



FlashReport

Impressions at the intersection of ambiguous and obvious social categories: Does gay + Black = likable? ☆

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ABSTRACT

How do perceivers combine information about perceptually obvious categories (e.g., Black) with information about perceptually ambiguous categories (e.g., gay) during impression formation? Given that gay stereotypes are activated automatically, we predicted that positive gay stereotypes confer evaluative benefits to Black gay targets, even when perceivers are unaware of targets' sexual orientations. Participants in Study 1 rated faces of White straight men as more likable than White gay men, but rated Black men in the opposite manner: gays were liked more than straights. In Study 2, participants approaching Whites during an approach–avoidance task responded faster to straights than gays, whereas participants approaching Blacks responded faster to gays than straights. These findings highlight the striking extent to which less visible categories, like sexual orientation, subtly influence person perception and determine the explicit and implicit evaluations individuals form about others.

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Research has traditionally examined how perceptually obvious categories such as race, gender, and age influence the impressions people form about others (Brewer, 1988; Fiske & Neuberg, 1990; Macrae & Bodenhausen, 2000). Recent studies suggest, however, that less visible categories, such as sexual orientation and religion, are also nonconsciously extracted from faces. Perceivers exposed to faces of self-identified homosexuals and Mormons, for example, can accurately categorize targets at rates significantly better than chance (e.g., Rule, Ambady, & Hallett, 2009; Rule, Garrett, & Ambady, 2010). The automatic detection of perceptually ambiguous categories exemplifies the impressive range of person perception, but also raises questions regarding how people combine ambiguous categories with obvious categories when evaluating multiply-categorizable targets. Can less visible categories influence the meaning of more visible categories and shape whether perceivers appraise targets as likable? In two studies we tested whether a less obvious category (target sexual orientation) influences evaluative reactions to faces beyond the awareness of perceivers attending to a more obvious category (target race).

To conceptualize how sexual orientation might modify race-based evaluations, we consulted research on how age, an obvious category, affects impressions of White and Black faces. Whereas negative traits are attributed to Blacks (e.g., hostility; Eberhardt et al., 2004), both

positive and negative traits are attributed to older adults (e.g., rudeness and warmth; Cuddy, Norton, & Fiske, 2005). Kang and Chasteen (2009) showed that, in line with negative age stereotypes, younger Whites are judged more positively than older Whites; however, in line with positive age stereotypes, older Blacks are judged more positively than younger Blacks. The authors proposed that perceivers draw on different age stereotypes to evaluate older targets of different races. The process by which perceivers may selectively activate positive age stereotypes and inhibit contradictory, negative race stereotypes during impression formation is known as *selective inhibition* (Kang & Chasteen, 2009).

The selective inhibition framework is suited to determining impressions of targets belonging to both single-valence (e.g., Black = negative) and mixed-valence (e.g., older adult = positive + negative) categories. For such category combinations, stereotypes representing the distinctive valence are most salient. Perceivers are assumed to evaluate targets according to stereotypes of the salient valence and to inhibit stereotypes of the more common valence (Kang & Chasteen, 2009). In the case of older Blacks, for example, available stereotypes contain two negative elements (Black = negative, old = negative) and one positive element (old = positive). The positive element is distinctive and, therefore, should also be more salient, carrying disproportionate weight in evaluations of the target (see also Kunda, Miller, & Claire 1990). Note that this process bears similarities to the process by which illusory correlations are proposed to form (Hamilton & Gifford, 1976).

Like age stereotypes, gay stereotypes contain both positive and negative components (i.e., nonconformity and warmth; Clausell & Fiske, 2005). As a result, sexual orientation and age may modify race-based

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evaluations in a similar manner even though sexual orientation is less visible. In two studies, we examined whether sexual orientation, despite lacking obvious physical correlates, seeps into perceivers' evaluations of White and Black faces.

Study 1

Method

Stimuli consisted of 104 headshots of men obtained from Internet dating sites and used in previous research. The photos were of 26 straight Whites, 26 gay Whites, 26 straight Blacks and 26 gay Blacks, all self-identified for sexual orientation. Background details were removed and pretesting confirmed that the faces did not differ systematically on attractiveness or emotional expression (see Rule, Ambady, Adams, & Macrae, 2008).

Thirty-one undergraduates (22 women; $M_{age} = 18.71$, $SD = 1.70$ years) participated for partial course credit. To ensure that participants attended to target race, the experimenter instructed participants to indicate whether the photos were of White or Black men by pressing the "Z" or "/" key as each face appeared on a computer screen. Key-response mappings were counterbalanced across participants. For each trial, a fixation cross appeared for 500 ms and was followed by a face which remained on the screen until participants made a category response. Our primary dependent measure was how likable perceivers found the targets; thus, subsequent to each categorization, a 7-point rating scale appeared and participants were asked, "To the average Canadian, how likable would this person seem?" (1 = *not at all*, 7 = *extremely*). We posed this item in terms of the average person to minimize socially-desirable responding during the clearly race-related task (Devine, 1989; Rule et al., 2008). Faces were presented only once and in random order. Although the task was self-paced, participants were instructed to make their decisions as quickly and as accurately as possible.

Results and discussion

A 2 (Target Race: White or Black) \times 2 (Target Sexual Orientation: straight or gay) repeated measures ANOVA on perceived likability revealed no significant main effects ($F_s < 1.89$, $p_s \geq .18$), but did yield the expected Target Race \times Target Sexual Orientation interaction, $F(1, 30) = 40.90$, $p < .001$, $\eta_p^2 = .58$.¹ We conducted paired samples t -tests to decompose the interaction. Showing typical racial bias, participants rated White straights ($M = 4.69$, $SD = 0.70$) as more likable than Black straights ($M = 4.14$, $SD = 0.80$), $t(30) = 4.06$, $p < .001$, $d = .74$. As expected, however, the results also indicated that target sexual orientation moderated the effect of race on evaluations: Unsurprisingly, participants perceived White straights as more likable than White gays ($M = 4.29$, $SD = 0.80$), $t(30) = 4.70$, $p < .001$, $d = .89$. For Black targets, however, we observed the opposite pattern: gays ($M = 4.44$, $SD = 0.84$) were perceived as more likable than straights, $t(30) = -4.63$, $p < .001$, $d = .83$. Ratings of White gays and Black gays did not differ, $t(30) = .82$, $p = .42$ (see Fig. 1).

The results support our hypothesis that the undisclosed sexual orientations of targets infiltrate explicit evaluations formed by perceivers attending to race. In Study 2 we examined individuals' approach and avoidance reactions to multiply-categorizable targets to test whether sexual orientation moderates implicit evaluative responses as well.

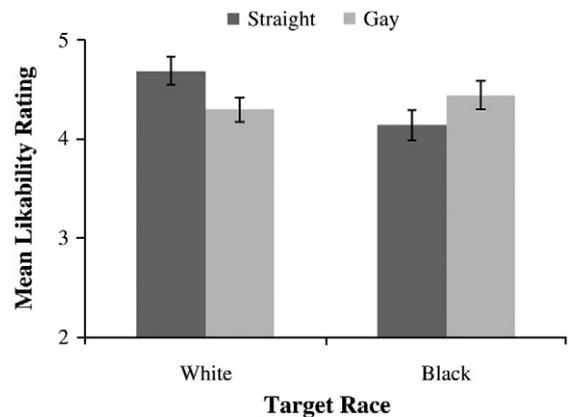


Fig. 1. Mean likability ratings as a function of target race and target sexual orientation for Study 1.

Study 2

Method

Fifty undergraduates (36 women; $M_{age} = 18.62$, $SD = 1.65$ years) participated for partial course credit. Participants were seated at a computer and asked to grip a joystick with their dominant hand. Participants were then randomly assigned to receive one of two instruction sets regarding how to respond to images of White and Black men. Participants in the approach Whites–avoid Blacks condition were instructed to pull the joystick towards them when a White face appeared and to push the joystick away from them when a Black face appeared. Participants in the approach Blacks–avoid Whites condition received opposite instructions to pull the joystick towards them when a Black face appeared and to push the joystick away from them when a White face appeared (Chen & Bargh, 1999).

The computer presented the same 104 photos used in Study 1. On each trial, participants viewed a fixation cross for 500 ms, followed by a face that remained on-screen until the participant moved the joystick more than half of its range in a forward or backward motion. Participants completed 104 experimental trials. Next, participants were informed that the previously presented photos would be re-presented to them and that, using the computer's number keys, they would rate each photo in terms of how likable the person would seem to the average Canadian. Each trial consisted of a 500 ms presentation of a fixation cross, a 1000 ms presentation of a face, and the appearance of a 7-point rating scale.

Results and discussion

Response latencies

Response latencies for trials in which errors were committed (1.4%), as well as latencies greater than 3 standard deviations from the mean (5.7%) were omitted from analyses, after which the data were normally distributed: $W = .98$, $p = .49$. We first examined approach response latencies using a 2 (Target Race Response: approach Whites–avoid Blacks or approach Blacks–avoid Whites) \times 2 (Target Sexual Orientation: straight or gay) mixed model ANOVA; the last factor was repeated. The analysis did not yield main effects ($F_s < 0.28$, $p_s \geq .60$); however, the expected Target Race Response \times Target Sexual Orientation interaction was significant, $F(1, 48) = 11.18$, $p = .002$, $\eta_p^2 = .19$. Paired samples t -tests within each race response condition confirmed that, among participants approaching Whites, responses were faster for straight ($M = 621.99$ ms, $SD = 63.81$) than for gay ($M = 634.63$ ms, $SD = 61.86$) targets, $t(21) = 2.45$, $p = .02$, $d = .54$. Among participants approaching Blacks, however, responses

¹ Participants accurately categorized targets' races on 99.2% of trials. Given the small number of errors, we included all likability data in analyses. Removing incorrect trials did not change the effects.

were faster for gay ($M = 633.32$ ms, $SD = 80.75$) than for straight ($M = 642.51$ ms, $SD = 83.18$) targets, $t(27) = -2.22$, $p = .04$, $d = .42$.

Next, we examined avoidance responses. A mixed model ANOVA revealed a main effect of target race response, $F(1, 48) = 4.12$, $p < .05$, $\eta_p^2 = .08$, such that avoidance latencies were faster for participants instructed to avoid Blacks ($M = 629.34$ ms, $SD = 53.26$) than for participants instructed to avoid Whites ($M = 673.42$ ms, $SD = 89.52$). We did not observe a main effect of target sexual orientation, nor did we find an interaction ($F_s < 3.87$, $p_s \geq .06$). Given that faster approach responses are indicative of greater positivity towards stimuli (Chen & Bargh, 1999), the present approach reactions are consistent with explicit liking expressed in Study 1.

Explicit likability ratings

We conducted a 2 (Target Race Response: approach Whites–avoid Blacks or approach Blacks–avoid Whites) \times 2 (Target Sexual Orientation: straight or gay) \times 2 (Target Race: White or Black) mixed model ANOVA on participants' likability ratings. The last two factors were repeated. No main effects emerged ($F_s < 3.37$, $p_s > .07$). However, we did observe the predicted Target Race \times Target Sexual Orientation interaction, $F(1, 48) = 88.35$, $p < .001$, $\eta_p^2 = .65$, which was qualified by a significant three-way interaction, $F(1, 48) = 7.03$, $p = .01$, $\eta_p^2 = .13$. No other interactions were significant, all $F_s < 1.00$, all $p_s > .50$.

Decomposition of the Target Race \times Target Sexual Orientation interaction within each response condition showed that the 2-way interaction was similar regardless of whom participants had been instructed to approach. The effect size for the 2-way interaction was larger for participants instructed to approach Whites, $F(1, 21) = 56.06$, $p < .001$, $\eta_p^2 = .73$, than to approach Blacks, $F(1, 27) = 29.46$, $p < .001$, $\eta_p^2 = .52$, but not significantly so: $Z = 1.15$, $p = .13$. To facilitate interpretation, we therefore report paired t -tests collapsing across target race response condition.

As in Study 1, participants demonstrated typical racial bias when evaluating straight targets: Whites ($M = 4.81$, $SD = 1.02$) were perceived as more likable than Blacks ($M = 4.17$, $SD = 1.03$), $t(49) = 4.64$, $p < .001$, $d = .63$. Furthermore, we once again observed that target sexual orientation influenced evaluations of White and Black faces: Among White targets, straights were perceived as more likable than gays ($M = 4.42$, $SD = 1.01$), $t(49) = 7.57$, $p < .001$, $d = 1.01$. Among Black targets, however, gays ($M = 4.50$, $SD = 1.06$) were perceived as more likable than straights, $t(49) = -6.57$, $p < .001$, $d = .94$. We did not observe a difference in the perceived likability of White gays and Black gays, $t(49) = 0.52$, $p = .61$. Study 2 participants, then, expressed more positive evaluations of White straights and Black gays both implicitly (in approach responses) and explicitly (in likability ratings).

General discussion

Sexual orientation, a perceptually ambiguous category, permeates impressions of White and Black faces beyond perceivers' awareness. Participants focused on race and were not informed that some targets were gay; indeed, no participants reported suspicion of this fact. Nevertheless, participants' explicit ratings in Study 1 showed that White straight men were perceived as more likable than White gay men but that Black gay men were perceived as more likable than Black straight men. In Study 2, participants instructed to approach Whites exhibited faster responses to straight targets than gay targets, whereas participants instructed to approach Blacks exhibited faster responses to gay targets than straight targets. These findings suggest that sexual orientation, despite lacking salient perceptual markers, infiltrates the automatic impression formation process.

Interestingly, in Study 2 we did not find that target sexual orientation affected avoidance reactions to White and Black faces. This finding is consistent with research showing that avoidance reactions are less malleable than approach reactions, presumably because the

costs of failing to avoid negative stimuli are typically greater than the costs of failing to approach positive stimuli (e.g., Kahneman & Tversky, 1984). It may be the case that sexual orientation influences positive responses more than negative responses; however, research is needed to investigate this claim.

The results provide evidence consistent with the selective inhibition hypothesis (Kang & Chasteen, 2009). Gay Whites and Blacks appear to activate different components of gay stereotypes; White gays may activate negative nonconformist stereotypes, whereas Black gays may activate positive warmth stereotypes (Clausell & Fiske, 2005). Alternatively, Black gay men may represent a positive subgroup separate from general race and sexual orientation categories. Given the virtual invisibility of multiply-stigmatized people in cultural narratives and media (Purdie-Vaughns & Eibach, 2008), however, it seems unlikely that people have well-formed representations of Black gay men. Nevertheless, even poorly defined subgroups may be well-liked if these subgroups represent "disarming" or seemingly incompatible category combinations (e.g., Black CEOs; Livingston & Pearce, 2009). The current studies did not directly examine stereotype activation and inhibition; therefore, future research should examine whether selective inhibition, subtyping, or alternative processes best describe how people integrate race and sexual orientation during impression formation. A fruitful starting point for this work may be to explore the facial cues that signal likability in gay men of different races.

Coupled with research showing that people categorize (Rule et al., 2008) and stereotype (Rule, Macrae, & Ambady, 2009) others based on sexual orientation, the current work emphasizes that prevailing models of person perception (Brewer, 1988; Fiske & Neuberg, 1990; Macrae & Bodenhausen, 2000) may underestimate the pervasiveness of categorical processing and its implications for impression formation. Individuals may nonconsciously combine ambiguous categories with obvious categories to produce impressions that are more complex than the sums of separate stereotype sets. Building on previous studies showing that stereotypes influence impressions beyond awareness (Devine, 1989), the present studies suggest that even the highly complex process of integrating ambiguous and obvious categories can be performed with great efficiency.

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References

- Brewer, M. B. (1988). A dual process model of impression formation. In R. S. Wyer, & T. K. Srull (Eds.), *Advances in social cognition* (pp. 1–36). Hillsdale, NJ: Erlbaum.
- Chen, M., & Bargh, J. A. (1999). Consequences of automatic evaluation: Immediate behavioral dispositions to approach or avoid the stimulus. *Personality and Social Psychology Bulletin*, 25, 215–224. doi:10.1177/0146167299025002007.
- Clausell, E., & Fiske, S. T. (2005). When do subgroup parts add up to the stereotypical whole? Mixed stereotype content for gay male subgroups explain overall ratings. *Social Cognition*, 23, 161–181. doi:10.1521/soco.23.2.161.65626.
- Cuddy, A. J. C., Norton, M. I., & Fiske, S. T. (2005). This old stereotype: The pervasiveness and persistence of the elderly stereotype. *Journal of Social Issues*, 61, 267–285. doi:10.1111/j.1540-4560.2005.00405.x.
- Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, 56, 5–18. doi:10.1037/0022-3514.56.1.5.
- Eberhardt, J. L., Goff, P. A., Purdie-Vaughns, V. J., & Davies, P. G. (2004). Seeing Black: Race, crime and visual processing. *Journal of Personality and Social Psychology*, 87, 876–893. doi:10.1037/0022-3514.87.6.876.
- Fiske, S. T., & Neuberg, S. L. (1990). A continuum model of impression formation from category-based to individuating processes: Influences of information and motivation on attention and interpretation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (pp. 1–74). San Diego, CA: Academic Press.
- Hamilton, D. L., & Gifford, R. K. (1976). Illusory correlation in interpersonal perception: A cognitive basis of stereotypic judgments. *Journal of Experimental Social Psychology*, 12, 392–407. doi:10.1016/S0022-1031(76)80006-6.
- Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American Psychologist*, 39, 341–350. doi:10.1037/0003-066X.39.4.341.

- Kang, S. K., & Chasteen, A. L. (2009). Beyond the double jeopardy hypothesis: Assessing emotion on the faces of multiply-categorizable targets of prejudice. *Journal of Experimental Social Psychology, 45*, 1281–1285. doi:10.1016/j.jesp.2009.07.002.
- Kunda, Z., Miller, D. T., & Claire, T. (1990). Combining social concepts: The role of causal reasoning. *Cognitive Science, 14*, 551–577.
- Livingston, R. W., & Pearce, N. A. (2009). The teddy-bear effect: Does having a baby face benefit Black Chief Executive Officers? *Psychological Science, 20*, 1229–1236. doi:10.1111/j.1467-9280.2009.02431.x.
- Macrae, C. N., & Bodenhausen, G. V. (2000). Social cognition: Thinking categorically about others. *Annual Review of Psychology, 51*, 93–120. doi:10.1146/annurev.psych.51.1.93.
- Purdie-Vaughns, V., & Eibach, R. P. (2008). Intersectional invisibility: The distinctive advantages and disadvantages of multiple subordinate-group identities. *Sex Roles, 59*, 377–391. doi:10.1007/s11199-008-9424-4.
- Rule, N. O., Ambady, N., Adams, R. B., Jr., & Macrae, C. N. (2008). Accuracy and awareness in the perception and categorization of male sexual orientation. *Journal of Personality and Social Psychology, 95*, 1019–1028. doi:10.1037/a0013194.
- Rule, N. O., Ambady, N., & Hallett, K. C. (2009). Female sexual orientation is perceived accurately, rapidly, and automatically from the face and its features. *Journal of Experimental Social Psychology, 95*, 1019–1028. doi:10.1016/j.jesp.2009.07.010.
- Rule, N. O., Garrett, J. V., & Ambady, N. (2010). Places and faces: Geographic environment influences the ingroup memory advantage. *Journal of Personality and Social Psychology, 98*, 343–355. doi:10.1037/a0018589.
- Rule, N. O., Macrae, C. N., & Ambady, N. (2009). Ambiguous group membership is extracted automatically from faces. *Psychological Science, 20*, 441–443. doi:10.1111/j.1467-9280.2009.02314.x.