0.14	0.07	0.07	-0.07, 0.22	-0.02	0.01	-0.04 0.01	0.01	0.12	-0.22 0.25
Constant	2.43**	0.08	2.27, 2.59	1.86	0.07	1.73, 1.99	1.89**	0.07	1.74, 2.02	0.34**	0.01	0.31 0.36	4.86**	0.38	4.10 5.63
	$R^2 = 0.014$ $F(3, 245) = 1.14, p = .33$			$R^2 = 0.017$ $F(3, 245) = 1.47, p = .22$			$R^2 = 0.012$ $F(3, 245) = 1.05, p = .36$			$R^2 = 0.016$ $F(3, 244) = 1.34, p = .25$			$R^2 = 0.07$ $F(7, 240) = 2.65, p = .011$		

Note. $^\dagger p < .10$; $*p < .05$; $**p < .01$.

Table 9. Output from Model Predicting Justifications from Bias Condition, Mediated by Positive Affect, Hostility, Explicit Psychological Threat, and Implicit Psychological Threat, and Moderated by Participant Social Group (Study 3)

	Positive Affect (M_1)			Hostility (M_2)			Explicit Psychological Threat (M_3)			Implicit Psychological Threat (M_s)			Justifications (Y)		
	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI
Condition (*X*)	0.24	0.25	-0.24, 0.72	0.47*	0.22	0.05, 0.89	0.42	0.22	-0.01, 0.85	-0.03	0.04	-0.09 0.05	0.31	0.29	-0.27 0.89
Positive Affect (M_1)													0.43**	0.08	0.28 0.58
Hostility (M_2)													-0.06	0.14	-0.34 0.22
Explicit Threat (M_3)													0.55**	0.14	0.27 0.83
Implicit Threat (M_4)													-1.66**	0.47	-2.59 -.74
Social Group (*W*)	0.21	0.25	-0.27, 0.72	0.23	0.22	-0.21, 0.66	0.27	0.22	-0.17, 0.71	0.03	0.04	. -0.05 0.10	0.33	0.30	-0.27 0.92
$X \times W$	0.69*	0.33	-1.34, -0.04	-0.74**	-0.29	-1.31, -0.17	-0.69*	0.29	-1.27, -0.12	0.04	0.05	-0.11 0.09	-0.65	0.40	-1.44 0.13
Stigma Consciousness (U_1)	0.10	0.11	-0.11, 0.32	-0.17†	0.09	-0.36, 0.02	-0.07	0.09	-0.26, 0.12	-0.03	0.02	-0.06 0.01	0.20	0.13	-0.06 0.46
Constant	2.19**	0.33	1.53, 2.56	2.31†	0.29	1.73, 2.89	1.89**	0.29	1.31, 2.48	0.39	0.05	0.29 0.49	0.92	0.51	-0.08 1.93
	$R^2 = 0.024$ $F(6, 300) = 1.25, p = .27$			$R^2 = 0.06$ $F(6, 300) = 3.34, p < .01$			$R^2 = 0.03$ $F(6, 300) = 1.49, p = .17$			$R^2 = 0.016$ $F(6, 300) = 0.83, p = .54$			$R^2 = 0.41$ $F(10, 296) = 21.20, p < .01$		

Note. †$p < .10$; *$p < .05$; **$p < .01$. Social group is dummy coded such that heterosexual men are compared to gay men and heterosexual women.

Table 10. Output from Model Predicting Trust from Bias Condition, Mediated by Positive Affect, Hostility, Explicit Psychological Threat, and Implicit Psychological Threat, and Moderated by Participant Social Group (Study 3)

	Positive Affect (M_1)			Hostility (M_2)			Explicit Psychological Threat (M_3)			Implicit Psychological Threat (M_s)			Trust (Y)		
	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI
Condition (X)	0.24	0.22	-0.24, 0.72	0.47*	0.22	0.05, 0.89	0.42†	0.22	-0.01, 0.85	-0.02	0.04	-0.09 0.05	-0.53†	0.27	-1.05 0.001
Positive Affect (M_1)													0.20**	0.08	0.05 0.35
Hostility (M_2)													-0.05	0.14	-0.32 0.24
Explicit Threat (M_3)													-0.08	0.15	-0.36 0.22
Implicit Threat (M_4)													0.81†	0.47	-0.09 1.76
Social Group (W)	0.21	0.25	-0.27, 0.72	0.23	0.22	-0.21, 0.66	0.27	0.22	-0.17, 0.71	0.03	0.04	. -0.05 0.10	-0.05	0.31	-0.65 0.56
X × W	0.69*	0.33	-1.34, -0.04	-0.74**	-0.29	-1.31, -0.17	-0.69*	0.29	-1.27, -0.12	0.04	0.05	-0.11 0.09	-0.19	0.40	-0.61 0.99
Stigma Consciousness (U_1)	0.10	0.11	-0.11, 0.32	-0.17†	0.09	-0.36, 0.02	-0.07	0.09	-0.26, 0.12	-0.03	0.02	-0.06 0.01	-0.33	0.11	-0,11 0.32
Constant	2.19**	0.33	1.53, 2.56	2.31†	0.29	1.73, 2.89	1.89**	0.29	1.31, 2.48	0.39	0.05	0.29 0.49	5.24**	0.52	4.22 6.26
	$R^2 = 0.025$ $F(6, 300) = 1.25, p = .27$			$R^2 = 0.06$ $F(6, 300) = 3.34, p < .01$			$R^2 = 0.03$ $F(6, 300) = 1.49, p = .17$			$R^2 = 0.016$ $F(6, 300) = 0.83, p = .54$			$R^2 = 0.28$ $F(10, 296) = 11.76, p < .01$		

Note. †$p < .10$; *$p < .05$; **$p < .01$. Social group is dummy coded such that heterosexual men are compared to gay men and heterosexual women.

Table 11. Output from Model Predicting Perceived Bias from Bias Condition, Mediated by Positive Affect, Hostility, Explicit Psychological Threat, and Implicit Psychological Threat, and Moderated by Participant Social Group (Study 3)

	Positive Affect (M_1)			Hostility (M_2)			Explicit Psychological Threat (M_3)			Implicit Psychological Threat (M_s)			Perceived Bias (Y)		
	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI
Condition (*X*)	0.24	0.25	-0.24, 0.72	0.47*	0.22	0.05, 0.89	0.42	0.22	-0.01, 0.85	-0.03	0.04	-0.09 0.05	-14.03**	4.68	-23.21 -4.82
Positive Affect (M_1)													3.68**	1.19	1.34 6.03
Hostility (M_2)													3.93	2.23	-1.00 7.79
Explicit Threat (M_3)													4.00†	2.28	0.04 0.41
Implicit Threat (M_4)													5.65	7.38	-8.89 20.91
Social Group (*W*)	0.21	0.25	-0.27, 0.72	0.23	0.22	-0.21, 0.66	0.27	0.22	-0.17, 0.71	0.03	0.04	. -0.05 0.10	-9.32†	4.84	-18.89 0.71
$X \times W$	0.69*	0.33	-1.34, -0.04	-0.74**	-0.29	-1.31, -0.17	-0.69*	0.29	-1.27, -0.12	0.04	0.05	-0.11 0.09	7.73	6.34	-4.76 20.22
Stigma Consciousness (U_1)	0.10	0.11	-0.11, 0.32	-0.17†	0.09	-0.36, 0.02	-0.07	0.09	-0.26, 0.12	-0.03	0.02	-0.06 0.01	-4.72*	2.12	-8.89 0.55
Constant	2.19**	0.33	1.53, 2.56	2.31†	0.29	1.73, 2.89	1.89**	0.29	1.31, 2.48	0.39	0.05	0.29 0.49	51.58**	8.14	35.65 67.71
	$R^2 = 0.024$ $F_{(6, 300)} = 1.25, p = .27$			$R^2 = 0.06$ $F_{(6, 300)} = 3.34, p < .01$			$R^2 = 0.03$ $F_{(6, 300)} = 1.49, p = .17$			$R^2 = 0.016$ $F_{(6, 300)} = 0.83, p = .54$			$R^2 = 0.26$ $F_{(10, 295)} = 10.31, p < .01$		

Note. †$p < .10$; *$p < .05$; **$p < .01$. Social group is dummy coded such that heterosexual men are compared to gay men and heterosexual women.

Table 12. Output from Model Predicting Agreement from Bias Condition, Mediated by Positive Affect, Hostility, Explicit Psychological Threat, and Implicit Psychological Threat, and Moderated by Participant Social Group (Study 3)

	Positive Affect (M_1)			Hostility (M_2)			Explicit Psychological Threat (M_3)			Implicit Psychological Threat (M_s)			Agreement (Y)		
	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI	Coeff.	*SE*	95% CI
Condition (*X*)	0.24	0.25	-0.24, 0.72	0.47*	0.22	0.05, 0.89	0.42	0.22	-0.01, 0.85	-0.03	0.04	-0.09 0.05	-0.85**	0.28	-1.41 -0.29
Positive Affect (M_1)													0.19**	0.07	0.05 0.33
Hostility (M_2)													0.18	0.13	-0.08 0.44
Explicit Threat (M_3)													0.09	0.14	-0.18 0.36
Implicit Threat (M_4)													0.26	0.44	-0.61 1.14
Social Group (*W*)	0.21	0.25	-0.27, 0.72	0.23	0.22	-0.21, 0.66	0.27	0.22	-0.17, 0.71	0.03	0.04	. -0.05 0.10	-0.23	0.29	-0.79 0.34
$X \times W$	0.69*	0.33	-1.34, -0.04	-0.74**	-0.29	-1.31, -0.17	-0.69*	0.29	-1.27, -0.12	0.04	0.05	-0.11 0.09	0.43	0.38	-0.33 1.18
Stigma Consciousness (U_1)	0.10	0.11	-0.11, 0.32	-0.17†	0.09	-0.36, 0.02	-0.07	0.09	-0.26, 0.12	-0.03	0.02	-0.06 0.01	-0.24†	0.13	-0.49 0.23
Constant	2.19**	0.33	1.53, 2.56	2.31†	0.29	1.73, 2.89	1.89**	0.29	1.31, 2.48	0.39	0.05	0.29 0.49	51.58**	8.14	35.65 67.71
	$R^2 = 0.024$ $F(6, 300) = 1.25, p = .27$			$R^2 = 0.06$ $F(6, 300) = 3.34, p < .01$			$R^2 = 0.03$ $F(6, 300) = 1.49, p = .17$			$R^2 = 0.016$ $F(6, 300) = 0.83, p = .54$			$R^2 = 0.14$ $F(10, 296) = 4.97, p < .01$		

Note. †$p < .10$; *$p < .05$; **$p < .01$. Social group is dummy coded such that heterosexual men are compared to gay men and heterosexual women.
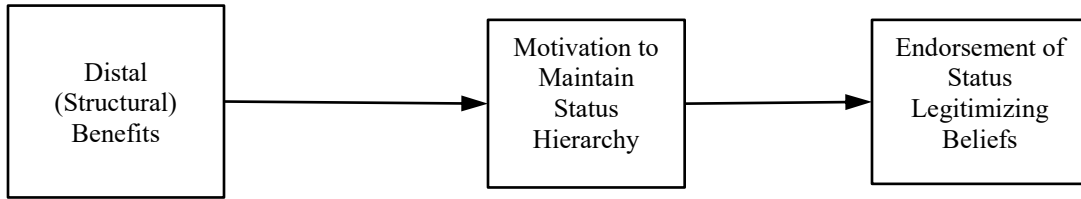
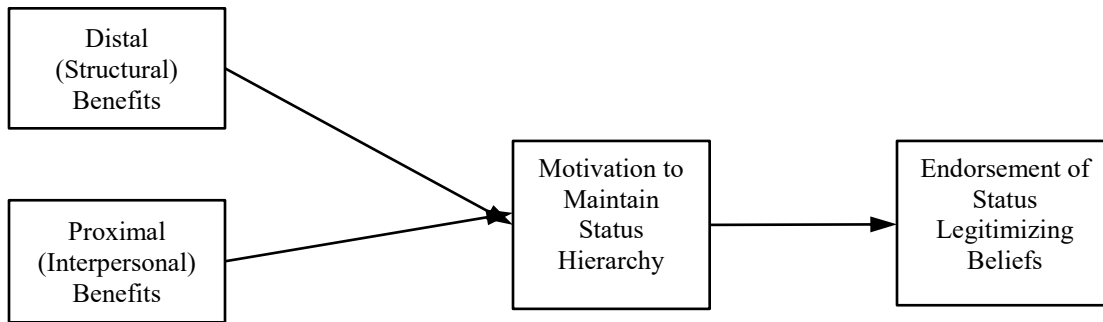*Figure 1*. High Status Group Member's Motivation to Maintain Group-based Hierarchies

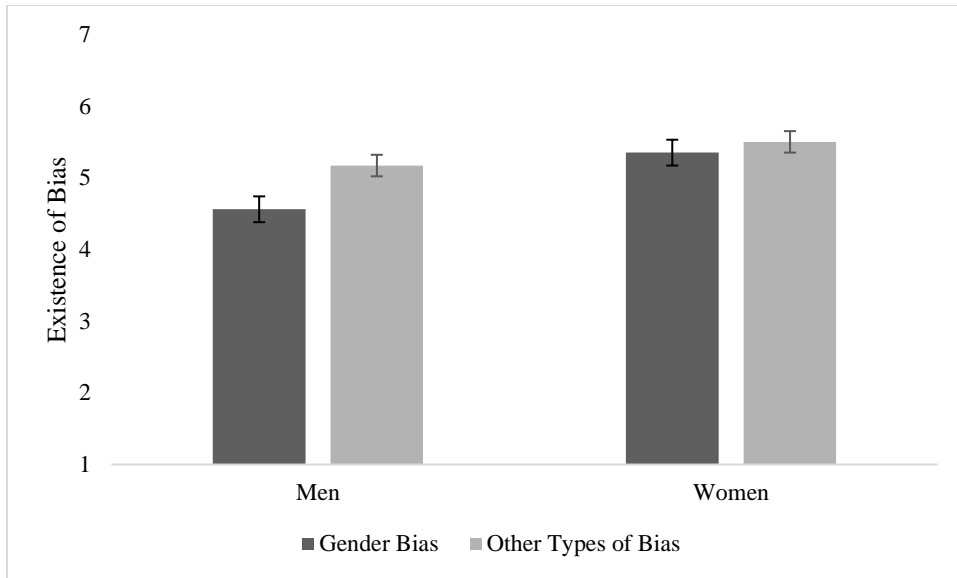*Figure 2*. High Status Group Member's Motivation to Maintain the Gender Status hierarchy

Figure 3. Interaction for Prejudice Type by Participant Gender on Belief in the Existence of Prejudice from Pilot Study 1

*Note. "*Other Prejudice Types" collapses across racism, sexual orientation, and religious prejudice.
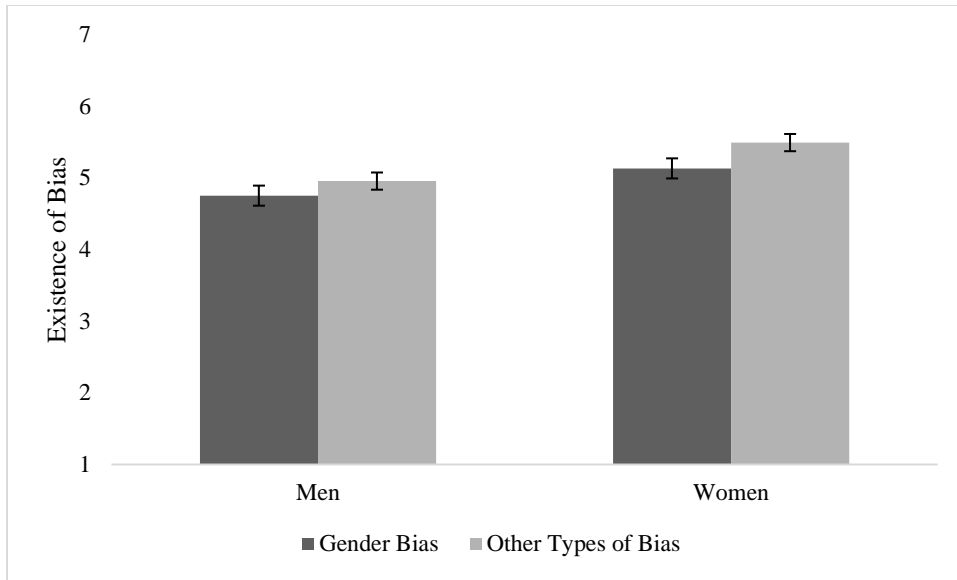
Figure 4. Interaction for Prejudice Type by Participant Gender on Belief in the Existence of Prejudice from Study 1

*Note. "*Other Prejudice Types" collapses across racism, sexual orientation, and religious prejudice.
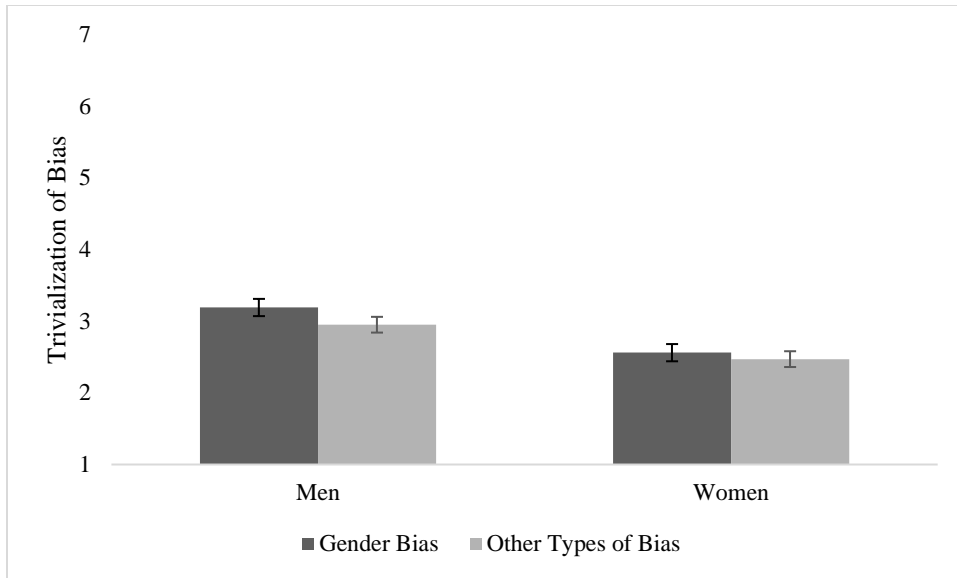
Figure 5. Interaction for Prejudice Type by Participant Gender on Trivialization of Prejudice from Study 1

*Note. "*Other Prejudice Types" collapses across racism, sexual orientation, and religious prejudice.
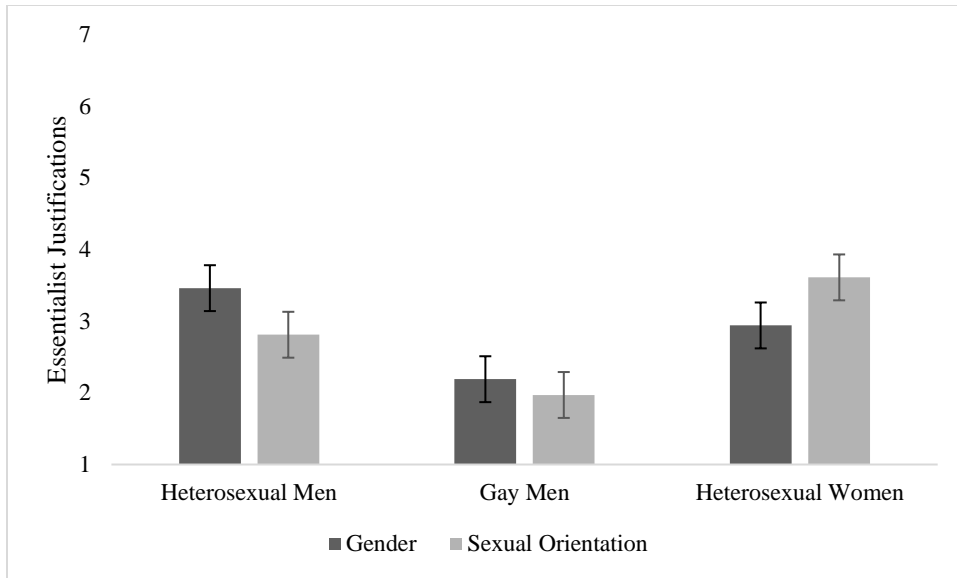
Figure 6. Effects of Evidence of Gender Bias on Status Legitimizing Reponses (Justification of Bias) Moderated by Participant Social Group for Study 3

Conditional indirect effect for heterosexual men: *b* = .19,
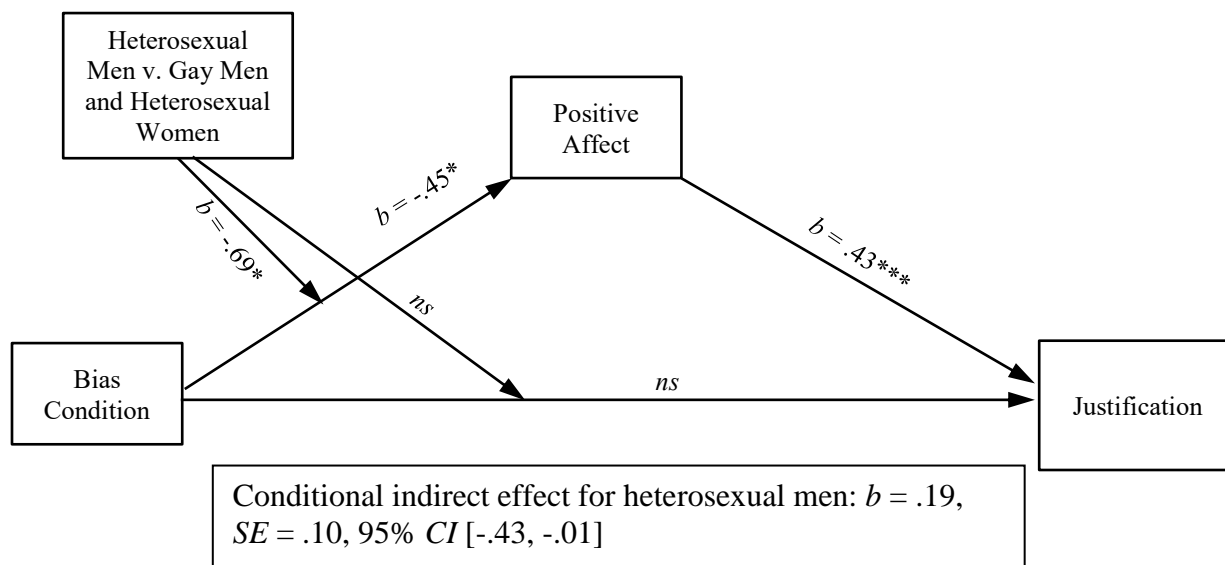*SE* = .10, 95% *CI* [-.43, -.01]

Figure 7. Effects of Evidence of Gender Bias on Status Legitimizing Reponses (Justification of Bias) Mediated by Positive Affect and Moderated by Participant Social Group for Study 3

Note. *p < .05; **p < .01. Condition was coded "0" for gender bias and "1" for sexual orientation bias.
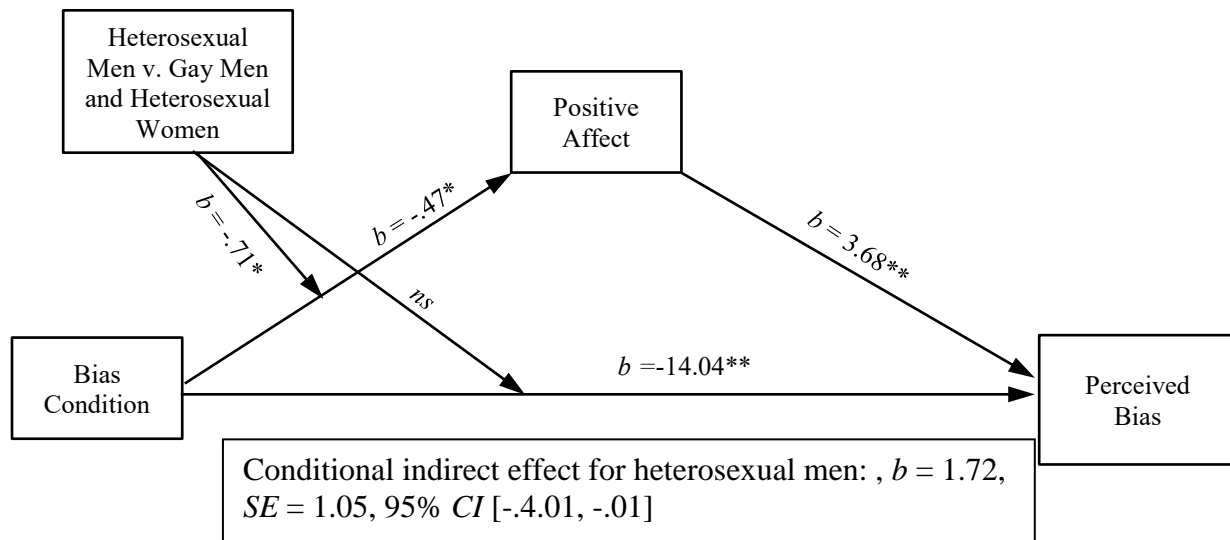
Figure 8. Effects of Evidence of Gender Bias on Status Legitimizing Reponses (Perceived amount of Bias in STEM) Mediated by Positive Affect and Moderated by Participant Social Group for Study 3

Note. *p < .05; **p < .01. Condition was coded "0" for gender bias and "1" for sexual orientation bias.

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Appendices

Appendix A: Study 2 and Study 3 Experimental Manipulations

Gender Bias Version (Study 2 and 3)

"Women are underrepresented in fields of Science, Technology, Engineering, and Math (STEM). Researchers in social science conclude that a substantial portion of women's under-representation in STEM is due to gender bias. One study found direct evidence of gender bias when they randomly assigned STEM University professors to evaluate lab manager applicants. The lab manager applications were identical across conditions except for the gender of the applicant (either a man or a woman). Both male and female professors rated the male applicant more favorably on measures of hire-ability, competence, and starting salary. Thus, researchers conclude that men hold an unfair advantage over women in STEM due to their gender."

Race Bias Version (Study 2)

"Black people are underrepresented in fields of Science, Technology, Engineering, and Math (STEM). Researchers in social science conclude that a substantial portion of Black people's under-representation in STEM is due to racial bias. One study found direct evidence of racial bias when they randomly assigned STEM University professors to evaluate lab manager applicants. The lab manager applications were identical across conditions except for the race of the applicant (either Black or White). Both male and female professors rated the White applicant more favorably on measures of hire-ability, competence, and starting salary. Thus, researchers conclude that White people hold an unfair advantage over Black people in STEM due to their race."

Sexual Orientation Bias Version (Study 3)

"Lesbian, gay, and bisexual (LGB) individuals are underrepresented in fields of Science, Technology, Engineering, and Math (STEM). Researchers in social science conclude that a

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substantial portion of LGB people's under-representation in STEM is due to sexual orientation bias. One study found direct evidence of sexual orientation bias when they randomly assigned STEM University professors to evaluate lab manager applicants. The lab manager applications were identical across conditions except for the sexual orientation of the applicant (either a heterosexual person or a LGB person). STEM professors rated the heterosexual applicant more favorably on measures of hire-ability, competence, and starting salary. Thus, researchers conclude that heterosexual people hold an unfair advantage over LGB people in STEM due to their sexual orientation."

Appendix B: Stigma Consciousness Questionnaires

Stigma Consciousness Questionnaire (Gay Male Sexual Orientation)

1. Stereotypes about gay men have not affected me personally. (R)
2. I never worry that my behaviors will be viewed as stereotypically gay. (R)
3. When interacting with heterosexual people, I feel like they interpret all my behaviors in terms of the fact that I am a gay man.
4. Most heterosexual people do NOT judge gay men on the basis of their sexual orientation. (R)
5. My being a gay male does not influence how heterosexual people act with me. (R)
6. I almost never think about the fact that I am gay male when I interact with heterosexual people. (R)
7. My being a gay male does not influence how people act with me. (R)
8. Most heterosexual people have a lot more heterosexist thoughts than they actually express.
9. I often think that heterosexual people are unfairly accused of being heterosexist. (R)
10. Most heterosexual people have a problem viewing gay men as equals.

Stigma Consciousness Questionnaire (Heterosexual Sexual Orientation)

1. Stereotypes about heterosexual people have not affected me personally. (R)
2. I never worry that my behaviors will be viewed as stereotypically heterosexual. (R)
3. When interacting with gay men and lesbians, I feel like they interpret all my behaviors in terms of the fact that I am a heterosexual person.
4. Most gay men and lesbians do NOT judge heterosexual people on the basis of their sexual orientation. (R)
5. My being a heterosexual person does not influence how gay men and lesbians act with me. (R)
6. I almost never think about the fact that I am a heterosexual person when I interact with gay men and lesbians. (R)
7. My being a heterosexual person does not influence how people act with me. (R)
8. Most gay men and lesbians have a lot more anti-heterosexual thoughts than they actually express.
9. I often think that gay men and lesbians are unfairly accused of having anti-heterosexual thoughts. (R)
10. Most gay men and lesbians have a problem viewing heterosexual people as equals.

Stigma Consciousness Questionnaire (Women)

1. Stereotypes about women have not affected me personally. (R)
2. I never worry that my behaviors will be viewed as stereotypically female. (R)
3. When interacting with men people, I feel like they interpret all my behaviors in terms of the fact that I am a woman.
4. Most men people do NOT judge women on the basis of their gender. (R)
5. My being a woman does not influence how men act with me. (R)
6. I almost never think about the fact that I am a woman when I interact with men. (R)
7. My being a woman does not influence how people act with me. (R)

8. Most men have a lot more sexist thoughts than they actually express.
9. I often think that men are unfairly accused of being sexist. (R)
10. Most men have a problem viewing women as equals.