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What is This?

Perceptual Underpinnings of Antigay Prejudice: Negative Evaluations of Sexual Minority Women Arise on the Basis of Gendered Facial Features

David J. Lick[1] and Kerri L. Johnson[1]

Abstract

Psychologists have amassed robust evidence of antigay prejudice by assessing participants' global attitudes toward sexual minorities and their reactions to behavioral descriptions of hypothetical targets. In daily interactions, however, perceivers make decisions about others' sexual orientations based upon visible cues alone. Does antigay prejudice arise on the basis of such visual exposure, and if so, why? Three studies revealed that perceivers evaluated women they categorized as lesbians more negatively than women they categorized as straight. Moreover, prejudice against lesbian women was strongly tethered to gendered aspects of their facial appearance: Women categorized as lesbians tended to appear gender-atypical, and women who appeared gender-atypical were perceived to be unattractive, leading to prejudice. Similar findings did not emerge for men categorized as gay. As such, we argue that gendered appearance cues lay the perceptual foundation for prejudice against women, but not men, who are categorized as sexual minorities.

Despite decades of research and applied efforts, antigay prejudice continues to occur at staggering rates and to deleterious ends. Based on several hundred qualitative interviews, Gordon and Meyer (2007) recently documented the chilling details of such prejudice as it occurred for sexual minority residents of New York City. Two of their interviews provide insight into the factors that precipitated the violence:

> . . . a White woman (age 24) was in a residential neighborhood (not in New York City) when two young men passed her and asked her how old she was, then asked if she "was a boy or a girl," to which she said "girl" (she noted to the interviewer that she "looked more masculine at the time"). She then started to run away from the boys, who ran after her and punched her in the face, dislocating her jaw. The respondent had to go to the hospital and was physically unable to eat for a week. (Gordon & Meyer, 2007, p. 65)

> . . . [a] 22-year old Latino woman . . . described a recent attack against her on a train platform near her apartment. In this event, five young men came up to the respondent and asked to borrow her cell phone: "And they figured I was a young guy and I didn't speak because I didn't want them to hear my voice. One pinned me up against a wall—I said something like 'Back off,' and they heard my voice and were like, 'You're a fucking dyke'—and

they started hitting me, trying to take my shirt off . . . I was really scared. But then a train came and people got off and I ran away, onto the train." . . . The respondent explained this chain of events by noting, "I had just gotten a haircut, so I guess [I] looked especially boyish." (Gordon & Meyer, 2007, pp. 65-66)

While extreme, these events illustrate several patterns that are now well documented in social scientific literature. First, observers readily categorize strangers' sexual orientations on the basis of gendered features (Freeman, Johnson, Ambady, & Rule, 2010; Johnson, Gill, Reichman, & Tassinary, 2007; Lick, Johnson, & Gill, 2013). In the examples cited above, perpetrators inferred targets' sexual orientations from gender-atypical appearance cues (e.g., a masculine haircut), making their inferences explicit by shouting homophobic

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epithets (e.g., "dyke"). Second, individuals who are categorized as lesbian or gay face high rates of victimization across the life span (Balsam, Rothblum, & Beauchaine, 2005; Herek, Cogan, & Gillis, 2002). In fact, the above examples illustrate that the mere *perception* that someone is lesbian or gay can compel prejudice, even if that perception remains unconfirmed. Finally, episodes of antigay victimization often escalate beyond verbal harassment, with lifetime rates of self-reported physical violence nearing 30% among sexual minorities (Katz-Wise & Hyde, 2012). Indeed, the perception that the target women were lesbians resulted in physical aggression in both opening examples. In short, these tales buttress conclusions from empirical research, demonstrating that perceivers categorize sexual orientation on the basis of visibly gendered cues and that such categorizations can lead to serious consequences in terms of antigay prejudice.

Although the prevalence of antigay prejudice and the role of visual cues in sexual orientation categorization are well established, links between these two observations have not been explored in depth. It remains unclear, for example, whether antigay prejudice emerges as a simple by-product of categorizing someone as lesbian or gay or if it originates from the cues that perceivers use to categorize individuals as lesbian or gay in the first place. Here, we explored the latter possibility in order to clarify the perceptual underpinnings of antigay prejudice.

Sexual Orientation Perception: Cognitive Processes and Social Consequences

Classic research in social cognition highlighted categorization as a critical precursor of prejudice against diverse groups (Allport, 1954; Dovidio & Gaertner, 2010). Sexual minority categorizations are no exception. Indeed, targets categorized as lesbian/gay are evaluated negatively across social domains, and such negative evaluations stem, at least in part, from aspects of the categorization process itself (e.g., perceptual fluency; Lick & Johnson, 2013). These findings suggest that the very act of labeling someone as lesbian/gay may compel prejudice.

Given the robust theoretical and empirical links between sexual orientation categorizations and prejudice, research investigating the mechanisms by which these categorizations occur has flourished. Indeed, numerous studies have documented that sexual orientation categorizations occur readily and rapidly, without explicit declarations from targets. For example, perceivers categorize strangers' sexual orientations on the basis of a diverse set of visual cues, including dynamic outlines of body movements (Ambady, Hallahan, & Conner, 1999; Johnson et al., 2007), point-light defined gait patterns (Lick et al., 2013), and static facial images (Freeman et al., 2010; Rule, Ambady, Adams, & Macrae, 2008; Rule, Ambady, & Hallett, 2009). Moreover, these categorizations occur within 50 ms of exposure (Rule & Ambady, 2008) and

on the basis of starkly limited information (e.g., isolated portions of the face; Rule et al., 2008).

Armed with the knowledge that sexual orientation categorizations arise on the basis of visual information alone, other work has pinpointed the specific cues that give rise to these categorizations. In one early study, participants enumerated more cross-gender traits for hypothetical lesbian/gay targets than for hypothetical straight targets (Kite & Deaux, 1987). Subsequent studies revealed that gendered heuristics similarly guide sexual orientation categorizations made on the basis of visual features. Indeed, perceivers tend to categorize targets with gender-typical appearances as straight, but targets with gender-atypical appearances as lesbian/gay (Freeman, Ambady, Rule, & Johnson, 2008; Johnson et al., 2007; Lick et al., 2013; Rieger, Linsenmeier, Gygax, Garcia, & Bailey, 2010).

Thus, extant findings confirm that sexual orientation categorizations (a) are associated with prejudice, such that targets categorized as lesbian/gay are evaluated more negatively than targets categorized as straight, and (b) arise on the basis of visibly gendered cues in the face and body. Still, the functional link between these observations remains unexplored. Insofar as gender typicality is associated with social evaluations in general, we propose that it may help to explain the occurrence of antigay prejudice over and above the act of categorization itself.

Gender Typicality and Social Evaluation

As described above, visibly gendered features inform perceptions of masculinity and femininity, and these perceptions drive sexual orientation categorizations, such that individuals exhibiting gender-typical appearances tend to be categorized as straight, whereas individuals exhibiting gender-atypical appearances tend to be categorized as lesbian/gay (Freeman et al., 2010; Johnson et al., 2007). Importantly, these same gendered appearance cues also have implications for higher-level social evaluations. For instance, perceptions of gender typicality predict attractiveness judgments of both women and men. Among women, gender-typical appearances are rated as more attractive than gender-atypical appearances (Johnson & Tassinary, 2007a; Johnston & Franklin, 1993; Rhodes, Hickford, & Jeffery, 2000), perhaps because extreme secondary sex characteristics (e.g., large breasts) signal immunity and fecundity (Symons, 1995; Thornhill & Gangestad, 1996). A different pattern emerges for men. Indeed, men with gender-atypical appearances are sometimes rated as more attractive than are men with gender-typical appearances, at least for judgments of composite and synthetic images (Lick & Johnson, in press; O'Toole et al., 1998; Perrett et al., 1998). This bias may stem from an association between extreme forms of gender typicality and negative traits in men (e.g., threat of violence) or from an association between gender atypicality and positive traits in men (e.g., high parental quality; Rhodes et al., 2000).

Although the exact mechanisms driving these effects remain speculative, the notion that gendered appearance cues guide attractiveness judgments is well founded.

Gender typicality may not only affect perceptions of sexual orientation categories and physical attractiveness, but also broader social evaluations. Indeed, a robust literature has linked gender typicality to global evaluations of both men and women. For example, gender-atypical students tend to be rated as lower in social status than their gender-typical peers, and this pattern is robust to differences in sex and sexual orientation (Horn, 2007). Moreover, the association between gender typicality and social evaluation begins early in life, insofar as adults rate gender-typical traits as more desirable than gender-atypical traits among young children (Kane, 2006; Martin, 1995). Children themselves show similar biases, rating gender-typical peers as more likeable than gender-atypical peers (Martin, 1989).

Unlike findings for perceived attractiveness, early research suggested that the global evaluative costs of gender atypicality are especially pronounced for men and boys. For example, gender-atypical men report being teased as "inappropriate" and "weak" during childhood (Fagot, 1977; Green, 1987; Katz, 1986; Young & Sweeting, 2004; Zucker, Wilson-Smith, Kurita, & Stern, 1995), whereas gender-atypical women do not (Bem, 1993; Fagot, 1977; Feinman, 1981; Sandnabba & Ahlberg, 1999). Other work buttressed these observations by revealing that men are expected to be highly masculine, and that men police this expectation among themselves (Pleck, 1975). For example, men who feel insecure about their masculinity are vigilant to gender-atypical others (Lick, Johnson, & Riskind, in press), and those high in traditional masculinity are prone to enact violence against gay men who they perceive to defy traditional gender roles (Glick, Gangl, Gibb, Klumpner, & Weinberg, 2007; Parrott, 2009). Collectively, these findings have led to speculation that the deleterious effects of gender atypicality might be especially pronounced for men.

Importantly, however, research highlighting the social detriments of gender atypicality for men tends to be limited to one particular type of gendered information: behavioral descriptions. Indeed, many of the existing studies defined gender typicality in broad behavioral terms, including targets' actions, hobbies, occupations, and interests. In contrast, less work has probed the evaluative consequences of gendered *appearance cues*—the proximal visible features that render a target masculine or feminine. Such visual correlates of masculinity and femininity are immediately evident to outside observers, and they form the basis of consequential judgments, including sexual orientation categorizations (Freeman et al., 2010; Johnson et al., 2007). The few studies that have investigated the role of gendered appearance cues in social evaluations of men and women reveal a distinct pattern. For example, perceivers in one recent series of studies expressed prejudice against women with gender-atypical facial features, but considerably less prejudice against men with gender-atypical facial features. Instead, perceivers *preferred* gender-atypical men to gender-typical men, especially when their gendered features became extreme (Lick & Johnson, in press). A recent study of adolescents similarly revealed that gender-atypical appearance cues were perceived as strong motivators for prejudice against teenage girls, but not boys (Thompson, Sinclair, Wilchins, & Russell, 2013).

Thus, gender typicality clearly guides social evaluations, but it appears to function differently depending upon the sex of the target and the focus of analysis. While studies examining broad correlates of gendered behavior suggest that gender atypicality leads to especially harsh prejudice against men, studies examining gendered appearance cues suggest that gender atypicality may lead to especially harsh prejudice against women. How these gendered evaluations function with regard to one's perceived sexual orientation, however, remains unclear.

Gender Typicality and Antigay Prejudice

We propose that gendered appearance cues may help to explain the link between sexual orientation categorizations and prejudiced evaluations. Of course, we are not suggesting that sexual orientation categorization is unimportant; instead, we argue that gendered appearances lay the foundation for antigay prejudice relatively early in the perceptual process, helping to explain antigay prejudice over and above the effects of categorization itself.

Some evidence indirectly supports our claim that gendered appearance cues help to explain antigay prejudice. In self-reports of sexual minority youth, gender atypicality is associated with more frequent experiences of parental/peer rejection (Landolt, Bartholomew, Saffrey, Oram, & Perlman, 2004) and bullying (Friedman, Koeske, Silvestre, Korr, & Sites, 2006; Ploderl & Fartacek, 2009). Furthermore, adolescents' reports of harassment related to gender atypicality and sexual orientation are strongly correlated ($r = .56$; Thompson et al., 2013). Gender-atypical adults who identify as lesbian/gay also report higher rates of victimization than their gender-typical peers (Corliss, Cochran, & Mays, 2002; Rivers & Cowie, 2006; Saewyc et al., 2006). Finally, gay men and lesbians frequently mention gender atypicality in personal narratives recounting hate crimes (Gordon & Meyer, 2007). Thus, gender typicality helped to explain victimization experiences among participants who identified as lesbian/gay in several recent studies, suggesting that it may play a crucial role in antigay prejudice.

Despite suggestive evidence linking gender atypicality to antigay prejudice, however, two factors make it difficult to confirm our hypothesis on the basis of existing data. First, most of the relevant findings conflate sexual orientation and gender atypicality by examining retrospective self-reports of lesbian/gay individuals, which may be biased by respondents'

memory distortions or current mental health status. Thus, more work from the perceiver's perspective is warranted. Second, as mentioned above, most studies linking gender atypicality to experiences with prejudice have used broad definitions of gender atypicality that incorporate hobbies, occupations, and interests (the "gendered personality"; Bem, 1993). However, many of these traits are not immediately observable to strangers, who enact a majority of the aggression against sexual minorities (Mason, 1993). The impact of gendered appearance cues may therefore be especially important for understanding antigay prejudice, yet this possibility has not been explored in depth (Wylie, Corliss, Boulanger, Prokop, & Austin, 2010). Indeed, while at least one study used experimental vignettes to demonstrate that gender atypicality helps explain prejudice against sexual minorities (especially lesbian women; see Lehavot & Lambert, 2007), these findings were not specific to appearance cues. We address both of the aforementioned issues in the current research.

The Current Research

Here, we tested whether visibly gendered characteristics form the perceptual basis for prejudice against sexual minorities. First, we sought to replicate earlier findings regarding the pervasiveness of antigay prejudice by testing whether perceivers express prejudice against targets they categorize as lesbian/gay based solely upon their facial features. We predicted that targets categorized as lesbian/gay would receive more negative evaluations than would targets categorized as straight. Second, we tested whether gendered appearance cues are associated with antigay prejudice. We predicted that gender-atypical facial features would help to explain the aforementioned association between sexual orientation categorizations and social evaluations. Third, we tested the moderating role of target sex in the association between perceived sexual orientation, gender typicality, and prejudice. Because recent research has revealed that gender-atypical women face harsher sanctions than do gender-atypical men on the basis of their appearance (Lick & Johnson, in press; O'Toole et al., 1998; Perrett et al., 1998; Rhodes et al., 2000; Thompson et al., 2013), we predicted that women categorized as lesbians would be evaluated more negatively than men categorized as gay, and that facial gender atypicality would help to explain these differences. We tested these predictions in three studies that used diverse stimuli and methods to probe the perceptual underpinnings of antigay prejudice.

Study 1

Method

Participants. Forty-two undergraduates (29 women, 13 men) participated in exchange for course credit. Three men and one woman identified as lesbian/gay; the remaining participants identified as straight (one unreported).

Stimuli. Stimuli were 48 faces that varied by sex, sexual orientation, and gender typicality (24 men—6 gay gender-typical, 6 gay gender-atypical, 6 straight gender-typical, 6 straight gender-atypical; 24 women—6 lesbian gender-typical, 6 lesbian gender-atypical, 6 straight gender-typical, 6 straight gender-atypical). These faces were a subsample of stimuli from Freeman et al. (2010), in which 10 independent coders rated the gender typicality of 158 faces (1 = *gender-typical* to 7 = *gender-atypical*). Based on coders' scores, we chose the 6 most gender-typical (i.e., most masculine men and most feminine women) and gender-atypical (i.e., least masculine men and least feminine women) faces for each sex and sexual orientation category to yield the 48 stimuli described above.

Procedure. Participants completed the study on Macintosh computers running customized stimulus presentation software. Participants viewed each face twice, providing a unique set of judgments in each block. Stimuli were presented randomly within each block.

First, participants evaluated each target on ten 7-point semantic differential scales. The items were modeled after Anderson's (1968) study of the most potent descriptors used to describe other people, and they were: appropriate–inappropriate (reverse-scored), improper–proper, respectable–indecent (reverse-scored), unseemly–seemly, acceptable–unacceptable (reverse-scored), appealing–shocking (reverse-scored), honest–dishonest, offensive–approved, in poor taste–in good taste, and cold–warm. We reasoned that these words would capture antigay prejudice to the extent that targets categorized as lesbian/gay received more negative evaluations than targets categorized as straight. Indeed, recently published studies have used these items to document antigay prejudice (Lick & Johnson, 2013). After completing the evaluations, participants categorized each target's sexual orientation (0 = *straight*, 1 = *lesbian/gay*). Sexual orientation was not mentioned until this final block, and participants received no feedback regarding the accuracy of their judgments.[1] Finally, after completing all trials, participants reported their own sex and sexual orientation before being debriefed.

Results and Discussion

We examined gendered appearance cues as a factor underlying antigay prejudice in three steps. First, we tested our prediction that targets categorized as lesbian/gay would be evaluated more negatively than targets categorized as straight. Next, we tested the impact of targets' gendered appearance on these evaluations. Finally, we tested whether target sex moderated these effects, expecting associations between gendered appearance cues, sexual orientation categorization, and prejudice to be especially robust for female targets.

In this and all subsequent studies, we tested our hypotheses with random coefficient multilevel models (RCMs).

Although we included random intercepts to account for the nested structure of the data, we were only interested in the fixed portion of each model; thus, we do not discuss random effects further. For dichotomous outcomes, we used SAS PROC GLIMMIX; for continuous outcomes, we used SAS PROC MIXED. For GLIMMIX models, we employed Quasi-Likelihood estimation, which is the default for estimating binary outcomes. For MIXED models, we employed Full Information Maximum Likelihood estimation, which enabled us to conduct likelihood ratio tests to compare the fit of models that included different fixed effects.[2]

In all models, we analyzed Target Sex and Perceived Sexual Orientation categorically ($-0.5 = male$, $0.5 = female$; $-0.5 = straight$, $0.5 = lesbian/gay$). We analyzed gender typicality continuously based upon mean ratings of independent coders from Freeman et al. (2010), on which higher values indicated more gender-atypical appearances for both sexes (hereafter, Normed Gender Typicality). Finally, we computed within-subject reliability for the evaluative items using the method described by Cranford et al. (2006), which indicates a scale's ability to capture change in participants' ratings across a range of stimuli. The items showed high within-subject reliability (0.85), so we summed them to create a continuous composite score on which higher values indicated more positive evaluations (hereafter, Evaluative Judgments). All continuous predictors were mean-centered prior to analysis.

In light of previous research suggesting that men are especially critical of other men who are deemed gender-atypical, we tested Perceiver Sex as a moderating factor in this and all forthcoming studies. Perceiver Sex emerged as a significant moderator only twice, and neither effect changed the interpretation of our findings. These effects are noted, but we subsequently dropped Perceiver Sex as a predictor from all models. We consider the relatively minor impact of Perceiver Sex at length in the General Discussion.

Sexual orientation categorization predicts prejudice. Prior research has indicated that lesbian/gay individuals face high rates of prejudice (Herek et al., 2002; Katz-Wise & Hyde, 2012). We sought to extend these findings by testing whether antigay prejudice emerges solely on the basis of visual exposure. To do so, we regressed Evaluative Judgments onto Perceived Sexual Orientation, Target Sex, and their interaction. Overall, targets categorized as lesbian/gay were evaluated more negatively than were targets categorized as straight, $B = -5.07$, $SE = 0.63$, $t = -8.01$, $p < .001$, 95% confidence interval (CI) = $[-6.31, -3.83]$. This effect was qualified by a significant two-way interaction between Perceived Sexual Orientation and Target Sex, $B = -7.88$, $SE = 1.24$, $t = -6.37$, $p < .001$, 95% CI = $[-10.31, -5.46]$. Among male targets, the association between sexual orientation categorization and evaluation was not significant, $B = -0.79$, $SE = 0.90$, $t = -0.87$, $p = .38$, 95% CI = $[-2.56, 0.99]$. Among female targets, however, those categorized as lesbians were evaluated
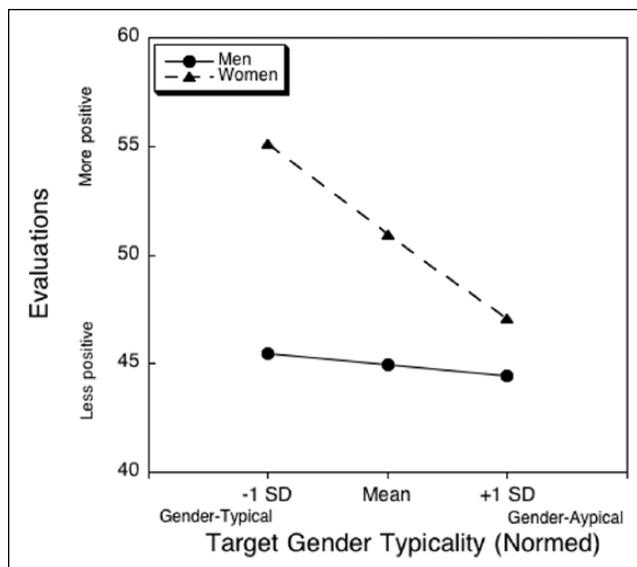

Figure 1. Evaluative judgments as a function of target sex and gender typicality in Study 1.

more negatively than were those categorized as straight, $B = -9.50$, $SE = 0.88$, $t = -10.75$, $p < .001$, 95% CI = $[-11.24, -7.77]$. Thus, antigay prejudice arose relatively early in the process of social perception, and this effect was especially robust for female targets.

Gender typicality predicts prejudice. Next, we tested whether gender typicality helped to explain the association between sexual orientation categorization and prejudice. To first establish a basic link between gender typicality and prejudice, we regressed Evaluative Judgments onto Normed Gender Typicality, Target Sex, and their interaction. The predicted two-way interaction emerged, $B = -2.63$, $SE = 0.51$, $t = -5.16$, $p < .001$, 95% CI = $[-3.63, -1.63]$. Among male targets, the effect of gender typicality was not significant, $B = -0.39$, $SE = 0.44$, $t = -0.89$, $p = .37$, 95% CI = $[-1.24, 0.47]$. Among female targets, however, gender-atypical women were evaluated more harshly than were gender-typical women, $B = -2.98$, $SE = 0.26$, $t = -11.56$, $p < .001$, 95% CI = $[-3.49, -2.48]$ (Figure 1).

We have shown that women who were ultimately categorized as lesbians and who exhibited gender-atypical facial features received harsh evaluations. Next, we tested our focal prediction that these two routes to prejudice are functionally related. We began by testing whether gender typicality predicted sexual orientation categorizations. Specifically, we regressed Perceived Sexual Orientation onto Normed Gender Typicality, Target Sex, and their interaction. The two-way interaction was marginally significant, $B = 0.20$, $SE = 0.11$, $t = 1.87$, $p = .06$, 95% CI = $[-0.01, 0.41]$. Among men, gender-atypical targets were more likely to be categorized as gay than were gender-typical targets, $B = 1.17$, $SE = 0.08$, $t = 14.05$, $p < .001$, 95% CI = $[1.01, 1.34]$. Among women,

gender-atypical targets were more likely to be categorized as lesbians than were gender-typical targets, and this effect was stronger than it was for men, $B = 1.32$, $SE = 0.07$, $t = 17.76$, $p < .001$, 95% CI = [1.17, 1.47].

Thus far, we have found that gender-atypical women were perceived to be lesbians, and that both gender-atypical women and those perceived to be lesbians were evaluated negatively. On the other hand, gender-atypical men were categorized as gay, but gender-atypical men and those perceived to be gay were *not* evaluated negatively. These findings suggest that gender-atypical appearance cues may help to explain antigay prejudice directed against women but not against men. To test this hypothesis directly, we conducted a series of multilevel regression analyses to determine whether accounting for facial gender typicality reduced the association between a target's perceived sexual orientation and their subsequent evaluations. We began by regressing Evaluative Judgments onto Perceived Sexual Orientation separately for male and female targets. Among female targets, those categorized as lesbians were evaluated more negatively than those categorized as straight, $B = -9.50$, $SE = 0.88$, $t = -10.75$, $p < .001$, 95% CI = [−11.24, −7.77]. Among male targets, perceived sexual orientation did not reliably predict evaluations, $B = -0.79$, $SE = 0.90$, $t = -0.87$, $p = .38$, 95% CI = [−2.56, 0.99]. Next, we added Normed Gender Typicality to each model. Among female targets, accounting for the effects of gender typicality greatly reduced prejudice related to perceived sexual orientation; in fact, the association between Perceived Sexual Orientation and Evaluative Judgments for women was reduced by more than half after accounting for Normed Gender Typicality, $B = -4.66$, $SE = 1.24$, $t = -3.77$, $p < .001$, 95% CI = [−7.08, −2.23]. Among male targets, accounting for the effects of Normed Gender Typicality had a negligible effect on evaluations related to perceived sexual orientation, $B = -0.52$, $SE = 1.03$, $t = -0.51$, $p = .61$, 95% CI = [−2.54, 1.50].

To obtain corroborating evidence of the differential role of gender typicality in predicting prejudice against targets categorized as lesbian versus those categorized as gay, we constructed a series of nested regression models. First, we regressed Evaluative Judgments onto Perceived Sexual Orientation. Next, we added Normed Gender Typicality, Target Sex, and their interaction to the model, and we conducted a likelihood ratio test on the deviance values from these two models. Results indicated that including the gender typicality effects in the model significantly improved model fit, $\chi^2(3) = 171.90$, $p < .001$. Thus, accounting for the effect of gender typicality that differed between men and women improved the predictive power of the regression model linking sexual orientation categorizations to prejudice.

Overall, Study 1 provided two insights to research on antigay prejudice. First, sexual orientation categorizations predicted evaluative judgments, such that targets who were ultimately categorized as lesbian/gay received more negative evaluations than did targets who were ultimately categorized

as straight. Because perceivers evaluated the targets before explicitly categorizing their sexual orientations, these results indicate that antigay prejudice emerges on the basis of facial features prior to explicit sexual orientation categorizations. Second, perceptions of sexual orientation were tethered to gendered facial features, especially for women. Specifically, women who appeared gender-atypical tended to be categorized as lesbians, and they also tended to be evaluated negatively. Accounting for this effect of gender typicality reduced the association between perceived sexual orientation and evaluations of women by half. On the other hand, gender typicality did not play a notable role in evaluations of men categorized as gay. Collectively, these findings reveal that antigay prejudice arises on the basis of gendered facial cues for women, but not for men.

Study 2

In Study 1, we established that antigay prejudice emerges on the basis of gendered facial features, especially for women. Although this pattern of results was consistent with our predictions, several factors warrant further scrutiny. First, Study 1 employed a measure of social evaluations based on descriptors known to predict attitudes toward other people, but many of the items in this scale may have been uniquely related to perceptions of gender typicality (e.g., inappropriate, unacceptable). More global attitude measures would help to ensure that our results were not due to the specific items included in the evaluation scale. Second, although Study 1 was externally valid insofar as perceivers evaluated facial photographs of real people who varied in sexual orientation and gender typicality, the stimuli may also have varied in other unexpected ways (e.g., attractiveness). Replicating our results with a new stimulus set would lend further weight to our conclusions. Third, we intentionally maintained a consistent order of judgments in Study 1, such that evaluations always occurred before sexual orientation categorizations. This design allowed us to establish that antigay prejudice emerged prior to explicit sexual orientation categorizations. That said, it is also possible that perceivers' initial evaluations affected their subsequent sexual orientation categorizations. Finally, Study 1 employed a normed measure of gender typicality that was based upon ratings from independent coders. Although this method was empirically rigorous, it would be compelling to demonstrate similar effects using perceivers' own ratings of each target's gender typicality, which may play an important role in their evaluations. With these considerations in mind, we designed Study 2 to replicate our previous effects using a new stimulus set, broader measures of prejudice, and subjective perceptions of gender typicality within a fully counterbalanced design.

We should also note that although our initial finding that lesbian women were evaluated more harshly than gay men on the basis of their gender-atypical facial appearance is consistent with recent work in social vision (e.g., Lick &

Johnson, 2013), it contradicts other work on antigay prejudice. Indeed, the majority of research on this topic has reported the opposite trend (Bem, 1993; Katz-Wise & Hyde, 2012). We suspect that this discrepancy stems from methodological differences across studies. Earlier work on antigay prejudice relied primarily on retrospective self-reports from lesbian/gay adults or broad attitudinal measures that asked participants about their feelings toward hypothetical targets whose behaviors were described in vignettes. In contrast, our studies examined visible cues to sexual orientation. It is possible that different factors govern prejudice elicited by visual cues versus behavioral cues. In particular, physical attractiveness is one factor that may be specific to antigay prejudice that stems from visual cues. Indeed, numerous studies have demonstrated that perceivers judge a target's attractiveness based upon visible cues in the face and body (Johnson & Tassinary, 2007a, 2007b; Thornhill & Gangestad, 1996). Furthermore, these attractiveness judgments are yoked to both gender typicality and broader social evaluations, such that gender-atypical women tend to be perceived as unattractive (Gillen, 1983; Johnson & Tassinary, 2007b; Johnston & Franklin, 1993; Rhodes et al., 2000) and receive harsh social evaluations (Dion, Berscheid, & Walster, 1972; Mathes & Kahn, 1975). On the other hand, gender-atypical men are sometimes judged as more attractive and evaluated more favorably than gender-typical men, especially for facial stimuli (Lick & Johnson, in press; O'Toole et al., 1998; Perrett et al., 1998; Rhodes et al., 2000). In light of these findings, it is plausible that gender atypicality explains prejudice against lesbian women but not gay men because of the differential role that physical attractiveness plays in social evaluations of each sex. We tested this hypothesis to help clarify the robust sex differences observed in Study 1.

Participants

One hundred sixty-five Internet users (75 men, 90 women) participated in an online study. Most participants identified as straight (91%), though several identified as lesbian, gay, or bisexual (9%).

Stimuli

Stimuli were a subsample of 40 full-color White faces from Johnson and Ghavami (2011), which depicted real people who varied by sex and sexual orientation (10 gay men, 10 straight men, 10 lesbian women, 10 straight women).

Procedure

Participants were recruited from Amazon Mechanical Turk for a study about their perceptions of other people, with no mention of gender or sexual orientation. After providing consent, participants viewed each face three times, providing a unique set of judgments in each block. Stimuli were presented

randomly within each block, and block order was fully counterbalanced across participants. In one block, participants evaluated each target along three 10-point feeling thermometers: Attractiveness (How attractive is this person? 1 = *not at all attractive* to 10 = *very attractive*), Warmth (How warmly do you feel toward this person? 1 = *not at all warm* to 10 = *very warm*), and Desire for Contact (How much would you like to be friends with this person? 1 = *not at all* to 10 = *very much*). In the remaining blocks, participants categorized each target's sexual orientation (*lesbian/gay* or *straight*) and gender (1 = *very masculine* to 10 = *very feminine*). After completing all judgments, participants reported their own sex and sexual orientation before being debriefed.

Results and Discussion

In Study 2, we first sought to replicate our initial findings about the role of gender typicality in antigay prejudice, this time using a fully counterbalanced design with new stimuli and broader measures of interpersonal prejudice. Additionally, we sought to test a mechanism underlying the sex differences we observed previously. Specifically, we predicted that gender-atypical women would be perceived as relatively unattractive, and that perceptions of unattractiveness would help to explain the link between gender atypicality and prejudice against lesbian women. We did not expect attractiveness to predict prejudice against gay men, because gender-atypical facial features are frequently rated as attractive for men (Perrett et al., 1998; Rhodes et al., 2000).

As before, we analyzed Target Sex and Perceived Sexual Orientation categorically (−0.5 = *male*, 0.5 = *female*; −0.5 = *straight*, 0.5 = *lesbian/gay*). Responses to the Warmth and Contact items were highly correlated ($r = .85$), so we combined them into a composite score on which higher values indicated more favorable evaluations (hereafter, Evaluative Judgments). Moreover, we multiplied participants' gender judgments by −1 for male targets, yielding a common index for the degree of atypical appearance for both sexes (hereafter, Perceived Gender Typicality). We tested our hypotheses using an analytic approach identical to Study 1.

Sexual orientation categorization, gender typicality, and prejudice. First, we sought convergent evidence that antigay prejudice arises specifically against women categorized as lesbians following exposure to their faces. To do so, we regressed Evaluative Judgments onto Perceived Sexual Orientation, Target Sex, and their interaction. As before, the two-way interaction was significant, $B = -2.93$, $SE = 0.21$, $t = -13.93$, $p < .001$, 95% CI = [−3.08, −2.79]. Among male targets, those categorized as gay were evaluated more favorably than those categorized as straight, $B = 0.40$, $SE = 0.14$, $t = 2.81$, $p = .01$, 95% CI = [0.30, 0.49]. Among female targets, in contrast, those categorized as lesbians were evaluated more negatively than those categorized as straight, $B = -2.75$, $SE = 0.16$, $t = -17.75$, $p < .001$, 95% CI = [−2.86, −2.65].
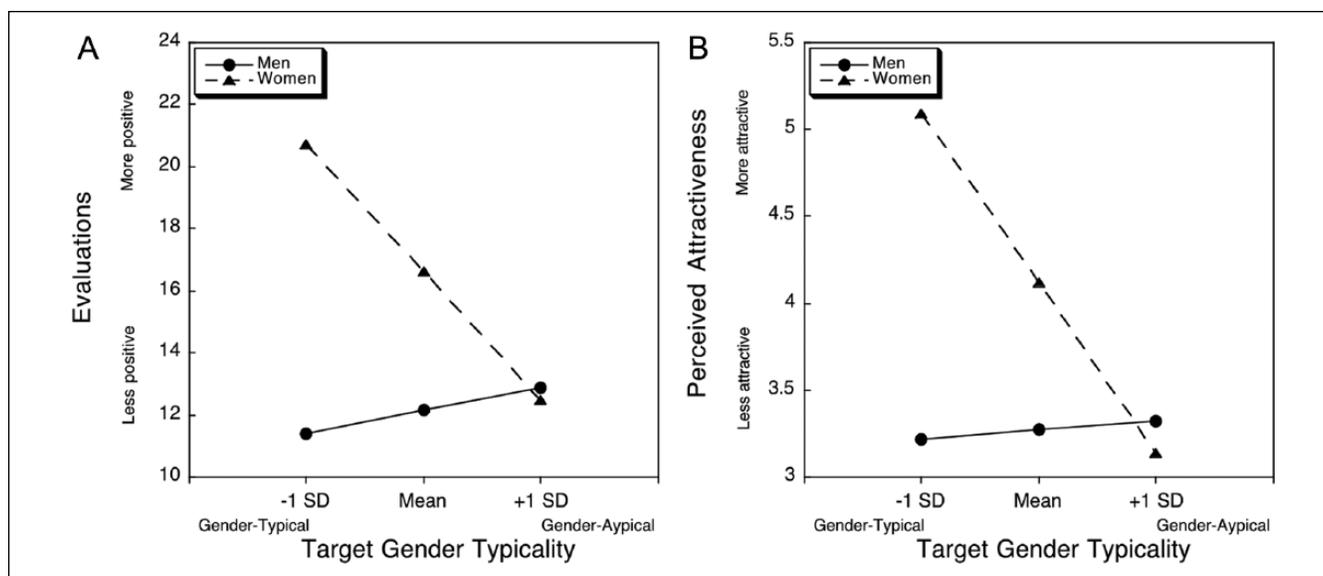
Figure 2. Evaluative judgments as a function of target sex and gender typicality (A) and perceived attractiveness as a function of target sex and gender typicality (B) in Study 2.

Next, we tested whether facial gender typicality was differentially associated with prejudice against men and women. Specifically, we regressed Evaluative Judgments onto Perceived Gender Typicality, Target Sex, and their interaction. Once again, the two-way interaction was significant, $B = -1.08$, $SE = 0.05$, $t = -23.65$, $p < .001$, 95% CI = [−1.11, −1.05]. Gender-atypical men were evaluated more favorably than gender-typical men, $B = 0.27$, $SE = 0.04$, $t = 6.93$, $p < .001$, 95% CI = [0.25, 0.30]. Among female targets, the opposite was true: Gender-atypical women were evaluated more harshly than gender-typical women, $B = -0.99$, $SE = 0.03$, $t = -33.96$, $p < .001$, 95% CI = [−1.01, −0.97] (Figure 2A).

We then sought to replicate our primary finding from Study 1 that gender typicality explains evaluative judgments related to perceived sexual orientation that are moderated by target sex. As before, we first conducted a series of multilevel regression analyses to test whether accounting for facial gender typicality reduced the association between perceived sexual orientation and social evaluations. We began by regressing Evaluative Judgments onto Perceived Sexual Orientation separately for male and female targets. Among female targets, those categorized as lesbians were evaluated more negatively than were those categorized as straight, $B = -2.75$, $SE = 0.16$, $t = -17.75$, $p < .001$, 95% CI = [−2.88, −2.65].[3] Among male targets, those categorized as gay were evaluated more positively than were those categorized as straight, $B = 0.40$, $SE = 0.14$, $t = 2.81$, $p = .01$, 95% CI = [0.30, 0.49]. Next, we regressed Evaluative Judgments onto Perceived Gender Typicality and Perceived Sexual Orientation within each sex category. To the extent that facial gender atypicality helps to explain the occurrence of antigay prejudice, the magnitude of the effect for Perceived Sexual

Orientation should be reduced in the models that account for Perceived Gender Typicality. Among female targets, accounting for the effects of Gender Typicality reduced prejudice against lesbian women by 71%, $B = -0.81$, $SE = 0.16$, $t = -5.23$, $p < .001$, 95% CI = [−0.92, −0.71]. Among male targets, accounting for Gender Typicality reduced the preference for gay men by 78%, $B = 0.09$, $SE = 0.15$, $t = 0.58$, $p = .56$, 95% CI = [−0.01, 0.19]. Thus, gender typicality helped to explain sexual orientation-related evaluations of both men and women, but in opposite directions. Perceivers evaluated gender-atypical men favorably, which helped to explain their preference for targets they categorized as gay. In contrast, perceivers evaluated gender-atypical women negatively, which helped to explain their distaste for targets they categorized as lesbians.

As a final test of the differential role of gender typicality in predicting evaluations related to men's and women's perceived sexual orientations, we constructed a series of nested regression models. In the first model, we regressed Evaluative Judgments onto Perceived Sexual Orientation. In the second model, we included Gender Typicality, Target Sex, and their interaction. We then performed a likelihood ratio test on the deviance values from these two models, which revealed that including the latter effects significantly improved model fit, $\chi^2(3) = 1191.60$, $p < .001$. Thus, accounting for the effect of gender typicality that differs across men and women enhanced statistical models predicting evaluations from sexual orientation categorizations.

Perceived attractiveness and prejudice related to gender typicality and sexual orientation. Thus far, we have found that gender-atypical women are evaluated more negatively than

Table 1. Regression Coefficients Linking Perceived Sexual Orientation, Perceived Gender Typicality, and Target Sex to Evaluative Judgments Before and After Accounting for Perceived Attractiveness (Study 2).

	Coefficient before accounting for perceived attractiveness	Coefficient after accounting for perceived attractiveness	Percent reduction after accounting for perceived attractiveness (%)
Perceived Sexual Orientation × Target Sex	−1.36	−0.46	66.18
Gender Typicality × Target Sex	−0.92	−0.25	72.83
Perceived Sexual Orientation × Gender Typicality × Target Sex	0.62	0.08	87.10

gender-typical women, which helps to explain prejudice against those categorized as lesbians. The effects for men were quite different: Study 1 revealed no systematic prejudice against gender-atypical or gay men, and Study 2 revealed that participants actually preferred gender-atypical and gay men to gender-typical and straight men. We next examined whether Perceived Attractiveness helped to explain these sex differences. First, to test whether evaluations were generally associated with attractiveness ratings, we regressed Evaluative Judgments onto Perceived Attractiveness. As expected, perceivers evaluated targets favorably when they were perceived to be attractive, $B = 1.26$, $SE = 0.02$, $t = 75.01$, $p < .001$, 95% CI = [1.23, 1.29].[4] Next, we tested whether perceived attractiveness varied as a function of target sex and gender typicality. Specifically, we regressed Perceived Attractiveness onto Target Sex, Gender Typicality, and their interaction. The two-way interaction was significant, $B = −0.67$, $SE = 0.02$, $t = −28.46$, $p < .001$, 95% CI = [−0.71, −0.62]. Among male targets, gender-atypical faces were rated as slightly more attractive than gender-typical faces, $B = 0.04$, $SE = 0.02$, $t = 1.91$, $p = .06$, 95% CI = [<−0.01, 0.08]. Among female targets, the opposite was true, such that gender-atypical faces were rated as less attractive than gender-typical faces, $B = −0.72$, $SE = 0.02$, $t = −48.08$, $p < .001$, 95% CI = [−0.75, −0.69] (Figure 2B).

These findings are consistent with the notion that attractiveness judgments predict social evaluations and that gender typicality predicts attractiveness judgments differently for men and women. Still, if our hypothesis is correct, then controlling for perceived attractiveness should reduce the magnitude of the associations between evaluations and both perceived sexual orientation and gender typicality for both men and women. We tested this possibility with a series of nested regression models. To begin, we regressed Evaluative Judgments onto Perceived Sexual Orientation, Perceived Gender Typicality, Target Sex, and all interactions. As before, we uncovered significant two-way interactions between Perceived Sexual Orientation and Target Sex and between Perceived Gender Typicality and Target Sex, as well as a significant three-way interaction between Perceived Sexual Orientation, Perceived Gender Typicality, and Target Sex (see Table 1). Next, we added Perceived Attractiveness to the model. Accounting for attractiveness

reduced the magnitude of all aforementioned effects by more than half. In fact, a likelihood ratio test on the deviance values from these two models indicated that the inclusion of Perceived Attractiveness led to a sizable and significant improvement in model fit, $\chi^2(1) = 2865.00$, $p < .001$. Thus, attractiveness explained a large portion of the variance in evaluative judgments related to sexual orientation categorizations and gender typicality for men and women.

Overall, Study 2 built upon our initial findings in several important ways. First, we replicated our previous findings using broader measures of prejudice, a new stimulus set, and a fully counterbalanced design. We again found that women categorized as lesbians on the basis of their facial features experienced prejudice and that such prejudice was driven by their gender-atypical facial appearance. In contrast, men categorized as gay on the basis of their facial features received favorable evaluations, in part because of their gender-atypical facial appearance. These findings for male targets differed somewhat from our previous study, which indicated no systematic differences in evaluations as a function of men's perceived sexual orientation. We suspect that this discrepancy may be due to differences in the stimuli we used for Study 2, which were collected from public dating websites (see Johnson & Ghavami, 2011). Individuals may accentuate gendered aspects of their appearance on these websites in order to attract mates, and previous work has shown that preferences for gender-atypical men may become more pronounced as gendered features become extreme (Lick & Johnson, in press).

Study 2 also highlighted attractiveness as a key factor underlying the differential effects of gender typicality for evaluations of men and women categorized as gay and lesbian, respectively. Specifically, we found that controlling for perceived attractiveness reduced the sex-moderated effects of gender typicality and sexual orientation categorizations on evaluations. Thus, negative evaluations of lesbian women were tethered to gender atypicality, which was perceived to be unattractive. On the other hand, favorable evaluations of gay men were tethered to gender atypicality, which was perceived to be attractive. To our knowledge, this is the first study implicating perceived attractiveness in prejudiced evaluations of targets believed to be sexual minorities.

Study 3

Across two studies, we found evidence for the perceptual underpinnings of antigay prejudice. Still, it is important to note that sexual orientation categorizations, attractiveness judgments, and broader social evaluations are all functionally linked through visibly gendered features. The interdependent nature of these factors makes it difficult to confirm whether gender typicality truly explains evaluative judgments over and above the effect of sexual orientation categorization. Thus, our primary goal in Study 3 was to experimentally manipulate perceived sexual orientation in order to gain a better understanding of the independent effects of perceived sexual orientation and gendered appearance on social evaluations.[5]

Method

Participants. One hundred thirteen Internet users (52 women, 55 men, 6 unreported) participated in an online study. Most participants identified as straight (81%), though some identified as lesbian, gay, or bisexual (19%).

Stimuli. Stimuli included the same 48 facial photographs described in Study 1.

Procedure. Participants were recruited from Amazon Mechanical Turk for a study about their perceptions of other people, with no mention of gender or sexual orientation. After providing consent, participants were randomly assigned to one of two conditions. In both conditions, participants evaluated the 48 stimuli along the same dimensions described in Study 1, with the addition of physical attractiveness (1 = *unattractive* to 7 = *attractive*). In the *No Information Condition*, each stimulus photograph appeared in isolation, without additional information; in the *Sexual Orientation Information Condition*, each stimulus photograph was paired with a statement indicating the target's true sexual orientation (e.g., "This man is gay"). This manipulation ensured that participants considered each target's sexual orientation while making their evaluative judgments. After completing their evaluations, participants indicated their own sex and sexual orientation before being debriefed.

Results and Discussion

We have argued that gender typicality contributes to antigay prejudice over and above the effects of sexual orientation categorization. As such, we predicted that experimental condition (*Sexual Orientation Information* vs. *No Information*) would have no effect on interpersonal evaluations after accounting for the effects of gender typicality. To test this hypothesis, we analyzed Target Sex, Target Sexual Orientation, and Information Condition categorically (*male* = −0.5, *female* = 0.5; *straight* = −0.5, *gay* = 0.5; *No Information*

Condition = −0.5, *Sexual Orientation Information Condition* = 0.5). We examined gender typicality based upon ratings of independent coders, as described in Study 1 (hereafter, Normed Gender Typicality). As before, we observed high within-subject reliability (.93) across the evaluative items, so we summed them into a composite score on which higher values indicated more favorable evaluations.

Sexual orientation categorizations, gender typicality, and prejudice. First, we sought to replicate our finding that sexual orientation categorizations based upon facial features are associated with evaluative judgments. Our analytic approach differed from prior analyses because we did not obtain explicit sexual orientation categorizations in this study. Instead, we regressed Evaluative Judgments onto Target Sexual Orientation, Target Sex, and their interaction only among participants in the Sexual Orientation Information Condition. The expected two-way interaction emerged, $B = -2.66$, $SE = 0.80$, $t = -3.34$, $p = .001$, 95% CI = [−4.22, −1.10]. Among male targets, sexual orientation did not predict evaluations, $B = -0.61$, $SE = 0.56$, $t = -1.09$, $p = .27$, 95% CI = [−1.74, 0.51]. Among female targets, however, those labeled as lesbians were evaluated more negatively than those labeled as straight, $B = -3.27$, $SE = 0.56$, $t = -5.82$, $p < .001$, 95% CI = [−4.29, −2.25].

We next sought to replicate our finding that facial gender atypicality is associated with negative evaluations of women but not men. To do so, we regressed Evaluative Judgments onto Normed Gender Typicality, Target Sex, and their interaction. The two-way interaction was highly significant, $B = -2.13$, $SE = 0.25$, $t = -8.70$, $p < .001$, 95% CI = [−2.61, −1.65]. Among men, gender-atypical targets were evaluated more favorably than were gender-typical targets, $B = 0.67$, $SE = 0.21$, $t = 3.11$, $p = .002$, 95% CI = [0.25, 1.09]. Among women, the opposite effect emerged, such that gender-atypical targets were evaluated less favorably than were gender-typical targets, $B = -1.47$, $SE = 0.12$, $t = -12.57$, $p < .001$, 95% CI = [−1.69, −1.24].

Finally, we sought to replicate our primary finding that gender atypicality helps to explain prejudice against lesbian women. We conducted these analyses only among participants in the Information Condition, who knew each target's true sexual orientation. We began by regressing Evaluative Judgments onto Target Sexual Orientation separately for male and female targets. Among men, there was no difference in evaluations for gay and straight targets, $B = -0.61$, $SE = 0.57$, $t = -1.08$, $p = .28$, 95% CI = [−1.74, 0.51]. Among women, however, lesbians were evaluated more negatively than were straight women, $B = -3.27$, $SE = 0.56$, $t = -5.82$, $p < .001$, 95% CI = [−4.29, −2.25]. Next, we added Normed Gender Typicality to these models. If facial gender atypicality helps to explain the occurrence of antigay prejudice, then the magnitude of the effect for Target Sexual Orientation should be reduced after accounting for Normed Gender Typicality. Among female targets, accounting for gender

typicality indeed reduced the magnitude of the prejudice related to sexual orientation by 18%, $B = -2.69$, $SE = 0.51$, $t = -5.24$, $p < .001$, 95% CI = [−3.70, −1.68]. Among male targets, accounting for target gender typicality had a negligible effect on evaluations related to sexual orientation; the effect of Target Sexual Orientation on Evaluations remained non-significant, $B = -0.86$, $SE = 0.58$, $t = -1.47$, $p = .14$, 95% CI = [−2.00, 0.29].

To further probe this effect, we ran a series of nested regression models to test whether accounting for gender typicality helped to explain the differences in evaluations of sexual minority men and women. First, we regressed Evaluative Judgments onto Target Sexual Orientation. Next, we added Perceived Gender Typicality, Target Sex, and all interactions to the model. We then performed a likelihood ratio test on the deviance values from these two models. As expected, the inclusion of the gender typicality and target sex effects significantly improved model fit, $\chi^2(5) = 156.10$, $p < .001$. Thus, accounting for the effect of gender typicality that differed for men and women significantly improved the fit of regression models predicting prejudice associated with a target's sexual orientation.

Sexual orientation information and prejudice. Having replicated our previous findings, our final goal in Study 3 was to determine whether gender typicality functions over and above the effects of sexual orientation categorization to predict antigay prejudice. If sexual orientation categorization is unrelated to these biases, as we have argued, then there should be no significant differences in evaluations among participants who received explicit information about targets' sexual orientations and those who did not. As a preliminary test of this possibility, we regressed Evaluative Judgments onto Condition. These variables were not significantly associated with one another, indicating that explicit information about targets' sexual orientations did not reliably alter evaluations, $B = 0.61$, $SE = 1.66$, $t = 0.37$, $p = .71$, 95% CI = [−2.68, 3.91]. As a more specific test of our hypothesis, we next regressed Evaluative Judgments onto Condition, Target Sexual Orientation, and their interaction. As expected, the two-way interaction was not significant, $B = -0.93$, $SE = 0.59$, $z = -1.58$, $p = .11$, 95% CI = [−2.09, 0.22]. In fact, the effect of Condition remained non-significant for evaluations of both straight and lesbian/gay targets, Bs = 1.08 and 0.15, SEs = 1.68 and 1.93, ts = 0.64 and 0.08, ps = .52 and .94, 95% CIs = [−2.24, 4.40] and [−3.67, 3.96], respectively. Finally, we regressed Evaluative Judgments onto Condition, Target Sexual Orientation, Target Sex, and all interactions. As expected, the three-way interaction was not significant, $B = -0.16$, $SE = 1.15$, $t = -0.14$, $p = .89$, 95% CI = [−2.42, 2.10], indicating that the non-significant interaction between Target Sexual Orientation and Condition remained constant across male and female targets. Collectively, these findings indicate that receiving explicit information about targets' sexual orientations did not reliably alter perceivers' evaluations of men or women.

To further establish that facial gender typicality predicts evaluative judgments over and above the effects of sexual orientation categorization, we regressed Evaluative Judgments onto Condition, Normed Gender Typicality, and their interaction. If our hypothesis is correct, then facial gender typicality should predict evaluations even after accounting for any effects related to targets' sexual orientations. As expected, Condition did not reliably predict Evaluative Judgments, $B = 0.61$, $SE = 1.66$, $t = 0.37$, $p = .71$, 95% CI = [−2.68, 3.91], but Normed Gender Typicality remained highly predictive of Evaluative Judgments even after accounting for the effect of Condition, $B = -1.11$, $SE = 0.11$, $t = -10.08$, $p < .001$, 95% CI = [−1.32, −0.89]. Furthermore, a likelihood ratio test of the deviance values for a model including Normed Gender Typicality, Target Sex, and their interaction and a model that also included Condition was not significant, $\chi^2(1) = 0.10$, $p = .750$. Thus, the addition of explicit labels describing targets' sexual orientations had no appreciable impact on social evaluations over and above the effect of gendered facial appearance.

In summary, gendered facial cues predicted social evaluations, whereas information about a target's sexual orientation provided no additional explanatory power. In fact, we found no evidence to suggest that explicit information about a target's sexual orientation affected perceivers' evaluations after accounting for the effects of gendered facial features. These findings lend experimental support to our hypothesis that gendered appearance cues help to explain antigay prejudice over and above effects related to sexual orientation categorization.

General Discussion

Across three studies with diverse outcome measures and stimuli, individuals categorized as sexual minorities were evaluated more negatively than individuals categorized as straight solely on the basis of their facial features. In all three studies, these effects were driven exclusively by prejudice against women categorized as lesbians. Associations between male sexual orientation categorizations and prejudice were less robust; in some cases, men categorized as gay were actually evaluated more favorably than were men categorized as straight.

Aside from documenting the fact that antigay prejudice arises against women on the basis of their facial features, the primary contribution of the current work was to pinpoint the perceptual underpinnings of such prejudice. We found that facial gender typicality played a critical role in both sexual orientation categorizations and evaluative judgments of female targets. Indeed, independent coders' ratings of gender typicality (Studies 1 and 3) and observers' subjective perceptions of gender typicality (Study 2) predicted sexual orientation categorizations, such that women with gender-atypical appearances tended to be categorized as lesbians. Furthermore, gender typicality predicted social evaluations, such that

women with gender-atypical appearances tended to be evaluated negatively. Perceived attractiveness helped to explain this link between gender atypicality and negative evaluations of lesbian women: Women categorized as lesbians appeared gender-atypical, which was perceived as unattractive, leading to harsh evaluations. In fact, accounting for the association between gender typicality and perceived attractiveness greatly reduced the amount of prejudice directed against women categorized as lesbians.

Gendered facial cues functioned differently for evaluations of men. Across our studies, men categorized as gay generally did not receive negative evaluations—in some case, they received more favorable evaluations than did men categorized as straight. Furthermore, perceivers were less likely to use gender atypicality as a heuristic for judging men's sexual orientations relative to women's sexual orientations, and overall, gender atypicality had weaker implications for evaluations of men relative to women. Thus, gendered facial appearance did not play a substantive role in prejudice against men categorized as gay.

Collectively, then, the current studies revealed three novel findings regarding the perceptual underpinnings of antigay prejudice. First, gender-atypical facial features give rise to lesbian/gay categorizations for both male and female targets. Second, these gender-atypical features are perceived as unattractive for women, compelling negative evaluations that manifest as prejudice against women categorized as lesbians. Third, gender-atypical facial features are perceived as somewhat attractive for men, enabling more positive evaluations. Thus, men who might otherwise face prejudice because of their sexual minority status may benefit from an appearance-related buffer.

Two of our findings warrant further scrutiny. First, lesbian and gender-atypical women received more negative evaluations than did gay and gender-atypical men, and second, these effects were comparable for male and female perceivers. These two observations seem at odds with previous research on antigay prejudice, which indicated the highest rates of prejudice against gay and gender-typical men that were most frequently perpetrated by other men. We argue, however, that these patterns are not necessarily contradictory insofar as they represent distinct aspects of interpersonal perception and interaction. Indeed, the prior work relied on behavioral descriptions of sexual minority targets, whereas our work focused exclusively on visual depictions. This distinction raises the intriguing possibility that evaluative biases manifest differently when based upon visible versus behavioral gender atypicality: Perceivers may find behavioral gender atypicality to be especially untoward among men, but visual gender atypicality to be especially untoward among women, thus fostering distinct patterns of prejudice. That is, prejudice may uniquely target men who *behave* in an effeminate manner but women who *appear* masculine. Moreover, the comparable biases expressed by male and female perceivers in our studies suggest that

appearance-based prejudice against lesbian women is relatively robust to sex differences, perhaps because it occurs relatively early in social perception. A different pattern may emerge later in the perceptual process, especially when gendered behaviors are considered. Although theoretically tenable, these possibilities remain speculative and in need of future empirical scrutiny.

Our studies had several methodological strengths that deserve mention. First, a majority of prior research focused on the target's perspective when assessing antigay prejudice, making it impossible to disentangle targets' experiences from retrospective memory biases. In contrast, we measured gender typicality, sexual orientation categorizations, and evaluative judgments from the perceiver's perspective. As such, these are among the first findings to demonstrate the process and propensity of antigay prejudice against discrete targets, addressing recent calls for studies of antigay prejudice that employ methods other than retrospective self-report (Gordon & Meyer, 2007). Furthermore, our findings held across several different measures of prejudice and gender typicality, indicating their generalizability. Finally, we replicated our findings in both student and community samples, providing convergent evidence for the role of gender typicality and attractiveness in evaluations of targets categorized as sexual minorities.

Alongside these methodological strengths, our studies also offered several theoretical contributions. First, with few exceptions (see Blair, Judd, & Fallman, 2004; Blair, Judd, Sadler, & Jenkins, 2002), research has focused on social categorization as a necessary precursor of group-related prejudice. More recently, research in social vision has revealed the mechanisms by which perceivers exploit visual information to arrive at social categorizations in the first place. The current work unites these literatures by demonstrating that the very cues perceivers use to render sexual orientation categorizations also independently affect social evaluations. As such, our findings highlight the perceptual underpinnings of antigay prejudice that arise prior to explicit categorizations, paving the way for new lines of research on the perceptual factors that guide interpersonal prejudice.

Furthermore, prior studies of antigay prejudice focused largely on reactions to gendered personality traits (Bem, 1993). Importantly, however, such information is not immediately apparent to strangers (Wylie et al., 2010), who commit most hate crimes without premeditation and in response to their immediate social perceptions (Mason, 1993). Reactions to gendered personality and behavioral traits therefore might not account for the majority of hate crimes, begging the question: What does motivate these acts of bias? Here, we used laboratory paradigms to demonstrate the crucial role of visibly gendered appearance cues in prejudice against targets perceived to be sexual minorities. Our findings suggest that such visible cues lay the foundation for antigay prejudice relatively early in the process of social perception, providing a proximal explanation for interpersonal animus that emerges even prior to interpersonal contact.

Finally, the current findings provide several insights to fuel future research. First, in conjunction with previous work, our findings raise the intriguing possibility that antigay prejudice functions differently as a function of the degree of interpersonal contact between perceiver and target (e.g., visual exposure to gendered cues vs. knowledge of gendered behavioral tendencies). Future research that directly compares these distinct routes to prejudice can help to inform theories of impression formation, enabling us to predict the circumstances under which prejudice will arise. Second, it is important to note that our data are mute about the causal direction of effects. It remains possible that either (a) gender atypicality gives rise to sexual minority categorizations, which in turn predict negative evaluations, or (b) sexual minority categorizations arouse beliefs that a target is gender-atypical, which in turn predict negative evaluations. Although Study 3 provided some evidence that negative evaluations are independent of explicit sexual orientation categorizations, future experimental research that manipulates both perceived sexual orientation and facial gender typicality is necessary to clarify the directionality of these effects. Finally, we uncovered reliable differences in the role of gender typicality for evaluative judgments of sexual minority women and men, but our methods were not sufficiently sensitive to pinpoint the time course along which these differences emerged. Some evidence suggests that gendered features differentiate men and women very early in the perceptual stream, but that this process is disrupted for faces exhibiting gender-atypical cues (Freeman et al., 2008). These findings support the possibility that the evaluative implications of gender atypicality arise early in visual processing. However, it may also be the case that perceivers must categorize a target's sex before they can appreciate gender typicality and ultimately form an evaluative impression—a slower and more sequential process. Questions about the time course of gendered face processing are ripe for future research, which will continue to inform our knowledge of the proximal causes of antigay prejudice as well as the most practical routes to intervention.

Conclusion

In summary, the current studies reveal that visibly gendered cues are sufficient to arouse antigay prejudice. Specifically, prejudice against women categorized as lesbians is rooted in the perception of gender-atypical facial cues, which are deemed physically unattractive. These findings provide crucial insights not only for theories of social evaluation, but also for everyday life. Indeed, they provide novel information about the factors that arouse violence against sexual minorities at zero acquaintance, similar to the incidents described at the beginning of this article. Continuing to explore these proximal underpinnings of prejudice will be crucial if we hope to fully understand and eventually mitigate the difficult interpersonal experiences faced by individuals who are perceived to be sexual minorities.

Notes

1. It is not necessary for sexual orientation categorizations to be accurate in order to motivate prejudice, so we do not focus on accuracy here. That said, we realize that the accuracy of perceivers' judgments is of interest to some readers. We therefore report signal detection analyses for Studies 1 and 2 in an online supplement. We do not report analogous findings for Study 3 because participants did not explicitly categorize targets' sexual orientations in that study.

2. Likelihood ratio tests allowed us to assess whether gender atypicality helped to explain links between perceived sexual orientation and evaluative judgments. In this way, likelihood ratio tests provide descriptive information similar to statistical mediation while avoiding the drawbacks of mediation (e.g., concerns about causal directionality and distributional confusion with binary mediators). Thus, likelihood ratio tests allowed us to probe the more general prediction espoused here—namely, that gender atypicality plays a crucial role in antigay prejudice—without requiring us to specify causal directions that are unsupported by our data.

3. This effect was qualified by a significant two-way interaction with Perceiver Sex, $B = 0.82$, $SE = 0.31$, $t = 2.65$, $p = .008$. Both male and female perceivers evaluated women they categorized as lesbians more harshly than women they categorized as straight, but the effect was stronger among male perceivers, Bs = −3.20 and −2.37, SEs = 0.23 and 0.21, ts = −14.04 and −11.22, ps < .001. Thus, although significant, this effect did not alter our overall interpretation.

4. This effect was qualified by a significant two-way interaction with Perceiver Sex, $B = −0.22$, $SE = 0.03$, $t = −6.44$, $p < .001$. Both male and female perceivers evaluated attractive targets more favorably than unattractive targets, but the effect was stronger among male perceivers, Bs = 1.37 and 1.15, SEs = 0.02 and 0.02, ts = 57.39 and 49.04, ps < .001. Thus, although significant, this effect did not alter our overall interpretation.

5. A secondary goal was to replicate our attractiveness findings from Study 2. The overall pattern of effects replicated as expected. We do not present the analyses here for the sake of space, but they are available upon request.

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