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The relationship between anti-gay prejudice and the categorization of sexual orientation

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ABSTRACT

A relatively large literature has demonstrated that sexual orientation can be judged accurately from a variety of minimal cues, including facial appearance. Untested in this work, however, is the influence that individual differences in prejudice against gays and lesbians may exert upon perceivers' judgments. Here, we report the results of a meta-analysis of 23 unpublished studies testing the relationship between anti-gay bias and the categorization of sexual orientation from faces. Aggregating data from multiple measures of bias using a variety of methods in three different countries over a period of 8 years, we found a small but significant negative relationship between accuracy and prejudice that was homogeneous across the samples tested. Thus, individuals reporting higher levels of anti-gay bias appear to be less accurate judges of sexual orientation.

1. Introduction

People extract considerable information about others' behaviors and traits from their appearance. One area in which this has recently grown to become quite established is judgments of sexual orientation. Across a variety of studies, researchers have found consistent evidence that individuals' sexual orientation can be reliably ascertained from hearing their voices (Munson & Babel, 2007), seeing the movement of their bodies (Johnson, Gill, Reichman, & Tassinary, 2007), and even just viewing photographs of their faces (Rule, Ambady, Adams, & Macrae, 2008).

Some work has noted that the magnitude of these effects varies depending on a perceiver's group membership. For example, gay men were found to judge sexual orientation more accurately from faces than straight men (e.g., Rule, Ambady, Adams, & Macrae, 2007), and an individual's race (Johnson & Ghavami, 2011) and cultural background (Valentova, Rieger, Havlicek, Linsenmeier, & Bailey, 2011) can affect the strategies by which one categorizes targets as gay versus straight (see also Rule, 2011; Rule, Ishii, Ambady, Rosen, & Hallett, 2011). Despite this group-based variability, few studies have considered the role that individual differences play in the categorization of social group memberships. Here, we sought to partly bridge this gap in the literature.

Although social categorization is relatively easy for some group distinctions (e.g., age, race, and sex; Brewer, 1988), there are a great many social categories that are distinguishable but not as obvious. Apart from sexual orientation, research has shown that a person's political affiliation and religious ideology are other "perceptually ambiguous" dimensions that can be ascertained from facial appearance (see Tskhay & Rule, 2013, for review). A spate of research beginning in the 1940s, for instance, examined the accuracy with which perceivers could distinguish Jewish people from non-Jewish people (e.g., Allport & Kramer, 1946). Moreover, many of these studies examined the extent to which individual differences in anti-Semitism related to these judgments. Some researchers found positive relationships between prejudice and accuracy, some found negative relationships, and others found no relationship at all (see Andrzejewski, Hall, & Salib, 2009). More recently, Wilson and Rule (2014) investigated how individual differences in political ideology influenced the perception and categorization of people as Democrats and Republicans, finding that individuals endorsing more conservative beliefs were more likely

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to categorize targets as Democrat outgroup members. Thus, whereas the effects of prejudice and biases on the perception of people with perceptually obvious stigmas has been well-documented (e.g., Plant & Devine, 1998), less is known about how prejudice impacts perceptions of targets whose stigma is ambiguous; with those for anti-Semitism being somewhat mixed. Investigating social categorization processes in perceptually ambiguous groups can be informative for better understanding prejudice, as individuals' ability to identify targets against whom they might be prejudiced may regulate opportunities to discriminate against them. Knowing how accurate perceivers are in their judgments of stigmatized groups might therefore allow one to anticipate potential instances of prejudice. Thus, to better understand how prejudice relates to the accuracy of social categorization, we examined the relationship between anti-gay bias and judgments of sexual orientation in the present work.

On the one hand, individuals who are more prejudiced against gay people may be more accurate in distinguishing others' sexual orientations because they are concerned with "spotting the enemy" to protect themselves against social threats (e.g., Allport & Kramer, 1946). Thus, we would expect to find that accuracy is positively related to prejudice. However, Brambilla, Riva, and Rule (2013) found that people reporting more familiarity with gay men were more accurate in categorizing sexual orientation.[1] Given that contact and familiarity with outgroup members are often preconditions to reducing prejudice (Allport, 1954; Hewstone, 2009; Page-Gould, Mendoza-Denton, Alegre, & Siy, 2010; Pettigrew & Tropp, 2006), accuracy might alternatively be higher among people with lower anti-gay prejudice. To investigate this, we conducted a series of tests in different locations and under unique conditions over a number of years. Here, we report the aggregated results of these studies focusing on the question of how anti-gay bias relates to perceivers' categorizations of sexual orientation based on photos of their faces. We tested both participants' overall accuracy in judging sexual orientation from faces as well as their individual response bias, or whether there was a systematic difference in the nature of participants' judgments (e.g., a tendency to inaccurately judge straight targets as gay, or incorrectly judge gay targets as straight), using signal detection theory (see Macmillan & Creelman, 2005, for an overview).

2. Method

Data were aggregated from 23 samples of participants tested at different times and geographic locations over a period of 8 years. Although the studies varied slightly in their specific purpose (e.g., additional questions asked or moderators tested), they all intended to investigate the relationship between individuals' anti-gay bias and their performance in categorizing targets as gay and straight. Table 1 provides a summary of the 23 samples and their characteristics.

All of the studies were conducted between 2006 and 2014 with over half of data collection efforts taking place in 2012. Most of the studies were conducted with participants from the US but nearly half came from other nations (i.e., Canada and Italy). All materials and procedures for the studies conducted in Italy were in Italian whereas those in the US and Canada were always in English. The majority of studies collected data from participants in the researchers' laboratories but eight studies were conducted online using Amazon's Mechanical Turk.

2.1. Stimuli

All but two studies used stimuli borrowed from Rule and Ambady (2008), consisting of 45 faces of self-identified gay men and 45 self-identified straight men that were downloaded from Internet dating websites (see the original work for more details). One study using these stimuli used only 40 faces from each group. Of the two studies not using these faces, one used 90 of the female faces used by Rule, Ambady, and Hallett (2009), half of which were of self-identified lesbian women and the other half of which were of self-identified straight women acquired in a manner similar to that of Rule and Ambady, as described in Rule et al. (2009). The other study not using Rule and Ambady's photos also developed the stimuli in a similar manner. The main distinction of these new images was that the targets were all men reporting an age of 65 years or greater (see Tskhay, Krendl, & Rule, 2015). Of these 88 photos, 44 were self-identified gay men and 44 were self-identified straight men.

2.2. Prejudice measures

An important difference between the studies was the instrument used to measure participants' anti-gay bias. Of the 20 studies measuring anti-gay bias using an explicit self-report scale, the majority ($n = 12$) used the 25-item Index of Homophobia (IHP; Hudson & Ricketts, 1980); four of which also included an in-house measure entitled the Motivation to Avoid Sexual orientation Disclosure (MASD) as a second measure (Tskhay & Rule, 2012). The MASD consisted of five items intended to measure individuals' desire to avoid acknowledging the non-heterosexual orientation of others (see Appendix for items and descriptive statistics). The overall inter-item reliability across all respondents from the four MASD samples was acceptable (Cronbach's $\alpha = .63$) and correlated well with the same participants' scores on the IHP (all $r_{Spearman} \geqslant .53$, all p's $< .001$), we therefore continued to include this as an additional measure of explicit prejudice. Two studies used the 20-item Modern Homonegativity Scale (MHS; Morrison & Morrison, 2002) and one study used the 20-item Attitudes Towards Lesbians and Gays Revised scale (ATLG-R; Herek, 1998).

Pilot testing showed that the original ATLG (Herek, 1988) did not produce acceptable reliabilities among Italian samples of participants. Thus, five items (questions 11, 13, 17, 19, and 20) that did show good reliability when combined were plucked from the original measure and adapted for use in the four samples measuring explicit prejudice in Italy, as well as in one of the US samples tested for cross-cultural comparison (overall Cronbach's $\alpha = .79$); hence, we will refer to this measure as the ATG-5.[2] In the case of the Italian study that examined categorizations of women's sexual orientation, the ATL version of this five-item measure was adapted (Cronbach's $\alpha = .75$) and is referred to here as the ATL-5. The most recent two studies conducted in Italy also asked participants to complete a six-item version of the Modern Racism Scale (MRS; McConahay, Hardee, & Batts, 1981) that was adapted for gay (cf. Black) men as the target group; the fourth item about economic gains was omitted because it was not deemed relevant in the Italian context (Cronbach's $\alpha = .60$). Three studies used a version of the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) designed to measure anti-gay bias (e.g., Inbar, Pizzarro, Knobe, & Bloom, 2009) and another three studies used both the

[1] Other studies examining perceiver variability in judgments of sexual orientation found that women's accuracy in judging men's sexual orientation varied as a function of their menstrual cycle, showing state-level individual variability (Rule, Rosen, Slepian, & Ambady, 2011), and that political ideology (mostly in aggregated groups of liberals and conservatives) significantly affected perceivers' use of stereotypes in their judgments but not their accuracy (Stern, West, Jost, & Rule, 2013).

[2] Due to a miscommunication, the US test of the ATG-5 used only a 5-point (versus 7-point) scale; participants' responses were therefore rescaled by multiplying each original score by 1.4. The same error occurred across the two iterations of the MHS and was also resolved by multiplying the scores on the 5-point version by 1.4.