Low status, not gender inversion, better explains expectations of gay men and lesbian women's competencies in the United States

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Abstract

Previous research has shown that people hold an implicit gender inversion assumption regarding descriptive stereotypes of gay men and lesbian women. More specifically, people believe that the hobbies and preferences of gay men are similar to straight women, while lesbian women's hobbies and preferences are similar to straight men. However, research to date has not provided a full understanding regarding the competencies of gay men and lesbian women when they engage in gender counter-normative activities. Across five studies (two pre-registered, $N = 2454$) we show a divergence between what gay men and lesbian women are expected to do and how well they are expected to do them. Gender inversion did not adequately explain in what domains people anticipated competence from gay men and lesbian women. Instead, gay men and lesbian women were seen as relatively incompetent compared to straight men and women across occupations (Studies 1A – C), skills (Study 2), and general domains (Study 3), particularly by straight people (Studies 1C and 3). Furthermore, this assumption was found implicitly (Studies 2 and 3), as even gay and lesbian participants were more likely to associate straight people with competence and gay/lesbian people with incompetence. We discuss the implications of these findings for gender inversion theory and the study of stereotypes more broadly.

Keywords: sexual orientation, gender, stereotypes, competence, intersectionality, gay and lesbian people

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Gay men and lesbian women are a growing population in the United States (Jones, 2022), as identification as lesbian, gay, bisexual, transgender, queer/questioning, and beyond (LGBTQ+) is on the rise, especially among younger generations (McShane, 2022). While this increase in population size has been accompanied by a rapid decline in explicit and implicit bias towards LGBTQ+ group members (Charlesworth & Banaji, 2019), rigid stereotypes about gay men and lesbian women are still prevalent in society (Blashill & Powlishta, 2009). These stereotypes often conform to a gender-inverted belief regarding how gay men and lesbian women act (Kite & Deaux, 1987). More specifically, the hobbies, preferences, and characteristics of gay men and straight women are presumed to be similar as well as those between lesbian women and straight men, because these groups of people share the same target of their sexual desires. For example, people rate gay men as being more likely to do or possess *feminine* jobs, activities, and characteristics compared to lesbian women, while lesbian women are rated more likely to do or possess *masculine* jobs, activities, and characteristics compared to gay men (Blashill & Powlishta, 2009).

Based on these stereotypes, one might expect there to be more gay men in low-status *feminine* occupations and more lesbian women in high-status *masculine* occupations. However, current experiences of gay men *as well as* lesbian women do not always conform to this expectation. Representation of both gay men and lesbian women in media and other positions of power is scant (Fasoli & Hegarty, 2020) and they both experience heightened levels of poverty and depressed wages compared to their straight counterparts (Badgett et al., 2020). Thus, there might be a discrepancy between descriptive stereotypes that gay men desire more feminine

occupations and lesbian women desire more masculine ones, and stereotypes about exactly how well people expect them to perform in those spaces. In other words, while lesbian women might be perceived as being better suited for more masculine occupations compared to feminine ones, that does not necessarily grant her overall competence in such masculine domains.

In the current work, we investigated stereotypes about the competencies of gay men and lesbian women in order to help explain why disparate societal outcomes for gay men and lesbian women persist despite the decline of bias. Specifically, we assessed people's expectations about gay men and lesbian women's degree of competence both overall as well as in specific occupations and skills. We examined stereotypes explicitly and implicitly, within straight and gay/lesbian respondents, as well as in conjunction with a variety of moderators that might influence competence perceptions. Overall, we find evidence that instead of gender inversion guiding participants' competence expectations of gay men and lesbian women, occupational status seems to explain outcomes to a greater degree. People believe that gay men and lesbian women are significantly less competent than their straight counterparts, who are perceived to be competent based on the gender-type of the domain.

The Importance of Competence

Stereotypes often undergird disparate treatment of individuals and groups (Devine, 1989), and competence is one of the most important ones. The stereotype content model (Fiske et al., 2002) suggests that competence is one of the core dimensions of person- and group-perception, along with warmth. Competence helps us determine whether people and groups can act on their feelings toward us, notwithstanding if those feelings are cooperative or hostile. While both dimensions in the stereotype content model are important, as a society we value groups that are higher in competence as they are ascribed higher status, especially in the workplace (Fiske et al.,

2007). Thus, stereotypes that a group is not competent, which have long characterized certain stigmatized groups throughout history (Devine & Elliot, 1995), are often globally damaging (Steele & Aronson, 1995).

There is mixed evidence regarding the perceived competency of gay men and lesbian women. Lesbian woman are likely viewed as more competent than warm, but gay men's perceived masculine and feminine traits seem to nullify each other, making them neither particularly warm nor competent (Fiske et al., 2002). For example, feminine gay men are seen as warmer and less competent compared to masculine gay men (Clausell & Fiske, 2005; Sink et al., 2018), while more masculine lesbian women are seen as less warm (but equally competent) as feminine lesbian women (Brambilla et al., 2011). These empirical findings regarding the competence of gay men and lesbian women are inconsistent with gender inversion.

Research on competence within the workplace is also inconsistent. In some instances, lesbian women avoid activating stereotypes about women such as motherhood that can lead to discrimination and backlash, which increases others' impressions of their competence (Niedlich et al., 2015; Peplau & Fingerhut, 2004). This work suggests that lesbian women are not necessarily penalized for being masculine or feminine in the workplace, as straight women sometimes are. As another example, work by Niedlich and colleagues (Niedlich et al., 2022; Niedlich & Steffens, 2015) has found that gay men and lesbian women were rated as having both higher agency and task competence than their straight counterparts. In contrast to these findings, both lesbian-sounding women and gay-sounding men were seen as unsuitable and unemployable in a hiring context, but especially lesbian-sounding women applying to high-status positions (Fasoli & Hegarty, 2020). We note that the intersection of race further nuances the association between perceived competence of gay men and lesbian women in the workplace, as gayness can

increase perceived status and intelligence of racially minoritized men through increased perceptions of Whiteness (Petsko & Bodenhausen, 2019; Preddie & Biernat, 2021). In this paper we focus exclusively on the intersection of gender and sexual orientation and do not condition upon other identities such as race.

Present Work

Taken together, there are two main explanations for disparities in people's expectations of gay men and lesbian women's competence. Based on gender inversion and social role theory (Eagly & Steffen, 1984; Fingerhut & Peplau, 2006; Koenig & Eagly, 2014), lesbian women are perceived to be competent in masculine domains while gay men are perceived to be competent in feminine domains, similar to their cross-sexual orientation, cross-gender counterparts. A second explanation, based on status-beliefs, suggests that gay men and lesbian women are seen as incompetent overall due to their sexual orientation. The aim of this paper is to empirically determine which explanation best fits perceptions of competence for gay men, lesbian women, straight men, and straight women in general and in specific domains. We extend previous research by asking how well straight and gay/lesbian people are at performing abilities rather than which abilities are best aligned with them.

In line with the two divergent explanations, we had divergent hypotheses: the presumed competence and abilities of gay men and lesbian women could reflect their descriptive stereotypes or their low status in society. One possibility is that gay men and straight women would be expected to underperform in masculine domains, and excel in feminine domains, compared to lesbian women and straight men, in line with gender inversion (Hypothesis 1: Inverted Gender-Roles). On the other hand, both gay men and lesbian women could be expected to underperform regardless of domain, as their sexual orientation renders them members of a low

status group and thus expected to not be as capable as their straight counterparts (Hypothesis 2: Status-Roles).

In a set of five studies, we systematically investigated the level of competence and ability ascribed to gay men and lesbian women compared to their straight counterparts. In Studies 1A-1C, we investigated the relative competence of gay men, lesbian women, straight men, and straight women across a variety of occupations, finding overall that gay men and lesbian women are seen as less competent than straight men and women. In Study 2, we find the same effect for competence across important occupational skills rather than occupations, while in Study 3, we find the same effect for general competence when the domain was unspecified. Studies 2 and 3 extended the findings into implicit cognition, showing that people *implicitly* associate gay men and lesbian women with incompetence. In Studies 1C and 3 we recruited gay men and lesbian women participants, finding that they show a significant reduction in the bias towards gay men and lesbian women that straight participants have.

Across Studies 1B – 3, we measured five moderators regarding expectations of competence at the intersection of gender and sexual orientation. First, we assessed negative attitudes towards gay men and lesbian women and hypothesized that having more negative attitudes would diminish participants' competence expectations of them. We operationalized negative attitudes towards gay men and lesbian women in two ways: first by assessing participants' levels of sexual prejudice (Chonody, 2013; Morrison & Morrison, 2003) towards gay men and lesbian women and second, by their warmth/cold feelings (i.e., feeling thermometers) towards gay and straight, men and women. Sexual prejudice has been shown to lead people to have more negative attitudes and views of queer people overall and even increase discriminatory behaviors and behavioral intentions towards them. Similarly, feeling

thermometers represent overall positivity towards targets, suggesting that the more positively people feel towards a target, the more they will ascribe positive traits, like competence. We measured sexual prejudice and feeling thermometers in four out of five studies (Studies 1B – 3).

More germane to testing our hypotheses regarding gender inversion and status, we measured perceptions of status and perceptions of gender essentialism in participants. If people believe that gay men and lesbian women are low status and therefore should only display competence in spaces that are also low status (rather than gender inversion), we expect competence judgements to be sensitive to the status of the domain. The greater the status and/or importance of the domain, the less competence should be expected of gay men and lesbian women in that space if Hypothesis 2 is correct.

Related to Hypothesis 1, if people believe that gender is essentialized, or that gender roles, characteristics, and mannerisms are inherent within genders due to innate factors, they should also ascribe to gender-inversion-congruent constellations of competence expectations. This is, in part, because gender essentialist views are part of the backbone underlying gender inversion (Kite & Deaux, 1987; Rees-Turyn et al., 2008). Early understandings of non-heterosexuality essentialized gender, conflating all forms of gender identification, gender expression, and gender roles together with sexual orientation. This conflation led to a tautology such that masculinity was directly tied to attraction to women while femininity was tied to attraction to men. Gender essentialist views of gay men and lesbian women inherited this connection, rendering gay men intrinsically feminine and lesbian women intrinsically masculine. As gender essentialism has been shown to relate to prejudice towards gay men and lesbian women overall (Prusaczyk & Hodson, 2020), we expect that this bias will also extend to

competence stereotypes. We measured some form of domain status or importance in Studies 1B – 2 and measured gender essentialism in Study 3.

Finally, we measured internal (IMS) and external (EMS) motivation to appear non-prejudiced (IMS-EMS; Plant & Devine, 1998) towards gay men and lesbian women as a measure of participants' motivations (i.e., due to internalized nonprejudiced beliefs or societal standards and norms) to see gay men and lesbian women as lower status. IMS and EMS have been shown to be powerful predictors of discriminatory attitudes (Klonis et al., 2005). We expected that the more participants are internally motivated to respond without prejudice and less externally motivated, the less likely they will demonstrate an overall bias in competence attributions for gay men and lesbian women. We measured this in Study 3.

All materials, data, and data analysis code are available for download at the following link: https://osf.io/te8sv/?view_only=77eff3da3b7d43f7b7b0588bd1ad2a6d. Our two pre-registered studies can be found at these two links (Study 2: https://osf.io/9n5bq/?view_only=7654fef0bf0b4ec98c94b92c9187850a and Study 3: https://osf.io/gkxfz/?view_only=63d68981393e4f00a159dd9b553fcee2). The present research is also accompanied by supplementary materials and analyses. We report all data inclusions and exclusions. We used a general rule in each study to collect around 250 participants within a condition, as correlations and the average effect size in psychology stabilize around 250 participants (Richard et al., 2003; Schönbrodt & Perugini, 2013). We also maximize power by having conditions within subjects in each study.

Study 1A: Competencies in Three Domains

Work on gendered stereotypes shows that people believe (to varying degrees) there is a stereotype that men are better than women at mathematical and leadership tasks while women

are better than men at verbal tasks (Kiefer & Sekaquaptewa, 2007). Study 1A explored the extent to which people also hold stereotypes about gay men and lesbian women in these domains.

Methods

Participants

Participants in this study were re-directed from a separate study (Experiment 4: Lees & Cikara, 2020) that recruited a nationally representative sample based on race, political party, age, and gender through Qualtrics Panels. A total of 534 participants completed the full study, with 350 participants self-identifying as White, 68 self-identifying as Black, 59 as Latino/a, 21 as Asian, 3 as Native American, 1 as "Other", and 32 as multiracial. The sample was evenly split in terms of gender; 263 self-identified men and 271 self-identified women (51%). The sample was predominantly straight, with 482 participants self-identifying as straight, 32 self-identifying as bisexual, 11 self-identifying as gay or lesbian, two self-identifying as pansexual, one self-identifying as asexual, and six declining to respond. In terms of age, 165 participants were between 18-34 years of age, 188 participants were between 35-54 years of age, and 181 participants were 55 or older.

Procedure

After participants completed various tasks in a separate study on meta-perceptions of group dynamics, they separately gave consent for the present study, framed as a study on "general beliefs about different social groups." Participants completed the explicit stereotype knowledge measure and the occupation choice task in a fixed order before completing additional demographic questions and reading the debriefing.

Measures

Stereotype Knowledge. Participants were assigned one comparison group and responded to two[1] statements about the relative mathematical, verbal, and leadership abilities of the group members in a randomized order for a total of six questions. Specifically, participants responded to "Regardless of what you believe, to what extent do you think the average person would agree with the following statements?" on a 1 (Strongly disagree) – 7 (Strongly Agree) scale. Statement A read, "It is possible that [Target 1] have more [math/verbal/leadership] ability than [Target 2]," and Statement B read, "In general, [Target 1] may be better than [Target 2] at [math/verbal tasks/leadership tasks]". "Target 1" and "Target 2" were randomly assigned to be "gay men", "straight men", "lesbian women", and "straight women" for 12 possible combinations. We used the phrase "average person" to reduce demand characteristics but recognize this wording likely over-represents the assumed beliefs of majoritized individuals (e.g., White, male, affluent people from the United States).

We recoded the responses such that Target 1 was always the more stereotypically "masculine target", first by gender, then by sexual orientation. Thus Target 1 was "Gay men", "Straight men", "Gay men", "Straight Men", "Lesbian women", and "Straight men" when Target 2 was "Lesbian women", "Gay men", "Straight women", "Lesbian women", "Straight women", and "Straight women", respectively. Responses greater than the midpoint (i.e., four) represented an agreement that there is a stereotype in favor of Target 1 (the more masculine target of the pair), while responses less than the midpoint represented an agreement that there is a stereotype in favor of Target 2 (the less masculine target of the pair). We analyzed the data for each target comparison separately, running *t*-tests on the difference between the average stereotype

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[1] There was a third statement that was worded in the reverse direction: "Stereotypes about [Person 1] being worse at [math/verbal tasks] than [Person 2] tend to be true". However, after reverse-coding the items to be in line with the other statements, it loaded poorly with the other three items, suggesting that the reverse coding was confusing to participants. Thus, we decided not to include the item in the analyses.

acknowledgment level and the middle of the scale (i.e., "neither agree or disagree"). We used the *p.adjust* function in *R* (R Core Team, 2021) to control for Type I error using Holm corrections and had the sensitivity to detect a Cohen's d of 0.31 with 80% power and an alpha level of .05 (Erdfelder et al., 1996).

Occupation Choice Task. We told participants they would see two people and a career category, and their task was to select whom they thought "the average American would choose to be more successful in the given career". Participants completed 18 trials where they answered, "Who would be more successful as a/an [OCCUPATION]" for each of the forced-choice pairings between binary gender and sexual orientation categories. There was a total of three occupations that mirrored the stereotype knowledge questions, including mathematician, English teacher, and business executive. We analyzed the responses using Bradley-Terry models (Turner & Firth, 2012) for paired comparison data. "Straight men" was the referent target.

Results

Stereotype Knowledge

Starting with stereotypes about mathematical ability, participants did not agree that the average person had stereotypes regarding the mathematical abilities of straight men compared to straight women ($M = 3.89$, $SD = 1.47$, $t(88) = -0.69$, $p = .999$, $d = 0.07$), gay men compared to lesbian women ($M = 3.94$, $SD = 1.65$), $t(85) = -0.33$, $p = .999$, $d = 0.04$), straight men compared to gay men ($M = 4.12$, $SD = 1.81$), $t(93) = 0.66$, $p = .999$, $d = 0.07$), nor lesbian women compared to straight women ($M = 4.03$; $SD = 1.89$, $t(90) = 0.14$, $p = .999$, $d = 0.01$), as the mean stereotype knowledge levels weren't significantly different from the midpoint. However, participants slightly *disagreed* that there is a stereotype that gay men are better at math than straight women ($M = 3.43$, $SD = 1.74$, $t(88) = -3.08$, $p = .014$, $d = 0.33$), while they slightly

agreed that straight men are better at math than lesbian women ($M = 4.57$; $SD = 1.56$, $t(84) = 3.38$, $p = .007$, $d = 0.37$).

Stereotypes of verbal and leadership ability mirrored the aforementioned pattern. Again, participants did not agree that the average person had stereotypes regarding the verbal ability of the same four gender-pairings above (Ms ranged between $3.78 – 4.13$, ts between $|.42| – |1.30|$, ps between $.790 – .999$, and ds between $0.04 – 0.14$). However, they slightly *disagreed* that there is a stereotype that gay men are better at verbal tasks than straight women ($M = 3.47$, $SD = 1.76$, $t(88) = -2.86$, $p = .032$, $d = 0.30$), while they slightly *agreed* that straight men are better at verbal tasks than lesbian women ($M = 4.45$, $SD = 1.56$), $t(84) = 2.64$, $p = .050$, $d = 0.29$). Similarly, participants did not agree that the average American had stereotypes regarding the leadership ability of the same four gender-pairings above (Ms ranged between $3.84 – 4.30$, ts between $|.22| – |1.58|$, ps between $.468 – .999$, and ds between $0.02 – 0.16$), yet, slightly *disagreed* that there is a stereotype that gay men are better at leadership tasks than straight women ($M = 3.39$, $SD = 1.85$, $t(88) = -3.12$, $p = .012$, $d = 0.33$), and slightly *agreed* that straight men are better at leadership tasks than lesbian women ($M = 4.62$, $SD = 1.41$, $t(84) = 4.05$, $p < .001$, $d = 0.44$).

Occupation Choice Task

There was limited evidence of gender inversion, which we defined as significant gender differences for both straight and gay/lesbian targets, with the direction of the gender difference being in opposite directions across sexual orientation. Participants overwhelming held a preference that straight men would be successful mathematicians. Straight men were preferred 4.5 to 1 compared to lesbian women, 3.9 to 1 compared to gay men, and 2 to 1 compared to straight women. Straight men were also the preferred successful business executive; they were preferred 2.4 to 1 compared to straight women, 5.5 to 1 compared to lesbian women, and 6.5 to 1

compared to gay men. In contrast, straight women were the preferred successful English teacher, preferred 2.5 to 1 compared to straight men, 3.5 to 1 compared to lesbian women, and almost 5 to 1 compared to gay men.

Discussion

Overall, we did not find support for Hypothesis 1 regarding gender inversion. Gay men were not seen as having similar competencies as straight women in terms of mathematical, verbal, or leadership abilities, nor were lesbian women seen as having similar competencies as straight men. Furthermore, although we did see some evidence of gendered role expectation in assumptions about the competencies of straight men and women, there wasn't strong evidence of gender inversion regarding the competencies of gay men and lesbian women. Participants were hesitant to explicitly state their knowledge regarding competence stereotypes when targets shared one gender and/or sexual orientation identity (e.g., a gay male – straight male pairing). However, when these identities were fully crossed (e.g., a gay male – straight woman pairing), participants believed there was a stereotype that gay men and lesbian women are worse at mathematical, verbal, and leadership tasks compared to their cross-gender straight counterparts. In the occupation choice task, gay men and lesbian women were assumed to be the least successful in the three domains tested. The results of this study were more in line with our second hypothesis, that the low status of gay men and lesbian women translates into reduced competence expectations.

Study 1B: Competencies in Twelve Occupations

Study 1A showed initial evidence that individuals' competence expectations of gay men and lesbian women are rooted in societal status rather than inverted gender roles. Study 1A had several limitations, however, that we address in Study 1B. First, Study 1A used a small set of

occupations that are gendered and high-status in the United States. In this study, we piloted a series of occupations to deliberately include a greater number of both low- and high-status occupations (see supplementary materials for pilot results). Second, we assessed perceptions of competence in Study 1A by asking participants, "Who would be more successful as a/an [OCCUPATION]?" While we intended to assess whether gay/lesbian or straight men and women are perceived to have different levels of ability to succeed in each occupation, we cannot rule out an alternative interpretation. Participants might instead be assessing whether these targets are *allowed* to be successful in these positions. In other words, we could be assessing third-party prejudice (Vial et al., 2019), or participants' expectations regarding whether these targets will experience discrimination in different domains. For example, gay men might be equally capable of being a mathematician as straight men, but participants could believe that gay men will likely face discrimination in their jobs, making them less successful than if they didn't face such barriers. To address this, we changed the wording of the question in Study 1B to tap into perceptions of innate ability more directly. There is also an outstanding question as to what could be driving these results. Thus, we assessed three moderators that could be important drivers: participants' levels of sexual prejudice towards gay men and lesbian women, the status of the occupation, and people's feelings of warmth towards each target.

We had the same hypotheses as in Study 1A. We expected to replicate previous work showing that people expect straight men to be better in *masculine* occupations than straight women, while straight women are presumed to be better in *feminine* occupations than straight men. However, we have divergent hypotheses regarding how competent people expected gay men and lesbian women to be, based on inverted gender roles versus status roles. In terms of our moderators, we expected that the more sexually prejudiced participants were, the higher status

they would believe the occupation to be, and the less they liked gay men and lesbian women, the less likely they would see gay men and lesbian women as competent in any occupation.

Methods

Participants

We recruited a convenience sample of 300 participants from Prolific Academic. Twenty-eight participants did not finish the study and were thus, removed, and there were three spam responses removed as well. Finally, one participant indicated they didn't pay attention when filling out the survey, leaving us with a total of 278 participants. The sample consisted of 118 self-identified men, 127 self-identified women, four non-binary individuals. Two participants selected "something not listed" and 27 responses were missing. In terms of age, the mean of the sample was 33.33, $SD = 12.33$. The sample self-identified predominantly as White ($n = 181$), with 19 participants self-identifying as Black, ten as East-Asian, six as South Asian, nine as Latino, two as Native American, one as "Other", and 23 as multiracial. There were 27 participants who declined to provide any racial information. Finally, the sample was predominantly straight, with 191 participants identifying as straight, 26 as bisexual, nine as gay or lesbian, nine as pansexual, five as asexual, five as queer, and three as questioning. Three participants indicated they would prefer not to answer the question, while 27 failed to respond at all.

Procedure

After participants consented to the study, they completed, in order, the occupation choice task slightly modified from Study 1A, the sexual prejudice scale, the occupation status questionnaire, feeling thermometers towards gay and straight men and women, and brief demographics before reading the debriefing.

Measures

Occupation Choice Task. We told participants they would see two people and a career category, and their task was to select whom they thought "the average American would think has the greater ability to be more successful in the given career." We explicitly defined ability as "people's internal potential to do a job well." Participants completed 72 trials where they answered, "Who has more ability to be, or who would be better at being, [OCCUPATION]" for each of the force-choice pairings between the binary gender and sexual orientation. There were 12 occupations in total, including actor, architect, coffee shop barista, engineer, English teacher, housekeeper, human resource manager, janitor, mathematician, physical therapist, politician, and truck driver.

Sexual Prejudice. Participants' level of sexual prejudice towards both gay men and lesbian women was measured using the thirty-item Sexual Prejudice Scale (Chonody, 2013), anchored from 1 (Strongly Disagree) to 7 (Strongly Agree). Higher numbers indicated more prejudice. While there are three subscales (i.e., stereotyping, affective valuation, and social equality),we used the composite scale in the analyses. Sample items included "Most gay men are promiscuous," and "I disapprove of lesbians." The scale was reliable, with a Cronbach's alpha of .98 and a mean of 2.41, $SD = 1.30$.

Status of Occupations. Participants rated how high or low status they thought each of the presented occupations were in America on 0 (Extremely low status) – 100 (Extremely high status) point sliders. The status of the occupations differed, with the lowest status assigned to "Janitor" ($M = 29.08$) and the highest status assigned to "Engineer" ($M = 81.38$).

Feeling Thermometers. Participants indicated how warmly or coldly they felt towards gay men, lesbian women, straight men, and straight women on sliding scales anchored at

Extremely Coldly (-50), Neutral (0), and Extremely Warmly (50). Running a within-subject one-way ANOVA with Tukey-adjusted posthoc comparisons, we find that participants felt the least amount of warmth for straight men ($M = 20.56$), followed by gay men ($M = 23.30$), lesbian women ($M = 24.98$), and straight women ($M = 30.98$). Participants felt significantly more warmth towards straight women compared to all other targets, ts > 3.53, ps < 0.047, ds > 0.31, while participants felt significantly warmer towards lesbian women compared to straight men only, $t(747) = 2.60$, $p = .047$, $d = 0.23$. All other comparisons were not significant, ts <1.62, ps > .370, ds < .15.

Analytic Strategy

We ran a fully within-subject 2(Target Gender: Man, Woman) x 2(Target Sexual Orientation: Gay/Lesbian, Straight) x 12(Occupation: Actor, Architect, Coffee Shop Barista, etc…) multinomial regression predicting participants' choice of the target with the greatest ability. We first ran the three-way interaction model with Target Gender, Target Sexual Orientation, and Occupation as fixed effects and Participant ID as a random effect, with each variable effects-coded (i.e., with "Man", "Straight", and "Truck Driver" as reference categories, respectively). To assess the impact of our moderators (i.e., sexual prejudice, occupational status, and feeling thermometers), we ran separate three-way interaction models with Target Gender, Target Sexual Orientation, and the moderator as fixed effects and included Occupation and Participant as random effects. In terms of our continuous moderators, Sexual Prejudice was grand mean-centered, Occupational Status was person-mean-centered, and Feeling Thermometers was not centered because the scale had a meaningful zero point. Finally, we calculated overall effects using Wald Tests, and all planned comparisons are controlled for

multiple comparisons. Zero-order correlations among the prejudice and feeling thermometer

ratings can be found in Table 1.

Results

Table 1

Zero-order Correlations between Prejudice and Feeling Thermometer Ratings in Study 1B

	Correlations									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1. Sexual Prejudice [a]	—									
2. Sexual Prejudice: Stereotypes [a]	.87***	—								
3. Sexual Prejudice: Valuation [a]	.96***	.74***	—							
4. Sexual Prejudice: Equality [a]	.89***	.65***	.84***	—						
5. Gay Men Feeling Thermometer [b]	-.70***	-.53***	-.71***	-.66***	—					
6. Lesbian Women Feeling Thermometer [b]	-.70***	-.57***	-.67***	-.66***	.86***	—				
7. Straight Men Feeling Thermometer [b]	.13*	.10	.15*	.11	.12	.16*	—			
8. Straight Women Feeling Thermometer [b]	-.14*	-.17**	-.10	-.13*	.40***	.48***	.56***	—		
9. Political Views [a]	.62***	.49***	.61***	.57***	-.41***	-.41***	.18**	-.01	—	
10. Gender [c]	-.16*	-.19**	-.13*	-.12	.21***	.18**	-.14*	.00	.03	—
11. Age	.21***	.12	.23***	.21***	-.11	-.15*	.17**	-.05	.26***	.09

*Note: *p < .05. **p < .01. ***p < .001.*
[a] *scales anchored at 1-7*
[b] *scales anchored at -50 – 50*
[b] *gender is coded with male = 0, female = 1*

Impact of Gender, Sexual Orientation, and Occupation on the Ability Perceptions

There was the hypothesized significant interaction between Target Gender and Target

Sexual Orientation, X^2 (1, $N = 278$) $= 7.00$, $p = .008$ (Table S2). Participants were less likely than

chance to choose a gay man ($b = .430$, 95%CI[.419, .440]) or a lesbian woman ($b = .422$,

95%CI[.411, .432]) and more likely to choose a straight man ($b = .603$, 95%CI[.591, .615]) and

woman (b = .567, 95%CI[.556, .557]) as the target with greater ability. There was a significant

difference between a straight man and woman, OR = 1.16, z = 4.51, p < .001, with the straight

man having a higher probability of being chosen than a straight woman; however, there was not

a significant difference in the probability of a gay man, or a lesbian woman, being chosen, OR =

1.03, z = 1.05, p = .721.

The specific occupation nuanced these findings, X^2 (11, N = 278) = 1596.94, p < .001 (Figure 1).

While there was only one occupation for which gay men *or* lesbian women were seen as having greater

ability beyond chance responding (i.e., Coffee Shop Barista), there was evidence of gender inversion —

gender differences for gay/lesbian and straight targets that went in opposite directions —for three

occupations: Coffee Shop Barista, Janitor, and Truck Driver. Gay men were seen as having greater

ability than lesbian women to be a coffee shop barista (OR = 1.81, z = 5.64, p < .001), but straight men

were seen as having less ability than straight women (OR = 0.16, z = -15.87, p < .001). Gay men were

seen as having less ability than lesbian women to be a janitor (OR = 0.63, z = -4.32, p < .001) and a

truck driver (OR = 0.41, z = -8.21, p < .001), but straight men were seen as having greater ability for

both occupations compared to a straight woman (Janitor: OR = 7.43, z = 16.59, p < .001; Truck driver:

OR = 16.02, z = 20.14, p < .001).These occupations were perceived as some of the lowest-status

occupations, occupying the tenth, twelfth, and ninth spots out of a total of 12, respectively. Finally,

while there was a single occupation for which straight men and women were seen as having equal ability

(Actor: OR = 0.92, z = -0.78, p = .864), there were six occupations for which gay men and lesbian

women were seen as having equal ability (i.e., Engineer: OR = 0.88, z = -1.13, p = .668; English

Teacher: OR = 0.86, z = -1.46, p = .464; Housekeeper: OR = 1.04, z = 0.36, p = .984; Human Resource

Manager: OR = .78, z = -2.42, p = .073; Physical Therapist: OR = 0.90, z = -1.04, p = .725; and

Politician: OR = 0.99, z = -0.11, p = .999).

Figure 1

Interaction between Target Sexual Orientation, Target Gender, and Occupation on the Probability of Being Chosen as Target with Higher Ability in Study 1B
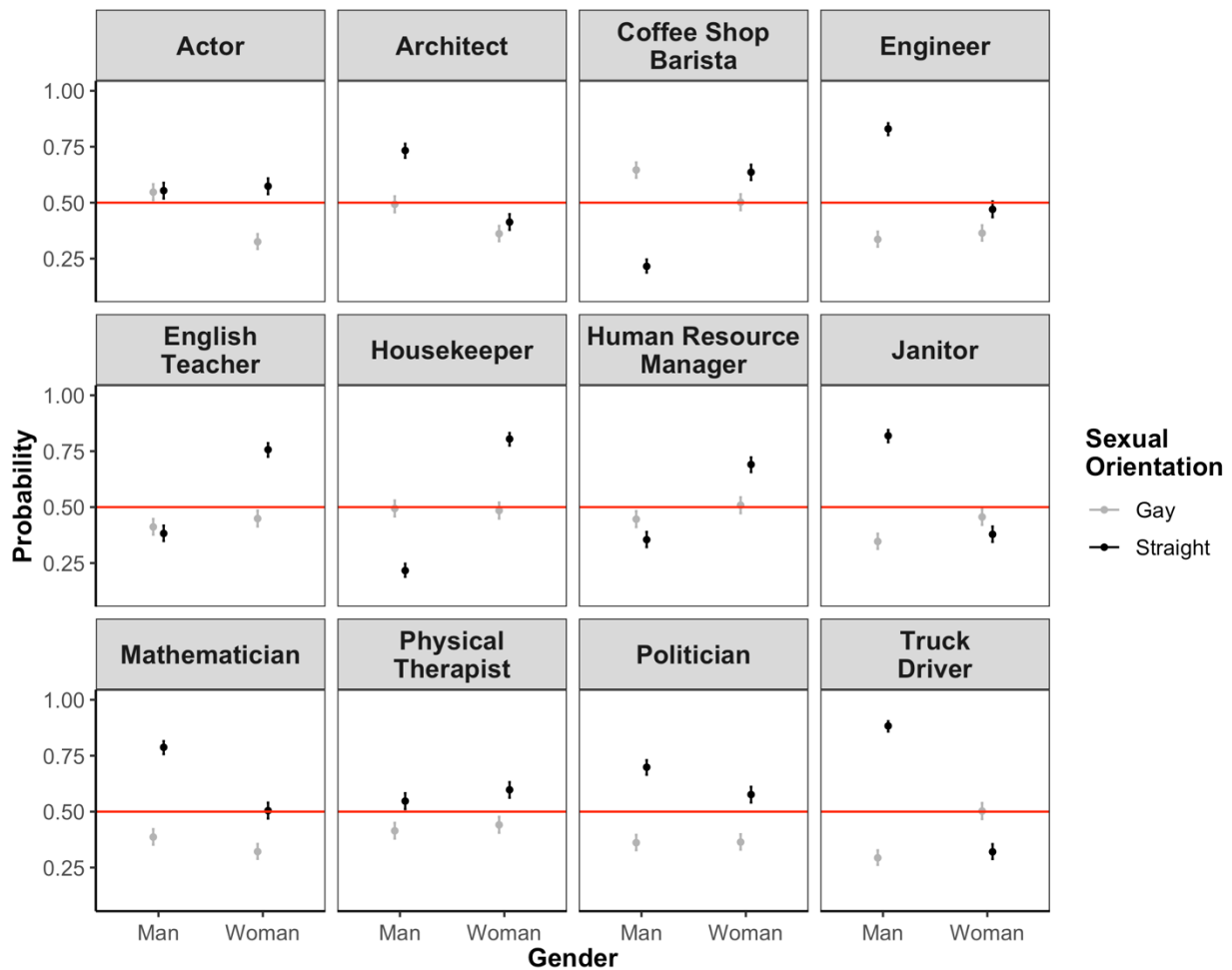
Moderators

Sexual Prejudice. There was a significant interaction between Sexual Prejudice, Target Gender, and Target Sexual Orientation, X^2 (1, $N = 278$) = 24.04, $p < .001$. As participants' sexual prejudice increased, they were more likely to choose a straight man ($b = .39$, 95%CI[.34, .43]) and a straight woman ($b = .12$, 95%CI[.08, .15]) as having higher ability (collapsing across all

occupations) than either a gay man ($b = -.17$, 95%CI[-.20, -.14]) or a lesbian woman ($b = -.25$, 95%CI[-.29, -.22]). However, the positive relationship between sexual prejudice and the probability of being chosen was stronger for straight men than for straight women, $z = 9.62$, $p < .001$, and the negative relationship between sexual prejudice and the probability of being chosen was more negative for lesbian women compared to gay men, $z = 3.43$, $p = .003$.

Status of Occupations. Similar to sexual prejudice, there was a significant interaction between Occupational Status, Target Gender, and Target Sexual Orientation, $X^2(1, N = 278) = 4425.75$, $p < .001$. As participants' subjective ratings of the occupations' overall status increased, participants were more likely to choose a straight man ($b = .006$, 95%CI[.003, .008]) as the target with greater ability and less likely to choose either a gay man ($b = -.003$, 95%CI[-.005, -.0002]) or a lesbian woman ($b = -.003$, 95%CI[-.006, -.001]). Occupational status was not related to the likelihood of choosing a straight woman ($b = -.0004$, 95%CI[-.003, .002]). The occupational status slope for choosing a straight man was significantly different from all other target slopes, zs > 3.01, ps $< .010$ which did not differ from each other.

Feeling Thermometers. There was a significant interaction between Feeling Ratings, Target Gender, and Target Sexual Orientation, $X^2 (1, N = 278) = 24.04$, $p < .001$. As participants rated the target as warmer, they were more likely to choose that target. However, this relationship was more strongly positive for straight men ($b = .016$, 95%CI[.015, .018]) than for gay men ($b = .006$, 95%CI[.004, .008]), lesbian women ($b = .008$, 95%CI[.007, .010]), and straight women ($b = .006$, 95%CI[.004, .008]), zs > 6.30, ps $< .001$, who did not differ from one another.

Discussion

In this study, we sought to replicate and extend Study 1A, which examined competence stereotypes of gay men, lesbian women, straight men, and straight women. Overall, we replicated findings from Study 1A. Participants believed a straight man had greater ability overall than a straight woman, whereas gay men and lesbian women were seen as having less ability than chance. Furthermore, the gender differences between gay men and lesbian women were minuscule or nonexistent. In addition, each one of our moderators — sexual prejudice, occupational status, and feeling ratings — was significant. Across all three moderators, participants' responses on those scales primarily benefited straight men and hurt lesbian women. The more sexually prejudiced the participants were, the more they rated a job as being of higher status, and the more they liked the targets, the more they chose straight men as the target with the highest ability.

Study 1C: Competencies in Twelve Occupations As Expected by Gay/Lesbian and Straight Participants

In Study 1C, we replicated Study 1B and pre-registered our hypotheses and data analysis plan. We also recruited the same number of gay and lesbian participants as straight participants to ask, "Are gay men and lesbian women also less likely to choose gay/lesbian targets as the ones with greater ability in a variety of occupations?" We pre-registered that we would replicate our previous findings in support of Hypothesis 2 (Status-Roles) such that straight participants would be more likely to choose the straight targets over the gay and lesbian targets, with a bias towards choosing straight men over straight women. We were ambivalent as to whether gay men and lesbian women's responses would conform to inversed gender-roles or status roles. Gay men and lesbian women should be aware of the gender-inverted nature of descriptive stereotypes about their group and thus might believe competence stereotypes also follow a gender-inverted pattern.

However, gay men and lesbian women have likely experienced discrimination in ways that do not conform to those expectations, making them more likely to perceive that being queer is broadly stigmatizing regardless of one's gender. From this second perspective, gay men and lesbian women might report stereotypes in line with Hypothesis 2. We again expected our moderators (i.e., the status of the occupation, people's sexual prejudice, and people's overall warmth towards each target) to impact competence expectations, regardless of participants' sexual orientation.

Methods

Participants

We recruited a convenience sample of 300 straight men and women as well as 300 gay men and lesbian women from Prolific. We removed participants who didn't finish the study in addition to participants who indicated they didn't pay attention while filling out the survey. That left us with an initial sample of 654 participants. We further restricted our sample to participants who identified either as straight ($n = 234$) or gay/lesbian ($n = 277$). As we pre-registered to continue to recruit subjects if either subsample went below 250, we recruited an additional 40 straight participants into the study for a final total of 258 self-identified straight participants and 276 self-identified gay/lesbian participants.

Our final sample consisted of 287 self-identified women, 304 men, 33 non-binary people, five who indicated "something not listed" and no missing responses. The sample self-identified predominantly as White ($n = 434$) with 37 participants self-identifying as Black, 23 as East Asian, 17 as South Asian, 37 as Latino, two as Middle-Eastern, one as Native-American, eight as "other", and 70 as multiracial. While we restricted our analysis to just straight or gay/lesbian participants, there were 95 participants who identified as bisexual, pansexual, asexual, queer, or

questioning. The mean age of the sample was 32.23, *SD* = 12.27, and predominantly members of the Democratic party (*n* = 458).

Procedure and Measures

The procedure and measures were identical to Study 1B. The sexual prejudice scale was reliable with a Cronbach's alpha of .97 and a mean of 1.89, *SD* = 0.96. Not surprisingly, gay/lesbian participants (*M* = 1.59) reported less prejudice than straight participants (*M* = 2.32), $t(334.79) = 8.85$, $p < .001$, $d = 0.79$. Similar to Study 1B, the lowest status occupation was thought to be a Janitor (*M* = 23.91) while the highest status occupation was thought to be an Engineer (*M* = 81.97). The feeling thermometer ratings differed from Study 1B, however. Running a within-subject one-way ANOVA and adjusting for posthoc comparisons, we found that participants felt the least amount of warmth for straight men (*M* = 9.21), followed by straight women (*M* = 29.56), gay men (*M* = 31.14), and lesbian women (*M* = 33.40). Participants felt significantly less warmth towards straight men compared to all other targets, $t\text{s} > 17.55$, $p\text{s} < .001$, $d\text{s} > 0.99$, while lesbian women were significantly warmer than straight women only, $t(1884) = 3.31$, $p = .005$, $d = 0.19$. All other comparisons were not significant, $t\text{s} < 1.95$, $p\text{s} > .209$, $d\text{s} < 0.11$.

Analytic Strategy

Our analytic strategy was identical to Study 1B, although here we ran a four-way initial model instead of a three-way initial model to include a fixed effect of Participant Sexual Orientation. We ran a within-between subjects' multinomial regression, interacting Target Gender (2: Man, Woman), Target Sexual Orientation (2: Gay/Lesbian, Straight), Occupation (12: Actor, Architect, Coffee Shop Barista, etc.…), as well as Participant Sexual Orientation (2: Gay/Lesbian, Straight) to predict participants' choice of the target with greater ability.

Participant Sexual Orientation was the only between-subjects factor, while all other factors were within-subjects. We effects-coded variables in the same way as in Study 1B, as well as effects-coded Participant Sexual Orientation. "Straight" also served as the reference category for Participant Sexual Orientation. To assess the impact of the moderators, again Occupation was included as a random effect instead of a fixed effect, with Target Gender, Target Sexual Orientation, and newly Participant Sexual Orientation as fixed effects with a single moderator. Thus, there were three separate four-way interaction models to assess the impact of our moderators. Zero-order correlations can be found in Table 2, with straight participants represented below the diagonal and gay and lesbian participants above the diagonal.

Results

Table 2

Zero-order Correlations between Prejudice and Feeling Thermometer Ratings in Study 1C

	Correlations										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1. Sexual Prejudice [a]	—	.85***	.82***	.77***	-.29***	-.55***	.20***	-.11	.36***	-.24***	.02
2. Sexual Prejudice: Stereotypes [a]	.86***	—	.46***	.43***	-.23***	-.43***	.12	-.11	.31***	-.23***	.01
3. Sexual Prejudice: Valuation [a]	.96***	.72***	—	.68***	-.25***	-.51***	.22***	-.06	.34***	-.17**	.04
4. Sexual Prejudice: Equality [a]	.91***	.68***	.83***	—	-.24***	-.44***	.18**	-.07	.29***	-.17**	.01
5. Gay Men Feeling Thermometer [b]	-.63***	-.50***	-.61	-.61***	—	.42***	.19**	.32***	-.14*	-.11	.11
6. Lesbian Women Feeling Thermometer [b]	-.63***	-.53***	-.61***	-.58***	.86***	—	-.15	.39***	-.24***	.33***	-.17**
7. Straight Men Feeling Thermometer [b]	.09	.06	.10	.10	.21***	.27***	—	.30***	.22***	-.38***	.34
8. Straight Women Feeling Thermometer [b]	.08	.10	.06	.05	.30***	.43***	.61***	—	.00	.04	.11
9. Political Views [a]	.64***	.52	.63***	.57***	-.51***	-.44***	.15*	-.02	—	-.10	.08
10. Gender [c]	-.19**	-.23***	-.14*	-.18**	.26***	.19**	-.19**	-.06	-.14*	—	-.19**
11. Age	-.01	-.13*	.04	.03	.02	.03	.13*	.00	.15*	.11	—

Note: Straight participants are represented below the diagonal while gay and lesbian participants are represented above the diagonal. $*p < .05. **p < .01. ***p < .001.$
[a] scales anchored at 1-7
[b] scales anchored at -50 – 50
[c] gender is coded with man = 0, woman = 1

Impact of Target Gender, Target Sexual Orientation, Participant Sexual Orientation, and Occupation on Ability Perceptions

As in Study 1B, there was a significant interaction between Target Gender and Target Sexual Orientation (Table S3), $X^2 (1, N = 629) = 14.30, p < .001$. Participants were less likely than chance to choose a gay man ($b = .45, 95\%CI[.45, .46]$) or a lesbian woman ($b = .47, 95\%CI[.46, .47]$) as the target with greater ability, and more likely than chance to choose a straight man ($b = .56, 95\%CI[.55, .56]$) and woman ($b = .54, 95\%CI[.53, .55]$). Again, there was no significant difference in the probability of a gay man or a lesbian woman being chosen, $OR = .95, z = -2.19, p = .125$, but there was a significant difference between a straight man and woman, $OR = 1.08, z = 3.13, p = .010$, with the straight man having a higher probability of being chosen as the target with greater ability than the straight woman.

Both Participant Sexual Orientation, $X^2 (1, N = 629) = 12.46, p = .001$, and Occupation, $X^2 (11, N = 629) = 4137.92, p < .001$, nuanced this finding. The four-way interaction was not significant; $X^2 (11, N = 629) = 15.78, p = .149$. For Participant Sexual Orientation, again, straight participants showed a bias in choosing a straight man ($b = .64, 95\%CI[.63, .65]$) over a straight woman ($b = .58, 95\%CI[.57, .59]$), $OR = 1.30, z = 7.39, p < .001$, who were both chosen at greater frequencies than gay men ($b = .41, 95\%CI[.40, .42]$) or lesbian women ($b = .41, 95\%CI[.40, .42]$). There was not a difference in the likelihood of being chosen between gay man and lesbian woman targets, $OR = 1.03, z = 0.93, p = .788$. In contrast, there was no interaction between Target Gender and Target Sexual Orientation for gay and lesbian participants (Diff of Diff = -0.01, $z = -0.22, p = .829$) but rather two main effects. They were more likely to choose

the gay/lesbian targets over the straight targets, $OR = 1.11$, $z = 5.04$, $p < .001$, and less likely to choose men over women, $OR = 0.89$, $z = -5.37$, $p < .001$, demonstrating a bias towards choosing the marginalized target over the privileged one.

The interaction between Target Gender and Target Sexual Orientation again depended on the specific occupation (Figure S5). First, there was gender inversion for five occupations (Actor, Coffee Shop Barista, Engineer, Janitor, and Truck Driver), three of which were the same as in Study 1B. Gay men were seen as having greater ability than lesbian women to be an actor ($OR = 2.06$, $z = 9.92$, $p < .001$) and a coffee shop barista ($OR = 1.46$, $z = 5.04$, $p < .001$), while straight men were seen as having less ability than straight women in the same occupations (Actor: $OR = 0.53$, $z = -8.69$, $p < .001$; Coffee Shop Barista: $OR = 0.14$, $z = -22.85$, $p < .001$). In contrast, gay men were seen as having less ability than lesbian women in being an engineer ($OR = .80$, $z = -3.10$, $p = .010$), a janitor ($OR = 0.54$, $z = -8.37$, $p < .001$), and a truck driver ($OR = 0.27$, $z = -17.24$, $p < .001$) while straight men were seen as having greater ability than straight women in the same occupations (Engineer: $OR = 5.94$, $z = 21.71$, $p < .001$; Janitor: $OR = 8.24$, $z = 25.25$, $p < .001$; Truck Driver: $OR = 21.85$, $z = 31.02$, $p < .001$).

Even still, there were few occupations for which either a gay man or a lesbian woman's chances of being seen as having greater ability were above chance. Gay men were above chance at being chosen as the target with greater ability for an actor ($b = .53$, 95%CI[.51, .55]) and coffee shop barista ($b = .68$, 95%CI[.66, .71]), while lesbian women were above chance for coffee shop barista ($b = .60$, 95%CI[.57, .62]) and truck driver ($b = .59$, 95%CI[.57, .61]). All other 95% CIs for gay men and lesbian women either excluded 0.5 and were less than 0.5, or included 0.5. Finally, while there was a single occupation for which straight men and women were seen as having equal ability (i.e., Physical Therapist: $OR = 1.03$, $z = 0.40$, $p = .978$), there

were three occupations for which gay men and lesbian women were seen as having equal ability (i.e., English Teacher: $OR = 0.94$, $z = -0.81$, $p = .850$, Housekeeper: $OR = 1.03$, $z = 0.46$, $p = .967$, and Politician: $OR = 1.02$, $z = 0.31$, $p = .990$).

The Moderating Role of Sexual Prejudice, Occupational Status, and Feeling Thermometers

Sexual Prejudice. While there was a significant interaction between Sexual Prejudice, Target Gender, and Target Sexual Orientation, X^2 (1, $N = 629$) $= 31.28$, $p < .001$, Participant Sexual Orientation nuanced the findings in a significant four-way interaction, X^2 (1, $N = 629$) $= 14.36$, $p < .001$. Comparing gay/lesbian participants to straight participants for all targets, we saw that the relationship between sexual prejudice and the likelihood of choosing a target differed between gay/lesbian participants and straight participants for lesbian targets and gay targets. As participants' sexual prejudice increased, straight and gay/lesbian participants were equally as likely to choose the straight man (Straight participants: $b = .22$, 95%CI[.18, .26]; Gay/Lesbian participants: $b = .22$, 95%CI[.14, .30]; $z = 0.063$, $p = .950$) and the straight woman (Straight participants: $b = .12$, 95%CI[.08, .15]; Gay/Lesbian participants: $b = .04$, 95%CI[-.04, .11]; $z = 1.87$, $p = .061$) more, although the overall relationship between sexual prejudice and choosing the straight woman for gay/lesbian participants was not significant. In contrast, as sexual prejudice increased, gay/lesbian participants were more likely to choose the gay man ($b = .09$, 95%CI[.01, .16]) while straight participants were less likely to choose the gay man ($b = -.16$, 95%CI[-.19, -.12]). This difference in slope direction was significant, $z = -5.55$, $p < .001$. Finally, while both straight ($b = -.17$, 95%CI[-.20, -.14]) and gay/lesbian ($b = -.34$, 95%CI[-0.42, -.26]) participants were less likely to choose the lesbian woman as a function of increased sexual prejudice, that relationship was stronger for gay/lesbian participants than it was for straight participants, $z = 3.75$, $p < .001$.

Status of Occupations. Similar to Sexual Prejudice, the four-way interaction between Occupational Status, Target Gender, Target Sexual Orientation, and Participant Sexual Orientation was significant, X^2 (1, N = 629) = 13.77, p < .001. Comparing the relationship between occupational status and how straight and gay/lesbian participants chose targets, we find differences for gay man, straight man, and lesbian woman targets. While neither slope was significant, as participants' beliefs about the overall status of the occupations increased, the *less* likely straight participants chose the gay man, b = -.001, 95%CI[-.003, .0004], while gay/lesbian participants were *more* likely to choose this target, b = .001, 95%CI[-.0003, -.003], z = -2.15, p = .032. In contrast, both straight (b = .014, 95%CI[.012, .016]) and gay/lesbian (b = .007, 95%CI[.005, .008]) participants were more likely to choose the straight man the more they believed the occupation had status in America. However, the effect was stronger amongst straight participants compared to gay/lesbian participants, z = 6.60, p < .001. Finally, while both straight (b = -.010, 95%CI[-.012, -.008]) and gay/lesbian (b = -.005, 95%CI[-.007, -.004]) participants were less likely to choose the lesbian woman the more they believed the occupation had status in America, the effect was twice as strong amongst straight participants compared to gay/lesbian participants, z = -4.40, p < .001.

Feeling Thermometers. Finally, the four-way interaction between Feeling Ratings, Target Gender, Target Sexual Orientation, and Participant Sexual Orientation was significant, X^2 (1, N = 629) = 7.37, p = .007. For all participants and targets, the warmer participants saw the target, the more likely they were to select them as the target with greater ability. Comparing gay/lesbian participants to straight participants, however, we see that the relationship between feeling ratings and the likelihood of choosing the lesbian woman as the one with greater ability

was twice as strong in gay/lesbian participants ($b = .014$, 95%CI[.011, .016]) than in straight

participants ($b =.007$, 95%CI[.006, .009]), $z = 4.03$, $p < .001$.

Discussion

In this study, we sought to replicate and extend Studies 1A and 1B by pre-registering our

findings and including gay and lesbian participants. Overall, we replicated our past findings with

straight participants, as they were mostly likely to choose a straight man as the target with

greater ability compared to a straight woman, while both the gay man and lesbian woman targets

were chosen less than chance. Newly, we were able to compare gay and lesbian participants to

straight participants. Instead of mirroring straight participants, gay and lesbian participants were

most likely to choose a lesbian woman, and the least likely to choose a straight man, as the one

with greater ability, with gay male and straight female targets chosen at chance. Thus, not only

were gay and lesbian participants less biased than straight participants overall, but they also

slightly favored women and gay/lesbian targets, unlike straight participants.

Furthermore, while participants' sexual orientation moderated the influence of sexual

prejudice, beliefs about the status of the occupations, and liking of targets on participants'

responses, gay and lesbian participants still showed similar biases as straight participants. The

more sexually prejudiced gay and lesbian participants were, the less likely they were to select

lesbian women specifically, even more so than straight participants. The more status gay and

lesbian participants thought a given occupation had, the more likely they were to select the

straight man, albeit not to the same degree as straight participants. And finally, while gay and

lesbian participants' feeling ratings showed the strongest positive relationship with choice for

lesbian women targets, it was because those who liked them the least penalized them the most. In

sum, for both gay/lesbian and straight participants, our moderators bolstered the chances of the

straight man to be seen as competent and undermined the competence expectations of the lesbian woman.

Study 2: Competencies in Skills

Studies 1A – 1C provided consistent evidence that status roles, and not inverted gender roles, guide people's beliefs about the competencies of gay men and lesbian women. Study 2 examines one potential cause, namely, whether people assume gay men and lesbian women are relatively incompetent compared to straight men and women at the underlying skills that relate to occupational success. If we find that people still perceive gay men and lesbian women to have less ability on various skills, that suggests this phenomenon is more deeply rooted than merely occupational acumen. We also investigate another underlying cause, namely people's unconscious, or implicit associations between sexual orientation and incompetence.

Our hypotheses remain the same: we expect participants to believe that gay men and lesbian women have less competence, this time in their skills, compared to straight men and women both explicitly and implicitly. We measure similar moderators as Studies 1B and 1C but assess skill importance instead of occupational status. The more important people believe a skill is to jobs in the U.S., the more people will choose straight targets, especially straight men, as the target with greater ability compared to gay and lesbian targets.

Methods

Participants

Participants in this study were recruited from the Psychology SONA pool at a large northeastern university. We excluded 32 participants who reported not paying attention during the survey as well as 38 participants who did not complete the survey. There was a total of 484 participants left who completed the full study, with 205 participants self-identifying as White, 38

identifying as Black, 27 as Latino/a, 125 as Asian, one as Native American, 14 as "Other", and 60 as multiracial. Five participants did not indicate their age. The sample was skewed in terms of gender, comprised of 156 self-identified men, 317 women, seven non-binary, and four people reported not fitting either of those three categories. The sample was predominantly straight, with 359 participants self-identifying as straight, 56 self-identifying as bisexual, 26 self-identifying as gay or lesbian, 14 as questioning, eight as queer, three as pansexual, two as asexual, and 16 declining to respond. The mean age of the sample was 23.33, $SD = 8.95$.

Procedure

Similar to Studies 1B – 1C, after participants consented into the study, they completed a forced choice selection task. This task has participants indicate which of the presented targets had greater ability in a skill rather than in an occupation. Next, in order, participants completed a Sexuality Competence IAT, filled out the sexual prejudice scale, reported their overall feelings towards gay and straight men and women, indicated how important each skill was to being successful at most jobs in America, and answered brief demographic questions before reading the debriefing.

Measures

Skill Choice Task. We told participants they would see two people and a skill, and their task was to select who they thought "the average American would think has the greater ability in that particular skill." We again explicitly defined ability, stating "By 'ability' we are interested in your thoughts regarding people's internal potential to do or display the skill well." Participants completed 96 trials where they answered, "Who would display greater skill in [SKILL]" for each of the force-choice pairings between the binary gender and sexual orientation. There were 16 skills in total, including leadership, adaptability, problem solving, verbal communication,

decision making, fostering interpersonal relationships, technical knowledge, planning, motivating and inspiring others, willingness to seek assistance, analytical and critical thinking, organization, teamwork, persuasion and negotiation, written communication, and creativity.

Sexual Prejudice. Participants' levels of sexual prejudice towards both gay men and lesbian women was again measured using the thirty-item Sexual Prejudice Scale (Chonody, 2013). The scale was reliable, with a Cronbach's alpha of .95 and a mean of 1.98, $SD = 0.84$.

Feeling Thermometers. Participants again indicated how warmly or coldly they felt about gay men, lesbian women, straight men, and straight women on -50 to 50 sliding scales. Running a within-subject one-way ANOVA with Tukey-adjusted posthoc comparisons, we found that participants felt the least amount of warmth for straight men ($M = 16.18$), followed by lesbian women ($M = 27.11$), gay men ($M = 28.96$), and straight women ($M = 31.74$). Participants felt significantly more warmth towards straight women compared to lesbian women and straight men, ts(1439.19) > 4.25, ps < 0.001, ds > 0.27, while participants felt significantly warmer towards both lesbian women and gay men compared to straight men, ts(1439.19) > 10.04, ps < 0.001, ds > 0.65. All other comparisons were not significant, ts(1439.19) < 2.55, ps > .053, ds < .16.

Importance of Skills. Participants rated how unimportant or important they thought each skill was to being successful at most jobs in America on a -50 – 50 point slider. The importance of the skills differed, with the lowest importance assigned to "Creativity" ($M = 18.37$) and the highest importance assigned to "Problem Solving" ($M = 37.96$).

Sexual Orientation Competence IAT. Participants completed a seven-block Sexual Orientation Competence IAT, where we assessed the extent to which individuals implicitly associated gay men/lesbian women with incompetence and associated straight people with

competence. The category labels were "Gay/Lesbian" and "Straight", with the attribute labels as "Competent" and "Incompetent". Participants used the left "E" or right "I" response key to sort words and images that represented the category and attribute. We used words as stimuli for "Competence" (i.e., capable, competent, proficient, skillful, and useful) and "Incompetent" (i.e., incapable, incompetent, deficient, unskillful, and useless), while we used words and images for "Gay/Lesbian" and "Straight". The category "Straight" was represented by the words "straight" and "heterosexual" as well as a stylized image of a man and a woman holding hands, and an image of the symbol for men and women overlapping. The category "Gay/Lesbian" was represented by the words "gay" and "lesbian" as well as stylized images of either two men or two women holding hands.

The first two blocks were practice blocks (20 trials each), where participants sorted the category and attribute stimuli separately and sequentially. Whichever label appeared on the left or right was counterbalanced. The third block was a practice for the first critical block, where attribute and category sorting were combined using the same key (e.g., sorting Competent and Straight using the "E" key and sorting Incompetent and Gay/Lesbian using the "I" key). Participants completed 20 practice trials before moving to the fourth block, where they repeated the exercise for 40 more trials. Next, in the fifth block, participants again practiced sorting the category stimuli but with the category labels mapped onto the opposite key compared to the first block (e.g., if Gay/Lesbian was mapped to the "E" key in the first block, it was mapped to the "I" key in the fifth block). Finally, participants completed another set of critical block trials in the sixth (20 trials) and seventh block (40 trials), where the category and attribute sorting were combined in the reversed way as in the third and fourth blocks. We coded the compatible blocks to be Straight = Competent | Gay/Lesbian = Incompetent. The incompatible blocks were

Gay/Lesbian = Competent | Straight = Incompetent. The ordering of the compatible and incompatible critical blocks as first or second was counterbalanced.

We programmed the IAT using the IATgen software (Carpenter et al., 2019) and cleaned the data using the *cleanIAT* function from the *iatgen R* package following standard practices (Greenwald et al., 2003). Positive *D* scores represented an implicit bias toward associating straight men and women with competence over gay men and lesbian women. All but one participant completed the IAT. There was not a large portion of trials dropped (i.e., > 10*s*: 0.05%) nor a large portion of people disqualified because of "button mashing" (*n* = 2; >10% of trials < 300 ms). The IAT was reliable, with the split-half procedure producing an alpha value of .86.

Analytic Strategy

We ran a similar within-subject multinomial regression model as in Study 1B to predict participants' choice, this time their choice of the target with the greater ability in the 16 skills rather than in the occupations. We first ran the three-way interaction model with Target Gender, Target Sexual Orientation, and Skills as fixed effects, and Participant as a random effect, with each variable effects-coded ("Man", "Straight", and "Written Communication" as reference categories). To assess the impact of our moderators — sexual prejudice, feeling thermometers, and skill importance — we ran separate three-way interaction models with Target Gender, Target Sexual Orientation, and the moderator as fixed effects, including Skills and Participant as random effects. In terms of our continuous moderators, Sexual Prejudice was grand mean-centered, while Feeling Thermometers and Skill Importance were not centered because the scales had a meaningful zero point. Finally, we calculated overall effects using Wald Tests, and all planned comparisons are controlled for multiple comparisons. To analyze the IAT data, we ran a

single sample *t*-test, assessing whether the mean *D* score was significantly different from zero.

Zero-order correlations can be found in Table 3.

Results

Table 3

Zero-order Correlations between Prejudice and Feeling Thermometer Ratings in Study 2

	Correlations										
	1	2	3	4	5	6	7	8	9	10	11
1. Sexual Prejudice [a]	—										
2. Sexual Prejudice: Stereotypes [a]	.79***	—									
3. Sexual Prejudice: Valuation [a]	.91***	.53***	—								
4. Sexual Prejudice: Equality [a]	.81***	.44***	.70***	—							
5. Sexual Orientation-Competence IAT D score [b]	.34***	.30***	.30***	.30***	—						
6. Gay Men Feeling Thermometer [c]	-.52***	-.35***	-.52***	-.43***	-.20***	—					
7. Lesbian Women Feeling Thermometer [c]	-.54	-.42***	-.48***	-.45***	-.21***	.78***	—				
8. Straight Men Feeling Thermometer [c]	.16***	.14**	.13**	.14**	.27***	.22***	.17***	—			
9. Straight Women Feeling Thermometer [c]	-.05	-.09	-.01	-.05	.04	.49***	.53***	.54***	—		
10. Political Views [a]	.56***	.42***	.54***	.48***	.32***	-.35***	-.36***	.26***	-.02	—	
11. Gender [d]	-.18***	-.22***	-.12**	-.10*	-.20***	.24***	.16***	-.13**	.05	-.17***	—
12. Age	-.06	-.07	-.02	-.06	.03	.02	-.03	.08	-.01	.06	.01

*Note: *p < .05. **p < .01. ***p < .001.*
[a] scales anchored at 1-7
[b] positive values indicate an implicit association between gay/lesbian and incompetence
[c] scales anchored at -50 – 50
[d] gender is coded with male = 0, female = 1

Impact of Target Gender, Target Sexual Orientation, and Skill on Ability Perceptions

Again, our hypothesized interaction between Target Gender and Target Sexual

Orientation was significant, X^2 (1, $N = 484$) = 618.62, $p < .001$ (ANOVA table in supplementary

materials). Participants were less likely than chance to choose the gay man (*b* = .478,

95%CI[.471, .485]), the lesbian woman (*b* = .471, 95%CI[.465, .478]), and newly, the straight

man (b = .437, 95%CI[.429, .445]), while they were more likely than chance to choose the straight woman (b = .606, 95%CI[.599, .612]) as the target with greater ability. Similar to Studies 1A – C, there was no significant difference in the probability of being chosen between gay man and lesbian woman targets, OR = 1.03, z = 1.41, p = .495, but there was a significant difference between straight man and woman targets, OR = 0.50, z = -32.09, p < .001, with a straight woman having a higher probability of being chosen than a straight man. While the findings for straight targets diverge from previous studies, the pattern for gay men and lesbian women does not. Overall, people see gay men and lesbian women as having less ability than chance.

The specific skill assessed mattered, X^2 (15, N = 484) = 3705.55, p < .001 (Figure 2). First, there was evidence of gender inversion for nine out of sixteen skills: Analytical and Critical Thinking (OR_{GM-LW} = 0.71, z = -4.41, p < .001; OR_{SM-SW} = 2.12, z = 9.51, p < .001), Decision Making (OR_{GM-LW} = 0.68, z = -4.87, p < .001; OR_{SM-SW} = 2.76, z = 12.51, p < .001), Fostering Interpersonal Relationships (OR_{GM-LW} = 1.51, z = 5.46, p < .001; OR_{SM-SW} = 0.09, z = -26.71, p < .001), Leadership (OR_{GM-LW} = 0.70, z = -4.56, p < .001; OR_{SM-SW} = 3.94, z = 16.56, p < .001), Organization (OR_{GM-LW} = 1.27, z = 3.23, p = .007; OR_{SM-SW} = 0.11, z = -25.59, p < .001), Problem Solving (OR_{GM-LW} = 0.69, z = -4.87, p < .001; OR_{SM-SW} = 1.71, z = 6.99, p < .001), Technical Knowledge (OR_{GM-LW} = 0.81, z = -2.81, p = .026; OR_{SM-SW} = 11.38, z = 25.93, p < .001), Verbal Communication (OR_{GM-LW} = 1.40, z = 4.54, p < .001; OR_{SM-SW} = 0.32, z = -14.79, p < .001), and Written Communication (OR_{GM-LW} = 2.03, z = 8.45, p < .001; OR_{SM-SW} = 0.10, z = -21.78, p < .001).

There are more skills for which there was gender inversion than there were occupations in previous studies. Even still, it was only for Adaptability (b_{GM} = .57, 95%CI[.54, .60]; b_{LW} =

.62, 95%CI[.59, .64]) and Written Communication (b_{GM} = .78, 95%CI[.76, .80]; b_{LW} = .63, 95%CI[.61, .66]) that the chances of a gay man and a lesbian woman being seen as having greater ability in the skill were above chance. Gay men's likelihoods of being chosen as the target with greater ability, but not lesbian women's likelihoods, were also above chance for Fostering Interpersonal Relationships (b = .61, 95%CI[.59, .64]), Motivating and Inspiring Others (b = .57, 95%CI[.54, .59]), Verbal Communication (b = .54, 95%CI[.52, .57]), and Willingness to Seek Assistance (b = .56, 95%CI[.53, .59]). All other 95% CIs for gay men and lesbian women either excluded .50 and were less than .50, or included 0.50.

Finally, while there was a single skill for which straight men and women were seen as having equal ability (Motivating and Inspiring Others; OR = 0.94, z = -0.87, p = .818), there were four skills for which gay men and lesbian women were seen as having equal ability (i.e., Creativity, OR = 0.84, z = -2.33, p = .092; Planning, OR = 0.95, z = -0.75, p = .876; Teamwork, OR = 1.03, z = 0.39, p = .979; Willingness to Seek Assistance, OR = 1.12, z = 1.55, p = .410).

Figure 2

Interaction between Target Sexual Orientation, Target Gender, and Skill on Probability of Being Chosen as Target with Higher Ability in Study 2
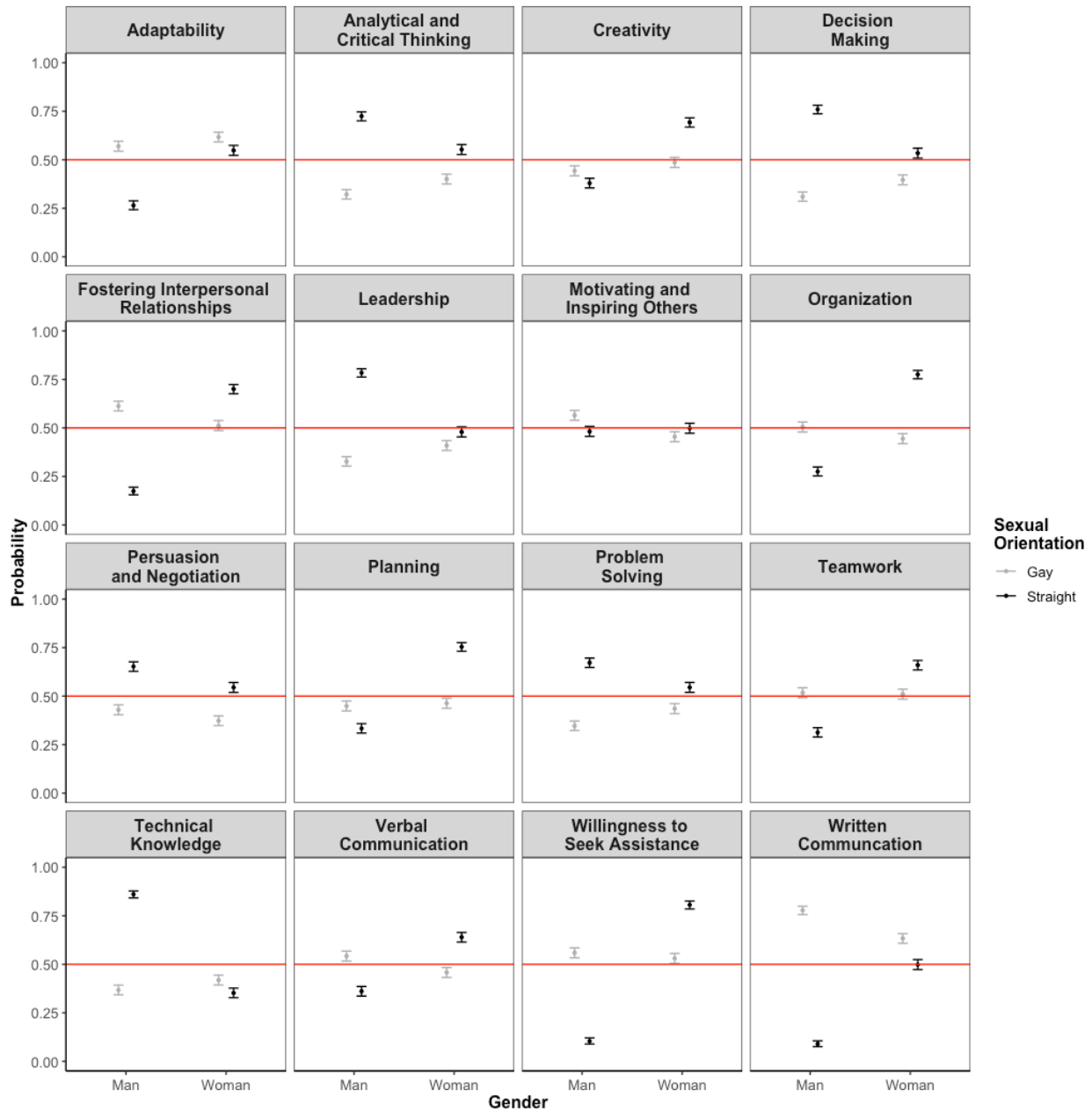
Moderators

Sexual Prejudice. There was a significant interaction between Sexual Prejudice, Target Gender, and Target Sexual Orientation, X^2 (1, $N = 484$) = 24.22, $p < .001$, in the predicted direction. As participants' sexual prejudice increased, they were more likely to choose straight men ($b = .32$, 95%CI[.29, .35]) and straight women ($b = .04$, 95%CI[.01, .08]) as having higher

ability in any given skill than gay men (b = -.13, 95%CI[-.16, -.09]) and lesbian women (b = -.24, 95%CI[-.27, -.20]). However, this relationship was more strongly positive for straight men than for straight women, z = 11.84, p < .001, as well as more strongly negative for lesbian women compared to gay men, z = 4.86, p < .001.

Feeling Thermometers. There was a significant interaction between Feeling Ratings, Target Gender, and Target Sexual Orientation, X^2(1, N = 484) = 24.22, p < .001. As participants rated the target as warmer, they were more likely to choose that target. However, this relationship did not differ between gay men (b = .005, 95%CI[.004, .007]) and straight women (b = .005, 95%CI[.003, .006]), z = 0.74, p = .881, as well as between lesbian woman (b = .009, 95%CI[.007, .010]) and straight men (b = .008, 95%CI[.007, .009]), z = -0.92, p = .796. In other words, the relationship between feeling ratings and choice was stronger for both straight men and lesbian women compared to straight women and gay men.

Importance of Skills. There was a significant interaction between Skill Importance, Target Gender, and Target Sexual Orientation, X^2(1, N = 484) = 8.96, p = .003. All slopes except for the lesbian woman target (b = .0004, 95%CI[-.0009, .002]) were significantly different from zero. As participants' subjective ratings of the skill's importance to success increased, participants were more likely to choose the straight woman (b = .005, 95%CI[.004, .007]) and less likely to choose either the gay man (b = -.003, 95%CI[-.004, -.001]) or the straight man (b = -.003, 95%CI[-.004, -.002]). The slope for the straight man wasn't significantly different from gay man, z = 0.22, p = .996, while all other slope comparisons were significant, zs > |3.40|, ps < .004.

Sexual Orientation-Competence IAT

Participants on average had a moderate bias towards associating "Straight" with competence and "Gay/Lesbian" with incompetence, as the mean D score was 0.36, $SD = 0.43$. This D score was significantly greater than zero, $t(480) = 18.42$, $p < .001$, 95% CI[0.32, 0.40], $d = 0.84$. We ran exploratory analyses running a three-way within-subjects multilevel model, interacting the IAT D score with Target Gender and Target Sexual Orientation to predict participants' choices regarding the target with greater ability (including a participant random effect). Here we found significant two-way interactions of Target Gender, $X^2(1, N = 484) = 43.50$, $p < .001$, and Target Sexual Orientation, $X^2(1, N = 484) = 407.03$, $p < .001$, with the Sexual Orientation-Competence IAT. As participants held a stronger implicit association between Straight and Competence, they were less likely to choose a woman ($b = -.099$, 95%CI[-.140, -.056]) as the one with higher ability and more likely to choose a man ($b = .100$, 95%CI[.062, .150]) with higher ability. Additionally, as participants held a stronger implicit association between Straight and Competence, they were less likely to choose the gay/lesbian targets ($b = -.31$, 95%CI[-.35, -.27]) as the target with higher ability and more likely to choose the straight targets ($b = .31$, 95%CI[.27, .36]). No other higher-order interactions were significant.

Discussion

In this study, we measured people's beliefs about the abilities of gay and straight men and women for a variety of skills. In line with previous studies, participants believed that gay men and lesbian women had less skill than straight men and women overall. Furthermore, sexual prejudice and feeling thermometers moderated this effect. The more sexually prejudiced participants were and the less they liked gay men and lesbian women, the less likely they believed gay men and lesbian women had competence in a given skill. Skill importance only

negatively impacted the men's ascription of competence. Newly, we measured implicit associations between sexual orientation and competence, finding that participants had a medium - large size effect of seeing straight as more associated with competence than gay/lesbian. Further, participants' implicit associations impacted responses on the force-choice task such that participants were less likely to choose gay men and lesbian women as having greater ability in a skill the more they implicitly associated gay men and lesbian women with incompetence.

Study 3: Explicit and Implicit Competence

Together, the findings of Studies 1A and 2, suggest that people do not *explicitly* hold a stereotype that gay men and lesbian women are more incompetent compared to their straight counterparts in various domains, but they do hold the stereotype *implicitly*. Pre-registered Study 3 directly tested this dynamic, asking whether there was a disconnect between explicitly and implicitly held beliefs of gay men and lesbian women's competence by comparing self-report and responses on the Sexuality Competence IAT. We also extended our past findings by recruiting gay men and lesbian women as participants to report their general attitudes about competence by sexual orientation explicitly and implicitly. Finally, we incorporated new moderators, including a new measure of sexual prejudice (i.e., Modern Homonegativity: Morrison & Morrison, 2003), a gender essentialism scale (Rhodes & Gelman, 2009), and the internal-external motivation to respond without prejudice scale (Plant & Devine, 1998) in addition to our previously measured feeling thermometers.

We hypothesized, based on the results of Study 1A, that straight participants would not explicitly endorse the existence of general stereotypes about the relative competencies of gay and straight men and women. However, we do expect that straight people will *implicitly* associate gay men and lesbian women with incompetence compared to straight men and women, in line

with the results from Study 2. In terms of gay and lesbian participants, we again had two competing hypotheses for explicit stereotypes. One hypothesis is that gay men and lesbian women will be similar to straight participants, and not show any biases in explicit attitudes. The second hypothesis is that gender inversion will drive gay and lesbian participants' beliefs of gay men and lesbian women. Thus, gay men and lesbian women participants will be more likely to say a stereotype exists that straight men and lesbian women are the ones with greater ability compared to straight women and gay men. Regardless of explicit attitudes, however, we still expect gay and lesbian participants to also implicitly associate gay men and lesbian women with incompetence, but to a lesser extent than straight people. These hypotheses were pre-registered.

Finally, we expect people's sexual prejudice, IMS-EMS, gender essentialism, and general attitudes towards each target to impact their explicit and implicit associations. More specifically, the more people are externally motivated (or the less they are internally motivated to appear without prejudice), the more biased against gay men/lesbian women they will be in their explicit and implicit attitudes. Further, the more prejudiced (or gender essentialist) participants are, the more biased against gay men/lesbian women they will be in their explicit and implicit attitudes. Finally, the less participants like gay men/lesbian women, the more biased against gay men/lesbian women they will be in their explicit and implicit attitudes.

Methods

Participants

For this study, both gay/lesbian participants and straight participants were recruited through CloudResearch Prime Panels (Chandler et al., 2019), for a target sample of 500 participants. The amount participants were paid was variable, although our per-participant cost was $3.46 for a 10–12-minute survey. We managed to recruit 210 gay/lesbian participants and

273 straight participants, with 20 identifying as another sexual orientation. We removed

participants that did not identity as straight or gay/lesbian from the sample, leaving us with a

final sample of 483 participants. Most of the sample self-identified as White ($n = 406$), with 25

identifying as Black, 15 as East/South Asian, eight as Latino/a, three as Native-American, five as

"Other" and 21 as multiracial. In terms of gender, 223 participants self-identified as a woman,

225 as a man, one as non-binary/third gender, and four as "something not listed". In terms of

age, the mean of the sample was 55.95, $SD = 17.00$.

Procedure

Following consent, participants first completed our measures of explicit competence

stereotypes of gay/lesbian and straight men and women. Next, participants completed the same

Sexual Orientation Competence IAT from Study 2, followed by our four moderators — sexual

prejudice, gender essentialism, IMS-EMS, and feeling thermometers — in a randomized order.

Participants completed brief demographic questions before the debriefing.

Measures

Explicit Competence Stereotypes. We asked participants to answer two questions about

the abilities of each possible pairwise combination between gay men, lesbian women, straight

men, and straight women, for a total of 12 questions. Thus, participants answered about the

competence of all six comparisons, unlike Study 1A, where they were randomly assigned to one

pairing. Participants were instructed to answer each question from the point of view of an

average American person instead of their own personal opinions. For each pairwise comparison,

participants indicated the extent to which they (1) Strongly Disagreed or (7) Strongly Agreed

with the statements "It is possible that [TARGET 1] have more overall ability than [TARGET

2]" and "In general, [TARGET 1] may be more generally competent than [TARGET 2]. The

order of which social group was in the TARGET 1 or TARGET 2 position was randomized within participant but held constant for each pairwise comparison. Within the pairwise comparison, the two items were correlated, ranging from $r = .67$ to .80.

Modern Homonegativity Scale. Participants' levels of sexual prejudice towards both gay men and lesbian women was measured using a slightly modified Modern Homonegativity Scale (Morrison & Morrison, 2003), a 12-item scale anchored from 1(Strongly Disagree) – 7(Strongly Agree) scale. The scale originally separated items by gay men and lesbian women; we combined them. Sample items included "Celebrations such as 'Gay Pride Day' are ridiculous because they assume that an individual's sexual orientation should constitute a source of pride" and "Gay men and lesbian women still need to protest for equal rights" (reverse scored). The scale was reliable, with a Cronbach's alpha of .96 and a mean of 3.20, $SD = 1.72$. There were differences in mean levels of sexual prejudice by participant sexual orientation: gay/lesbian participants ($M = 2.12$) reported less prejudice than straight participants ($M = 4.10$), $t(471.94) = 15.89$, $p < .001$, $d = 1.39$.

Gender Essentialism Scale. Participants' levels of gender essentialism (Rhodes & Gelman, 2009) was measured on an eight-item scale that ranged from 1(Strongly Disagree) – 7(Strongly Agree). Sample items included "Gender is a very important part of what makes people who they are," and "Gender is a natural category" with no items reverse-scored. The scale was reliable, with a Cronbach's alpha of .82 and a mean of 4.53, $SD = 1.09$. Again, there were differences by participant sexual orientation: gay/lesbian participants ($M = 4.25$) reported less gender essentialism than straight participants ($M = 4.79$), $t(458.94) = 5.63$, $p < .001$, $d = 0.51$

IMS-EMS Scale. Participants' level of internal and external motivation to appear nonprejudiced was measured using a modified ten-item scale ranging from 1(Strongly Disagree)

– 7(Strongly Agree). The items were modified to ask about appearing non-prejudiced towards gay and lesbian people. Sample items include "Because of today's politically correct standards, I try to appear non-prejudiced toward gay and lesbian people," (EMS) and "I attempt to act in non-prejudiced ways toward gay and lesbian people because it is personally important to me" (IMS), with one reverse-oriented IMS item. We analyzed the subscales separately, with each subscale being reliable. IMS had a Cronbach's alpha of .87 and a mean of 5.56, $SD = 1.32$, while EMS had a Cronbach's alpha of .81 and a mean of 3.32, $SD = 1.40$. There were differences by participant sexual orientation: gay/lesbian participants ($M = 6.20$) reported greater internal motivation to appear non-prejudiced compared to straight participants ($M = 5.21$), $t(479) = -9.19$, $p < .001$, $d = -0.81$. In contrast, straight men and women ($M = 3.48$) reported greater external motivation to appear non-prejudiced compared to gay and lesbian participants ($M = 3.14$), $t(433.66) = 2.69$, $p = .007$, $d = 0.25$.

Feeling Thermometers. Participants again indicated how warmly or coldly they felt about gay men, lesbian women, straight men, and straight women on -50 to 50 sliding scales. Running a within-subject one-way ANOVA with Tukey-adjusted posthoc comparisons, we find that participants felt the least amount of warmth for straight men ($M = 19.95$), followed by lesbian women ($M = 21.58$), gay men ($M = 21.74$), and straight women ($M = 29.02$). People felt significantly more warmth towards straight women compared to all other targets, ts$(1506) > 5.39$, ps $< .001$, ds > 0.34. All other comparisons were not significant, ts$(1506) < 1.32$, ps $> .550$, ds < 0.08.

Sexual Orientation Competence IAT. Participants completed the same seven-block Sexual Orientation Competence IAT as in Study 2, assessing the extent to which individuals implicitly associated gay men/lesbian women with incompetence and associated straight people

with competence. We cleaned the data using the *cleanIAT* function through the online shiny app. The IAT was again reliable, with the split-half procedure producing an alpha value of .89.

Results

Zero-order correlations among the explicit stereotype acknowledgement, implicit attitudes, and moderators can be found in supplementary materials (Table S5). Notably, the correlations between explicit and implicit competence attitudes were weak for both the straight and gay/lesbian participants, with a few exceptions. For straight participants, their implicit beliefs about the competence of gay men and lesbian women only related to their explicit beliefs regarding gay men versus straight women ($r = -.13$) as well as between lesbian women versus straight men ($r = .13$). The more straight participants implicitly believed gay men and lesbian women were incompetent, the less they explicitly believed gay men were competent compared to straight women, and the more they explicitly believed straight men were competent compared to lesbian women. It is important to note that these comparisons, for straight participants, echo the explicit finding in Study 1A. The explicit-implicit correlations that were significant for gay and lesbian participants dealt with lesbian comparisons. The more gay and lesbian participants implicitly believed that their group was incompetent, the less they explicitly thought lesbian women were competent compared to straight women ($r = -.26$) and straight men ($r = .15$).

Impact of Participant Sexual Orientation and Moderators on Explicit Stereotypes

We analyzed the explicit stereotypes similarly to Study 1A, running *t*-tests on differences between the acknowledgment level of competence stereotype (by comparison) and the middle of the scale (i.e., 4). We found only one stereotype comparison that did not differ from the midpoint ($M = 3.94$), which was gay men compared to lesbian women, $t(481) = -1.02$, $p = .309$, $d = -0.05$. In contrast, participants explicitly did not endorse the stereotype that lesbian women ($M = 3.51$;

$t(479) = -7.5$, $p < .001$, $d = -0.34$) nor gay men ($M = 3.67$; $t(481) = -5.29$, $p < .001$, $d = -0.24$) were more competent than straight women, while they did endorse the stereotype that straight men were more competent than gay men ($M = 4.74$; $t(481) = 10.67$, $p < .001$, $d = 0.49$) and lesbian women ($M = 4.76$; $t(481) = 11.37$, $p < .001$, $d = 0.52$). Finally, participants endorsed the stereotype that straight men were more competent than straight women, $M = 4.38$, $t(481) = 5.83$, $p < .001$, $d = 0.27$.

A single comparison differed by participant sexual orientation, which was the competence endorsement of straight men compared to straight women, $t(460.45) = -3.24$, $p = .001$, $d = -0.30$. Gay/lesbian participants ($M = 4.61$) endorsed this stereotype to a greater extent than did straight participants ($M = 4.20$). In short, participants endorsed the belief that gay men and lesbian women were more incompetent than all other groups outside of themselves, and this belief did not depend on the sexual orientation of the participant.

To assess the impact of our moderators on explicit attitudes, we examined the correlations between each moderator and the pairings separately. Regarding prejudice, there was a significant relationship only for straight participants, with explicit competence of lesbian women compared to straight women, $r = -.17$. The more sexually prejudiced straight participants were, the less they endorsed lesbian women as being more competent compared to straight women. Against hypotheses, gender essentialism did not have a significant relationship with any explicit stereotypes. IMS and EMS had limited relationships with explicit stereotypes; IMS was not related to any stereotypes for gay/lesbian participants, while it was related to a single stereotype comparison for straight participants. The more straight participants had internal motivations to appear non-prejudiced, the more they saw lesbian women as having greater competence than straight women, $r = .17$. In terms of EMS, the more straight participants had

external motivations to appear non-prejudiced, the *less* they saw straight men as having more competence than gay men, $r = -.16$. In contrast, EMS was negatively related to lesbian women's competence relative to gay men for gay/lesbian participants, $r = -.20$.

Lastly, feeling thermometer ratings only impacted straight participants' explicit competence stereotypes. There was no association between feeling rating and within-sexual orientation gender comparisons, such as gay men versus lesbian women as well as straight men versus straight women (rs < .11). Only one stereotype comparison had all four feeling thermometer ratings related to it, which was the lesbian women compared to straight women stereotype. The warmer participants felt towards gay men and lesbian women as well as the colder they felt towards straight men and women, the more they associated lesbian women as the target with greater competence, compared to straight women (rs > |.15|). In contrast, gay men's competence compared to straight men and straight women were both negatively associated with warmth towards gay men and lesbian women (rs = -.14). Finally, explicit beliefs about lesbian women's competence compared to straight men was negatively associated with warmth towards gay men and positively associated with warmth towards straight men (rs > |.12|).

Impact of Participant Sexual Orientation and Moderators on Implicit Attitudes

The mean *D* score on the Sexuality Competence IAT was 0.45, $SD = 0.52$, which was significantly greater than zero, $t(498) = 19.33$, $p < .001$, 95% CI [0.41, 0.50], $d = 0.87$. This result replicated Study 2: participants implicitly associated gay men and lesbian women with incompetence more than they implicitly associated straight men and women with incompetence. Furthermore, the strength of the association depended on the sexual orientation of the participant. Gay/lesbian participants had significantly less bias ($M = 0.14$) than straight participants ($M = 0.72$). However, as hypothesized, gay/lesbian participants' *D* score was still greater than zero,

$t(206) = 4.63$, $p < .001$, $d = 0.32$, as was straight participants' D score, $t(271) = 27.83$, $p < .001$, d $= 1.69$.

In terms of our moderators, all four related to straight participants' implicit attitudes in the direction hypothesized, while only prejudice and feeling thermometers were related to gay/lesbian participants' implicit attitudes. For straight participants, they held increasingly biased implicit competence attitudes the more sexually prejudiced they were ($r = .25$), the greater their gender essentialist views ($r = .15$), the less internally motivated they were to appear non-prejudiced ($r = -.16$), the warmer they felt towards straight men ($r = .25$) and straight women ($r =$ .13), as well as the colder they felt towards gay men ($r = -14$) and lesbian women ($r = -.17$). In contrast, for gay/lesbian participants, only increased levels of sexual prejudice ($r = .17$), coldness towards lesbian women ($r = -.28$), and warmth towards straight men ($r = .21$), was related to greater implicit bias.

Discussion

Study 3 examined implicit and explicit expectations of competence at the intersection of gender and sexual orientation for both targets and participants. Our results for explicit expectations replicated past studies such that people believed gay men and lesbian women had similar levels of competence but were relatively incompetent compared to straight men and women. Furthermore, this effect was not particularly sensitive to the sexual orientation of the participant, suggesting that both gay/lesbian and straight people are in concordance with the negative competence stereotypes faced by gay men and lesbian women, at least in the eyes of an average person. Again we find an implicit association between gay/lesbian people and incompetence, which was held by both gay/lesbian and straight participants. However, the

relationships between this implicit attitude and our moderators were stronger for straight compared to gay/lesbian participants.

General Discussion

Stereotypes — fixed and often oversimplified views of social groups — are pervasive forces in society and no social group is immune from having inaccurate heuristics associated with its members. Previous work has been mixed regarding how stereotypes of gay men and lesbian women are derived. Some studies find that people hold inverted gender-role beliefs about gay men and lesbian women, assigning them stereotypes from their cross-gender, cross- sexual orientation counterparts. Other studies find that the overall status of gay men and lesbian women drive stereotype expectations, such that gay men and lesbian women are assigned negative low-status stereotypes due to their positionality within the social hierarchy.

Across five (two pre-registered) studies with a variety of online samples, we find strong and consistent support for the status-role explanation regarding competence stereotypes of gay men and lesbian women. Participants showed little differentiation between gay men and lesbian women, seeing them as less likely to be competent in a variety of domains and skills than their straight counterparts. Furthermore, this was likely NOT due to third-party prejudice. Furthermore, we found this pattern when explicitly soliciting competence stereotypes, although the effect was only found in cross-gender, cross-sexual orientation pairings as well as when explicitly (via a forced-choice tasks) and implicitly assessing relative competence. Finally, participant sexual orientation mattered, as gay men and lesbian women were less likely to hold this "straight-preference" bias explicitly or implicitly. Instead, they prioritized the non-prototypical subcategory (e.g., gay/lesbian and women) in their competence assumptions.

We tested five different moderators of this effect and all but one (gender essentialism) impacted the degree to which people ascribed competence to gay men and lesbian women. As participants reported greater sexual prejudice and less motivation to appear non-prejudiced, liked gay men and lesbian women less, or the more important/high status participants thought the skill/occupation was, the less they chose gay men or lesbian women as the target with greater competence. In contrast to the main effects, however, the moderators influenced straight participants in similar ways as gay/lesbian participants. In many cases, the moderators particularly hurt lesbian women and particularly helped straight men. For example, increased sexual prejudice made it less likely for a gay man and a lesbian woman to be seen as competent, but it was especially harmful to competence assumptions for lesbian women. This was also true for gay/lesbian participants, as when their sexual prejudice increased, they increased competence assumptions for gay men but decreased them for lesbian women. This could be a case of double jeopardy for lesbian women, as their sexual orientation and gender are contributing to reduced competence expectations compared to other groups (Williams, 2014).

Implications for Theory

The results of these studies suggest that gender inversion might be selectively applied to stereotypes of gay men and lesbian women depending on status expectations. For example, while overall gay men and lesbian women were seen as similarly incompetent across a variety of occupations, there were some instances in which there was gender inversion. These instances tended to be for low-status positions, such as truck drivers and coffee shop baristas, as well as for the occupations that participants themselves thought were low-status. Thus, there is evidence that people desire gay men and lesbian women occupy lower status positions in society overall, which is not mitigated by stereotypes associated with their gender. Recent work on normative

stereotypes (e.g., stereotypes about how people should and shouldn't act) corroborate this conclusion, showing a lack of gender inversion for gendered traits (Hudson & Ghani, 2022). Further, the authors find that for traits that the average person should have (e.g., honesty), there was a main effect of sexual orientation such that gay men and lesbian women should not display those traits to the same extent as straight men and women. As another example, people rate gay men as more suited for managerial roles compared to straight men, but only for feminine positions (Barrantes & Eaton, 2018).

Given that expectations of general and specific competences from gay men and lesbian women decrease as the status of the occupation increases, it begs the question of how status influences gay men and lesbian women within an occupational hierarchy. For example, gay men were seen as the most competent as a coffee shop barista. Does their sexual orientation continue to harm competence expectations if they become the manager of a coffee shop? If this is true, this could explain the prevalence of gay men at the top of hierarchies in female-dominated spaces (e.g., fashion design; Stokes, 2015) that tend to be considered lower status occupations in general (Barrantes & Eaton, 2018; Hancock et al., 2020).

The lack of gender inversion was also accompanied by reduced gender differences between gay men and lesbian women, compared to straight men and women. The relatively smaller gender differences between gay men and women are in line with other studies on gender differences in minoritized groups (Gallagher & Bodenhausen, 2021; Hudson & Ghani, 2022), suggesting that for minoritized groups, gender is not as salient of a category as it is for prototypical groups. In the case of sexual orientation, "de-gendering" (Gallagher & Bodenhausen, 2021) is in line with stereotype muting (Hall et al., 2019) that occurs when oppositional stereotypes are combined for intersectional identities. Stereotype muting can

explain why gay men and women are perceived similarly in terms of their competences if any aspect of masculinity (perceived gender or gender expression) is seen as having higher competence compared to femininity. Gay men and lesbian women perceived to both have masculine and feminine attributes, which cancel each other out. What stereotype muting cannot explain is the fact that the competences of gay men and lesbian women were seen as *below* straight men and straight women. In other words, we might expect that the competences of gay men and lesbian women to average in between the competences of straight men and women. Instead, their competences were below.

In the case of gay men and lesbian women, this might be a special case of selective inhibition (Kang & Chasteen, 2009; Remedios et al., 2011), where combining negative group stereotypes does not lead to something positive but to something negative. In traditional selective inhibition cases, the intersection of negative stereotypes from two stigmatized groups (e.g., race and age) can lead to a positive impression. For example, the stereotype that older people are frail and docile (and thus non-threatening) can mitigate the negative stereotype that Black men are hostile, leading to the perhaps counter-intuitive finding that older Black men are seen as warmer than any of the other combinations. Stereotypes that gay men are more feminine can also mitigate the threatening stereotype associated with Black men (Remedios et al., 2011).

In our studies, however, the contradictory stereotypes associated with masculinity and femininity do not mitigate one another but instead lead to worse impressions. Indeed, these findings are reminiscent of work on Black-White biracial individuals who are perceived as less warm and sometimes less competent than either monoracially Black or White people (Sanchez & Bonam, 2009). The reduced warmth stereotypes can even impact perceptions of job suitability,

as Black-White biracial people are perceived to have fewer social skills than even Black applicants which can reduce hiring intentions (Remedios et al., 2012).

Limitations and Future Directions

While the results shown are remarkably consistent, there are limitations. First, these studies were run in the context of the United States of America, which has a particular history related to gender and sexual orientation. We believe assumptions as to the incompetence of gay men and lesbian women would be exacerbated in spaces where explicit and implicit attitudes towards gay men and lesbian women are more negative. Indeed, sexual prejudice was one of the strongest and consistent moderators of seeing gay men and lesbian women as incompetent. Future work should replicate these results in different countries in which the existence of homosexuality is more or less taboo.

Second, we did not constrain the type of gay or straight male and female target participants imagined when answering the forced-choice questions. Participants could have imagined different subtypes of gay men and lesbian women across occupations; for example, imagining a more masculine gay man when answering about ability as a truck driver but a more feminine gay man when answering about an English teacher. Furthermore, some participants might have imagined a more masculine or a more feminine gay man or lesbian woman throughout the task, increasing heterogeneity in representations. Finally, sexual orientation is conveyed (and is thought to be conveyed) in a variety of ways, from visual cues to voice pitch and behavior. Future work should explicitly represent or constrain the representational space that participants use to generate ability stereotypes. We would expect that the more gender conforming gay men and lesbian women are, the more they will be judged based on their gender rather than their sexual orientation. Imagining a more masculine gay man and a more feminine

lesbian women places more emphasis on their gender (Petsko et al., 2022), which would increase perceptions of competence but especially for gay men.

Third, we assessed competence in occupations and skills that primarily reflect competence in intellectual domains. We might expect there to be differences in other domains of competence, like competences that rely more on physical strength. Fourth, we do not address the implications of these competence beliefs. Do people's beliefs about the competences of gay men and lesbian women influence whether an incident is read as competent or not (e.g., biased assessment) or the number of examples gay men and lesbian women must provide before they are seen as competent relative to their straight peers (i.e., shifting standards; Kobrynowicz & Biernat, 1997; Williams, 2014). Similarly, what are the implications for gay men and lesbian women, who do not hold the same assumptions about competence by gender and sexual orientation as straight people do? We can imagine lesbian women facing attributional ambiguity when confronted with evidence that peers or supervisors see them as incompetent (King, 2003). The stress of the ambiguity could reduce their performance and lead to stereotype threat (Gonzales et al., 2002), further confirming the biased competence expectations. Additionally, these competence expectations may influence whether gay/lesbian people seek to approach or avoid certain occupations in the future, which has implications for organizational diversity. Further research is needed to explore these questions.

Conclusion

Stereotypes are often activated as justifications for discriminatory behavior towards marginalized groups, making them a key mechanism for entrenching the status quo. This work suggests that assumptions about the character traits and hobbies of gay men and lesbian women

do not necessarily translate to ability. Gay men or lesbian women are not afforded increased

competency based on their gender or assumed masculinity/femininity.

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