Gangsters and Geishas: The impact of racial prototypicality on judgments of sexual orientation for Black and Asian targets

By
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Abstract

Across two studies, I apply an intersectional analysis to the judgment of sexual orientation of Black and Asian men. I hypothesize that (i) perceptions of racial prototypicality and (ii) the endorsement of stereotypes that associate racial groups with masculine or feminine traits drive the judgment of sexual orientation for non-White targets, in an American context. To test these hypotheses, I examined the effect of racial prototypicality on perceptions of sexual orientation for Black and Asian male targets and *perceptions of masculinity/femininity* as a potential mediator of these effects. In Study 2, I investigated the role of *endorsement of cultural stereotypes that associate Black culture with masculine traits and Asian culture with feminine traits* as a potential moderator of the predicted mediational relationship between racial prototypicality, perceptions of masculinity/femininity, and judgments of sexual orientation, separately for Black and Asian men. These hypotheses were partially supported. In both studies, highly prototypical Black men were judged more masculine and more heterosexual than less prototypical Black men, but the predicted effect of prototypicality for Asian men was not supported. In Study 1, a significant moderated mediation emerged, such that the mediational role of perceived masculinity in the relationship between racial prototypicality and sexual orientation differed by race: For Black men, as predicted, perceptions of higher racial prototypicality predicted lower judgments of homosexuality via increased perceptions of masculinity. For Asian men, the predicted mediational path was not supported. The mediational pattern for Black faces was replicated in Study 2, but stereotype endorsement did not moderate this pattern. Stereotype endorsement only mattered for judgments of Asian men: Counter to prediction, highly racially prototypical Asian men were rated as more masculine than their low racial prototypicality counterparts, but only among those who weakly endorsed the stereotype that Asian men are

feminine. The indirect effect of racial prototypicality on sexual orientation judgments via perceived masculinity also varied as result of stereotype endorsement in the case of Asian men. These studies contribute to and extend current research on the influence of multiple, intersecting social identities on social cognition processes.

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General Introduction

In this dissertation, I use intersectionality as both a theoretical orientation and an analytic framework to consider and understand how we perceive and evaluate group members with multiple marginalized identities. Across two studies, I explore the effects of racial phenotypicality on judgments of sexual orientation for Black and Asian male targets. Both studies test the same theoretical model, which argues that racial phenotypicality (phenotypic similarity to racial prototypes) predicts whether targets are perceived as gay or straight, and that this relationship is mediated by perceptions of masculinity or femininity. The model also argues that the proposed mediation is moderated by the degree to which participants endorse cultural stereotypes that associate Black culture with masculinity and Asian culture with femininity.

Theory and research focusing on multiple identity categories is important and reflects contemporary developments in technology, politics, and popular culture. Social categories—including gender, race/ethnicity, age, and sexual orientation—are powerful and pervasive cognitive tools for organizing the social world and contribute to the speed and efficacy of person perception processes (Macrae, Milne, & Bodenhausen, 1994; Tajfel, 1969). Scholarly research examines the psychological implications for impression formation (for the perceiver) and identity formation and experience (for the target) that accompany the consideration of multiple social identities.

Intersectionality theory was initially proposed to provide a more nuanced and inclusive approach to understanding the ways in which sexism and racism affected the lives of Black women (Crenshaw, 1989; 1991) As a result, this theoretical perspective is recognized as a "signal contribution of feminist studies" (Cole, 2008, p. 171). The first theme of intersectionality states that each person belongs to multiple social categories simultaneously and that these

categories are mutually constitutive. Each of us is perceived not only in terms of multiple identities (e.g., race and gender), but through our multiple identities: Gender identity is often perceived through the lens of racial identity and vice versa. As a result, it is impossible to fully understand the experiences of an individual without considering the interaction and influence of different identities on person perception processes. The second theme of intersectionality emphasizes that group identities based on the intersection of ethnicity and gender (e.g., being a Black man) are unique and cannot be understood by simply adding up the attributes of each separate identity (Cole & Zucker, 2007; Peplau, Veniegas, Taylor & DeBro, 1999). Each gender, ethnicity, age, sexual orientation, etc. combination results in distinctive experiences that cannot be reduced to their constituent elements.

Lastly, intersectionality argues that social categories are embedded in power asymmetries that shape social and material life. An intersectional analysis is predicated on the belief that categories are conceived of and always permeated by other categories in an iterative cycle of construction, destruction and reconstruction that is shaped by dynamics of power (Cho, Crenshaw & McCall, 2013). Stereotypes and identities are the *products* of the intersection of multiple hierarchies, not the dynamic that creates them (MacKinnon, 2013). Through an examination of overlapping identity categories, intersectionality helps reveal the complex, subtle and diffuse ways in which power operates to render certain people invisible and thus, subject to structural violence (Tomlinson, 2013). People's experiences are best understood in the context of the power dynamics embedded in different social identity categories.

This theme is echoed in social dominance theory, which argues that human social systems are organized as group-based hierarchies of power and status, which allow dominant groups more access to material and symbolic resources (Sidanius & Pratto, 1999). The theory

also states that prejudiced people endorse *legitimizing myths* that justify their prejudicial attitudes (Sidanius, 1993; Sidanius and Pratto, 1993). The belief that heterosexuality is the only acceptable sexual orientation legitimizes prejudice and discrimination against lesbians and gay men (Whitley & Ægisdóttir, 2000). Similarly, when asked to rank the social status of ethnic groups in the U.S., participants typically located Whites at the top and Blacks at the bottom (Sidanius, Pratto & Rabinowitz, 1994). As a result, race and sexuality stereotypes tend to reflect the social hierarchies of race and sexual orientation.

Intersectionality can be considered from two perspectives: that of the target and that of the perceiver. Much of the research and theorizing about intersectionality has focused on the "lived experience" of targets who belong to multiple stigmatized groups (e.g., gay Black men); other research, including the present work, focuses on how these targets are perceived by non-stigmatized others. Below I briefly review a sampling of relevant research from these two perspectives.

Intersectionality from the target perspective

The first area of intersectionality research examines how individuals' intersectional identity shapes their sense of self. Berdahl and Moore (2006) examined how the interaction of gender and ethnicity affected the incidence of workplace harassment. Using survey data from employees at five organizations, they found that minority women reported experiencing significantly more workplace harassment than minority men, White men, and White women (when ethnic and sexual harassment were combined into a single harassment measure). Their results support the double jeopardy hypothesis which suggests that minority women will be subject to the most harassment as members of marginalized groups in terms of both race and gender. Work by Villicana, Delucio and Biernat (2016) used an intersectional framework to

investigate the effect of verbal disclosure of gay identity ("coming out") on subjective well-being among gay Latino men and gay White men. Across two studies, they found that verbal disclosure was associated with increased subjective well-being for gay White men but not for gay Latino men. For gay White men, the relationship between disclosure and well-being was mediated by increased perceptions of intrinsic self-expression and higher relational self-construal. However, this pattern did not emerge for gay Latino men suggesting that the centrality of "outness" as explicit (verbal) disclosure of sexual orientation for subjective well-being and gay identity development does not hold for gay men whose ethnic identity reveals alternative constructions of "outness" and gay identity.

Work by Jerald, Cole, Ward and Avery (2017) used an intersectional framework to investigate how stereotypes that were simultaneously racialized and gendered impacted the health of Black women. They found that Black women who were aware of the intersectional stereotypes that others held about their group (metastereotype awareness) were more likely to experience negative mental health outcomes (e.g., depression, anxiety) which led to decreased self-care behaviors and greater reliance on drug and alcohol use as a coping mechanism. Incidentally, this pattern was exacerbated for Black women who were high in racial centrality (i.e., the degree to which their race was central to their sense of identity and belonging).

Albuja, Sanchez, and Gaither (2020) explored identity development among dual-minority biracial people. They found that dual minority biracial persons' experiences of identity denial (e.g., being told to identify differently) and identity questioning (e.g., being asked about their background) led to lower feelings of autonomy and belonging and higher levels of interpersonal conflict. They also found that, compared to minority-White biracial people, the negative

outcomes were mediated through multiracial public regard suggesting the need to offer more targeted support to that population from educators and policymakers.

Intersectionality also affects the relationship between individuals and the various communities with which they identify. Swank and Fahs (2012) conducted an intersectional analysis of 285 self-identified gays and lesbians in the U.S. to determine how gender and race impacted their political behaviors. Their results suggested that White lesbians were less likely to engage in protest action or vote than lesbians of color. Conversely, gay men's political engagement was more dependent on experiencing workplace discrimination and endorsement of an activist identity than race, highlighting the efficacy of intersectional approaches for capturing important nuance in the psychological processes relevant to identity.

Intersectionality from the perceiver perspective: Stereotyping and person perception

Another area of research examines the effect of intersectionality on person perception and the downstream consequences for stereotyping, discrimination, and prejudice. Across two studies, Sesko and Biernat (2010) examined the "invisibility" of Black women due to their non-prototypicality in terms of both gender and race. They found that participants were less able to distinguish between "old" faces and "new" faces (i.e., faces that they had seen in a previous trial versus new photos) of Black women compared to other race/gender groups, and in a who-said-what paradigm, statements made by Black women were least well remembered (misattributed to others) compared to statements made by White men, White women, or Black men. Other scholars have extended the intersectional invisibility hypothesis to account for similar effects in other ethnic groups. Using the who-said-what paradigm, Schug, Alt, and Klauer (2015) found that participants were less likely to correctly remember statements made by Asian men relative to Asian women. In a second study, participants were told the race of a protagonist and asked to

write a story. Most stories were about men, but participants were most likely to make the protagonist male when the racial category was Black and least likely to do so when the racial category was Asian. This is consistent with the invisibility hypothesis: Asian men are perceived as non-prototypical of their ethnic group due to cultural stereotypes that associate "Asian" phenotypical characteristics with femininity.

Some research has focused specifically on how intersectionality affects person perception processes in leadership contexts. Rosette, Koval, Ma, and Livingston (2016) examined how the intersection of race and gender affected agentic biases toward women in leadership positions. Black women are stereotyped as dominant but not competent; Asian women. as competent but passive; and White women, as communal without being seen as overly dominant or excessively competent. As a result, Black female leaders were the least likely to suffer an agentic penalty (i.e., backlash for engaging in counter-stereotypical behavior) compared to Asian women and White women (i.e., dominance was more expected for Black women and therefore was less penalized). However, the pattern of findings was reversed for agentic deficiency (i.e., perceiving a lack of leadership potential). Based on stereotypes about relative competence, Black women suffered relative to White women and Asian women. Livingston and Pearce (2009) found that for Black CEOs, but not White CEOs, having a "baby face" was associated with perceptions of warmth, as well as higher salary and corporate prestige. These findings are consistent with prior literature suggesting that the success of Black leaders is due, at least in part, to the presence of disarming mechanisms: physical, psychological or behavioral traits that attenuate stereotypical perceptions that Blacks are threatening.

In a related vein, Remedios, Chasteen, Rule, and Plaks (2011) examined how perceivers integrate information from both perceptually obvious categories (e.g., age, race) and perceptually

ambiguous (e.g., sexual orientation) categories. They found that participants rated the faces of Black gay men as more likable than Black straight men and approached Black gay men faster than Black straight men. The category of "Black gay men" presumably activated warmth stereotypes that compensated for negative stereotypes of Black men. Non-prototypical groups might be more well-liked if the stereotype profiles for their constituent identity categories are considered incompatible or contradictory (Livingston & Pearce, 2009). As a result, "Black gay men" are perceived more favorably overall because the stereotypes for gay men (effeminate, submissive, intelligent) and black men (dominant, hypermasculine, stupid) are oppositional.

In addition to its implications for categorization and perception, intersectionality theory also provides a useful empirical framework for examining the unique intersectional stereotypes faced by groups with multiple stigmatized identities. Ghavami and Peplau (2013) examined the content of cultural stereotypes that combined ethnicity and gender. A key finding was that stereotypes of intersectional groups (e.g., "Black women") included unique content that was not part of either constituent group stereotype (e.g., "Blacks" and "women"). For example, the stereotypes most commonly associated with the category "White" overlapped to a greater extent with those ascribed to White *men* versus White women, and the most common stereotypes about "women" overlapped to a greater extent with those ascribed to *White* women versus Black women (Ghavami & Peplau, 2013). The failure to recognize persons with multiple intersecting subordinate identities as "full members" of their constituent groups necessitates the generation of unique stereotypes precisely because their lack of full membership invalidates an additive model for stereotype generation. The authors suggest that their findings are consistent with the intersectional invisibility hypothesis, which argues that the convergence of androcentrism and ethnocentrism—which privileges the experiences of men and Whites—render ethnic women

non-prototypical of both of their marginalized superordinate groups (Purdie-Vaughns & Eibach, 2008).

Similarly, Black gay men are rendered non-prototypical by the confluence of heterocentrism and ethnocentrism, which centers Black heterosexual men as the prototype for "Black men" and White gay men as the prototype for "gay men" (Purdie-Vaughns & Eibach, 2008). Calabrese et al. (2018) have applied an intersectional approach to the sexual stereotypes ascribed to Black men who have sex with men (MSM). In line with the argument of intersectional invisibility, the researchers found that unique stereotypes ("down low," diseased, loud, and dirty) emerged for the intersectional category of Black gay men that were not reflected in the stereotypes generated for either of the two superordinate groups (gay men; Black men). Their results also showed evidence of a prototypicality effect such that sexual stereotypes of Black men were more similar to stereotypes associated with Black heterosexual men than Black gay men. Similarly, the sexual stereotypes of gay men overlapped more with the stereotypes for White gay men than Black gay men.

Preddie and Biernat (2020) applied an intersectional analysis to investigate how the interaction of sexual orientation and race affects perceptions of inter-group similarity and stereotype content in male groups. In line with the intersectionality hypotheses, they found that Black gay men were viewed as the most dissimilar to the superordinate category "Men" relative to gay White men, straight White men, and straight Black men. Additionally, Black gay men were also perceived as the most dissimilar to their constituent ingroups (i.e., Black men and gay men). Their results also supported the prototypicality hypothesis and showed that compared to White gay men and straight Black men, Black gay men's stereotype profile contained more unique attributes that were absent in the stereotype profiles of either Black men or gay men.

In this dissertation, I extend that work by focusing on how race and its associations with gender influence judgments of sexual orientation. Racial and gender identity are both central social categories that we use to organize, understand, and navigate the world. This research aims to understand how gendered associations with race (perceptually obvious identities) affect inferences about a concealable feature of identity (sexual orientation).

Race and Perceptions of Masculinity and Femininity

Gendered race theory argues that stereotypes of different racial or ethnic groups often contain a gendered dimension that results in some groups being viewed as more masculine or feminine than others. In the context of the USA, a robust body of literature has shown that stereotypically masculine traits are more closely associated with the category "Black" and stereotypically feminine traits are more closely associated with the category "Asian" (Johnson, Freeman, & Pauker, 2012; Schug, Alt, & Klauer, 2015; Bem, 1981).

The associations between the category "Black" and masculinity and the category "Asian" and femininity appears to be ubiquitous and easily activated in the U.S. context. These associations emerge in stereotypes of Black women as unfeminine and aggressive (Baker, 2005; Weitz & Gordon, 1993) and of Asian men as "not sexy", nerdy, submissive, and feminine (Shek, 2007; Zhang, 2010; Wong, Owen, Tran, Collins, & Higgins, 2012; Lee & Joo, 2005; Yuen, Chin, Deo, Lee, & Milman, 2005; Mok, 1998b). Scholars in critical race theory and Asian American studies have also identified these stereotypical associations in the processes by which Asian men are routinely emasculated and the relative invisibility of Asian American masculine figures in U.S. popular culture beyond caricatures such as the kung-fu master (Eng, 2001; Espiritu, 2008; Shimizu, 2012).

Across six studies, Galinsky, Hall, and Cuddy (2013) showed that participants were significantly more likely to both explicitly and implicitly associate the stereotype profile of Black targets with masculinity and Asian targets with femininity. They also found that racialized perceptions of masculinity and femininity mediated participants' attraction to Black and Asian targets such that heterosexual White men preferred Asian women compared to Black women and White heterosexual women preferred Black men relative to Asian men.

Hall, Galinsky, and Phillips (2015) integrated gendered race theory and person-position fit to demonstrate how these pervasive cultural associations result in Asian targets being viewed as more compatible with traditionally feminine jobs (e.g., librarian) relative to Black targets who are perceived as more compatible with traditionally masculine jobs (e.g., security guard). Wilson, Remedios, and Rule (2017) extended this paradigm to investigate the interaction of race, gender, and sexual orientation on perceptions of leadership abilities and found that participants perceived gay Black men as better leaders than either gay men or Black men. This effect was driven by simultaneous perceptions of masculinity and warmth that boosted evaluations of gay Black men's leadership qualities.

In addition to stereotype content, gendered race theory also has implications for social cognition processes. Studies on gender categorization have found that participants more quickly categorized the sex of Asian women and Black men compared to Asian men and Black women (Johnson et al., 2012) and were more likely to miscategorize the gender of Black women compared to Black men (Goff, Thomas, & Jackson, 2008). These findings align with scholarship on intersectional invisibility (Purdie-Vaughns & Eibach, 2008; Sesko & Biernat, 2010; Schug et al., 2015) which suggests that non-prototypical group members (e.g. Black women) are often

overlooked and underrepresented due to their marginalized status within each of their own constituent groups.

Racial Phenotypicality

Perceived phenotypic variation across individuals plays an important role in social perception. Research has suggested that interpersonal outcomes can sometimes be dependent on the extent to which a person's physical facial features resemble what is believed to be "typical" for that racial group. The more closely a group member resembles the phenotypical prototype for that racial group, the more likely that they are perceived through the lens of stereotypes and evaluations associated with that group. This phenomenon is termed racial phenotypicality bias (Maddox, 2004).

Racial phenotypicality describes how aspects of a person's appearance become racialized: physical features take on added meaning formed from associations made via the process of socialization (Wilkins, Kaiser, & Rieck, 2010). African Americans' skin color, hairstyle, lip thickness and hair texture are associated with perceivers' stereotypic attributions such as darker skin tone indicating criminality or less education/intelligence (Maddox, 2004). Black individuals who are more phenotypically prototypical are more likely to receive harsher criminal sentences (Blair, Judd, & Chapleau, 2004), more negative evaluations (Livingston & Brewer, 2002) and are judged to have fewer outgroup friends (Hebl, Williams, Sundermann, Kell, & Davies, 2012). African American targets with more Afro-centric features are judged as more likely to possess a variety of stereotypical African American traits (Blair, Judd, Sadler & Jenkins, 2002). Conversely, White phenotypic racial stereotypicality is associated with the reduced use of police force (Kahn, Goff, Lee, & Motamed, 2016).

Blair, Judd and Fallman (2004) found that while stereotyping based on racial category and phenotypical prototypicality were similarly automatic, participants could more easily control the influence of racial category stereotyping. This finding suggests that feature-based stereotyping is an orthogonal cognitive process from category-based stereotyping especially when evaluating targets within the same group. Across five studies, Deska, Kunstman, Bernstein, Ogungbadero and Hugenberg (2020) demonstrated that targets high in Black racial phenotypicality were viewed as less sensitive to social pain (e.g., ostracism, unfairness, disrespect) and requiring fewer coping resources. This effect was mediated by the biased perception that targets higher in Black racial phenotypicality were tougher, more masculine, and more dominant.

Phenotypical prototypicality also applies to Asian Americans as well (Lee & Thai, 2015). Although the face perception and social cognition research is mixed on what constitute prototypical features for Asian Americans, skin tone, eye shape and hair have emerged as some of the most empirically and culturally robust indicators. Asian men are also stereotyped as having a "softer" jawline compared to White men who had "squarer" jaws, which led to decreased perceptions of attractiveness for Asian men (Rhodes et al., 2001). Wilkins, Chan & Kaiser (2011) found that Asian targets higher in phenotypical prototypicality were perceived as less masculine and less physically attractive by White perceivers.

Judgments of Sexual Orientation

An extensive body of scholarship in social psychology investigates how people make judgments from minimal amounts of information (i.e., "thin slice" judgments; Ambady, Bernieri & Richeson, 2000). More recently, this work has expanded to incorporate concealable identities (e.g., sexual orientation) as well as personal characteristics considered to be perceptually obvious

(e.g. race, age, and sex) and reflects the popular cultural idea of "gaydar". Despite its inherent ambiguity, research has shown that persons are able to make accurate judgments of sexual orientation based on a wide variety of social "signals" such as facial features, voice quality, behavior, and appearance related factors like clothing and jewelry.

Elements of clothing and static appearance can be used to indicate and/or infer sexual orientation. Some well-known historical examples include the late 19th century practice of men wearing green carnations or red ties to indicate same-sex sexual interest (Chauncey, 1994; McKenna, 2003) and the practice of lesbian women "cross-dressing" in traditionally male clothing (Newton, 1984). More subtle changes in static appearance have also been used to make judgments of sexual orientation. Research by Krakauer and Rose (2002) showed that women who identified as lesbian had more body weight than straight women and that this effect was due to less endorsement of traditional Western gender norms related to body size. Conversely, some gay men deliberately feminize aspects of their physical appearance which results in thinner bodies and faces than straight men (Conron, Mimiaga, & Landers, 2010). Much of the literature on physical adornment and judgments of sexual orientation is explained by the gender inversion heuristic: the idea that gay men present as more feminine than straight men and that lesbian women present as more masculine than straight women (Kite & Deaux, 1987).

There is significant empirical and anecdotal literature about the use of speech as a diagnostic cue for sexual orientation. An increasing number of studies have looked at the ways in which persons who identify as either gay or straight produce speech sounds across multiple languages (Sulpizio et al., 2015). Research has examined different phonetic components of language such as the production of consonants, vowels, and overall pitch (Crist, 1997; Rendall, Vasey, and Mackenzie, 2008; Gaudio, 1994) and the relationship between the consonant /s/ and

lisping behavior among gay men (Mack & Munson, 2012). While there is only scant preliminary evidence that gay and straight persons do speak differently (Linville, 1998), it remains a widely held and easily activated stereotype. Cartei and Reby (2012) conducted an analysis of television shows in the U.S. and found consistent evidence that actors playing gay characters feminized their voices.

Much of the early scholarship on judging sexual orientation from nonverbal behavior focused on body or limb movement. Ambady, Hallahan, and Connor (1999) found that participants were able to accurately judge self-reported sexual orientation after observing 10-second video recordings. They also found that accuracy did not suffer when participants were exposed to either a still photograph or a video where the outline of the target's shape had been deliberately obscured. Later studies extended this initial "thin-slice" paradigm and showed that participants' accuracy was largely explained by a holistic assessment of the target's gender atypicality (Rieger, Linsenmeier, Gygax, Garcia, & Bailey, 2010). This idea was directly tested in work by Johnson, Gill, Reichman, and Tassinary (2007) who created computer-generated avatars of human bodies and manipulated whether the male or female avatar appeared to "swagger" its shoulders or "sway" its hips. They found that persons accurately perceived sexual orientation of targets through evaluating the gender atypicality of the avatar's gait when compared to its sex (as manipulated through variations in waist-to-hip ratio). More recent work has suggested that gender atypical behavior can serve as a diagnostic cue for sexual orientation in both adults and children (Coyle, Fulcher, & Trübutschek, 2016).

An increasing number of studies have evaluated perceptions of sexual orientation (and the accuracy of those judgments) from faces and facial features. The face is one of the primary areas that we evaluate and remember when we encounter another person (Palermo & Rhodes,

2007) and some research has shown that participants are able to accurately judge sexual orientation from facial photographs even after only seeing the photo for 1/10th of a second. Importantly, accuracy was not significantly impacted if participants were given more time to look at the photograph (Rule & Ambady, 2008). Further studies tested the accuracy of participants' judgments of sexual orientation using cropped photographs of faces that showed only the eyes, mouth, or hairstyle (Rule, Ambady, Adams, & Macrae, 2008) and found that accuracy exceeded chance guessing for all three conditions. More recent scholarship has begun to investigate the specific characteristics of the face that allow persons to accurately infer sexual orientation. Some work suggests that the faces of gay men contain more feminine or "babyish" features and are less symmetrical compared with the faces of straight men (Valentova, Kleisner, Havlicek, and Neustupa, 2014; Hughes & Bremme, 2011). Although perceptions of gender atypicality may partially explain these findings, other work has found that facial cues related to emotional expression (particularly happiness) can impact judgments of sexual orientation above and beyond gender atypicality (Tshkay & Rule, 2015a) due to stereotypes that associate positive expressions with femininity (Hess, Adams, & Kleck, 2005).

A growing body of literature has begun to evaluate the conditions and characteristics of the persons making the judgments of sexual orientation, especially as it relates to the factors that impact their accuracy (Rule, 2011). Persons who express higher levels of anti-gay prejudice are less accurate in their judgments of sexual orientation (Rule et al., 2015) while heterosexual women at the peak of their ovulatory cycle were able to more accurately judge the sexual orientation of male targets due to their evolutionary motivation to attend to potential sexual partners (Rule, Rosen, Slepian, & Ambady, 2011b). Some work also implicates political orientation as a relevant factor suggesting that political conservatives were more likely to use

gender atypical features when making judgments of sexual orientation comparted to liberals (Stern, West, Jost, & Rule, 2013). Germane to the studies proposed here, research has found racial differences in perceptions of sexual orientation that varied by target sex. Johnson and Ghavami (2011) found that judgments of sexual orientation were more accurate when stereotypes about the masculinity or femininity of the racial group matched the target's sex (i.e., Asian women and Black men) due to the increased salience of gender atypical features. Conversely, targets whose group stereotypes of masculinity/femininity contrasted with their sex (i.e., Black women and Asian men) were more likely to be judged as gay or lesbian.

Overview of the current research

Across two studies, I apply an intersectional analysis to the judgment of sexual orientation for Black and Asian men, in a U.S. context. I hypothesize that (i) perceptions of racial prototypicality and (ii) the endorsement of stereotypes that associate racial groups with masculine or feminine traits drive the judgment of sexual orientation for non-White targets. Male homosexuality is linked to perceived femininity; because Black men are stereotyped as relatively masculine and Asian men as relatively feminine, racial prototypicality should reduce perceived "gayness" of Black men but increase perceived "gayness" of Asian men. To test these hypotheses, I examined the effect of racial prototypicality on perceptions of sexual orientation for Black and Asian male targets and *perceptions of masculinity/femininity* as a potential mediator of these effects (Study 1). In Study 2, I investigated the role of *endorsement of cultural stereotypes that associate Black culture with masculine traits and Asian culture with feminine traits* as a potential moderator of the predicted mediational relationship between racial prototypicality, perceptions of masculinity/femininity, and judgments of sexual orientation.

For both studies, participants were asked to make judgments about photographs of self-identified Black and Asian men taken from the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015). This publicly available data repository includes photos of women and men from multiple ethnic groups that have been rated on several characteristics of broad interest to psychological research. The central characteristic of interest for this dissertation is the rating of racial prototypicality that measured how "typical" each person's physical features were when compared to other members of their racial/ethnic group. For Study 1, participants rated all Black and Asian men in the Chicago Face Database (CFD), whereas for Study 2, participants were asked to review a subset of Black and Asian faces that had been previously rated as either high or low in terms of racial prototypicality. For both studies, participants evaluated photographs that only varied in terms of their racial prototypicality and had been matched for age, attractiveness, and facial expression.

Study 1

Method

Study 1 relied on existing data including a variety of judgments of faces from the Chicago Face Database (CFD; Ma, Correll, & Wittenbrink, 2015) supplemented with new data on perceived sexual orientation. The CFD database is a publicly available repository containing 597 high-resolution photographs of White, Black, Asian and Latinx male and female targets. Each target in the dataset is represented with a neutral facial expression that has been normed by an independent rater. Additionally, multiple raters evaluated each photograph in comparison to other people in the same racial and gender category on the following relevant characteristics: masculinity, femininity, racial prototypicality, dominance, baby-facedness, attractiveness,

trustworthiness, unusualness, and emotive facial expressions (happy, sad, threatening, angry, afraid, disgusted, surprised). With respect to racial prototypicality, participants in the CFD study were randomly assigned to one race-by-category group and asked to rate racial prototypicality. Instructions varied depending on rated category. Example: "In this survey, you will be shown pictures of Asian females. These people differ in terms of how much their physical features resemble the features of Asian people. For example, their skin color, hair, eyes, nose, cheeks, lips, and other physical features, may be more Asian (i.e., typical of Asians) or less Asian (i.e., less typical of Asians). For this study we will show you pictures of people one at a time and your job will be to rate how Asian looking each person's physical features are on a scale from 'Less Typically Asian Looking' [1] to 'Very Typically Asian Looking' [5]."

Participants

I recruited 50 participants using Prolific (www.prolific.co) (July 2, 2021), who each received $3.17 as payment. The sample size of 50 is comparable to the samples used to judge the other attributes measured as part of the CFD. The sample consisted of 24 (48%) women and 23 men (46%), as well as 2 (4%) individuals who identified as genderqueer, and 1 (2%) that identified as bigender. A majority of the sample identified as White (n = 34, 78%); 8% (n = 4) as Black/African American; 8% (n = 4) as Latinx; 4% (n = 2) as Asian or Pacific Islander; and 2% (n = 1) as having multiple ethnic identities. The sample was also predominantly heterosexual (n = 31, 62%) with the remainder identifying as bisexual (n = 11, 22%), pansexual (n = 3, 6%), gay/homosexual (n = 2, 4%), and questioning (n = 2, 4%), 1 participant did not answer the sexual orientation question). Participants ranged in age from 18 to 45 years-old (M = 28.60, SD = 7.63, mdn = 29.50). A majority of the sample indicated not having family who identified as Black (74*%, n* = 37) or Asian (82%, n = 41), while 60% (n = 30) of the sample indicated having close

friends who identified as Black and 58% (n = 29) indicated having close friends who identified as Asian.

Materials and Procedure

Participants completed an online survey (built in Qualtrics) that asked them to make judgments about the sexual orientation of male targets. After consenting, participants were randomly shown photographs of all the Black male (N=93) and Asian male (N=53) faces in the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015). Example faces of Black and Asian men are included in the appendix. All photos featured neutral expression. Participants were asked to indicate the perceived sexual orientation of the person in each photograph using a Likert-type scale from 'Very likely to be straight/heterosexual' (1) to 'Very likely to be gay/homosexual' (7). The survey ended with standard demographic questions. The entire procedure took 15-20 minutes to complete, and the study was approved by the University of Kansas Human Research Protections Program (Institutional Review Board) prior to data collection.

For each photo, I computed its mean perceived sexual orientation across all participants, then added this column of data to the existing Chicago Face Database. The variables of interest from the CFD were: racial prototypicality (1) 'Less Typically Black Looking' to (7) 'Very Typically Black Looking' for Black targets, and (1) 'Less Typically Asian Looking' to (7) 'Very Typically Asian Looking' for Asian targets; perceived dominance (1) 'Not at all dominant' to (7) 'Extremely dominant'; perceived masculinity (1) 'Not at all masculine' to (7) 'Extremely masculine'; and perceived femininity (1) 'Not at all feminine' to (7) 'Extremely feminine'. The unit of analysis in these data is the photograph/face, not the participant. Associated with each photo was its mean perceived sexual orientation (from my data collection), along with mean

perceived prototypicality, masculinity, femininity, dominance, perceived attractiveness, and self-reported target race from the CFD; each dimension was judged by a separate group of raters. The N for all analyses is 146 (93 Black male and 53 Asian male faces).

Results

Means, standard deviations and correlations on all continuous, by race condition, appear in Table 1. I first use regression to examine how perceptions of masculinity and sexual orientation are predicted by prototypicality, target race (Asian/Black), and their interaction. I then report a moderated mediation model testing the indirect effect of racial prototypicality on sexual orientation judgments via perceptions of masculinity, moderated by target race. I used Model 8 in PROCESS (Hayes, 2018) to examine both stages of the model as well as to test for the difference in indirect effects via the index of moderated mediation.

Perception of masculinity

Perception of masculinity was first regressed on target race (coded -1 = Asian and +1 = Black), racial prototypicality (standardized), and their interaction. The main effect of target race did emerge, such that Black men were perceived to be more masculine than Asian men at average level of racial prototypicality, $b = .35$, $SE = .04$, $t(141) = 9.82$, $p < .001$. In addition, the racial prototypicality main effect emerged such that increased racial prototypicality predicted increased perceptions of masculinity, $b = .09$, $SE = .03$, $t(141) = 2.70$, $p = .008$. However, the main effects were qualified by the expected interaction, $b = .15$, $SE = .03$, $t(141) = 4.28$, $p < .001$.

I examined the conditional effects of racial prototypicality on perceptions of masculinity by race condition (see Figure 1). Among Asian targets, racial prototypicality did not predict perceptions of masculinity, $b = -.06$, $SE = .05$, $t141 = -1.03$, $p = .30$. Among Black targets,

however, racial prototypicality did predict perceptions of masculinity, b = .24, SE = .04, t(141) = 5.60, p < .001. As predicted, increased racial prototypicality was associated with increased perceptions of masculinity.

Sexual orientation judgments

Judgements of sexual orientation (coded such that higher numbers=greater perception of gayness/homosexuality) were also regressed on target race condition, racial prototypicality, and their interaction. The target race main effect did not emerge, b = -.07, SE = .05, t(141) = -1.47, p = .14, but the racial prototypicality main effect did, such that increased racial prototypicality predicted less homosexuality, b = -.15, SE = .05, t(141) = -3.30, p = .001. The interaction was not significant, b = -.06, SE = .05, t (141) = -1.30, p = .20.

Moderation by race of the prototypicality→masculinity→sexual orientation mediational model

A primary goal of this research was to examine whether target race acted as a moderator of the expected mediation of the effect of racial prototypicality on sexual orientation judgments via perceptions of masculinity. Based on the results reported above, I tested for conditional indirect effects using Model 8 in PROCESS (Hayes, 2018; 5000 bootstrapped samples used). A schematic of the model appears in Figure 2.

Supporting the overall hypothesis, the index of moderated mediation was significant, b = -.18, SE = .06, 95% CI [-.30, -.08]. For the Black male faces, higher racial prototypicality did predict lower judgments of homosexuality, via perceptions of masculinity, mediation b = -.15, SE = .05, 95% CI [-.25, -.06]. Not surprisingly, given the null effects of prototypicality on masculinity and sexual orientation for Asian targets reported above, there was no evidence of mediation for the Asian faces, b = .03, SE = .03, 95% CI [-.02, .09]. Among Black targets, being perceived as more racially prototypical predicted increased masculinity, which in turn predicted

increased judgments of heterosexuality. But for Asian targets, neither the predicted effect of prototypicality on reduced masculinity, nor mediation of the prototypicality-sexual orientation path emerged.

Discussion

The purpose of Study 1 was to examine whether racial prototypicality had different implications for judgments of masculinity and sexual orientation in Black and Asian men, and whether the perception of masculinity mediated the relationship between racial prototypicality and perceived sexual orientation. I predicted that for Black targets, higher levels of racial prototypicality would predict increased perceptions of masculinity which in turn, would predict greater perceptions of heterosexuality. Conversely, I predicted that for Asian targets, higher levels of racial prototypicality would predict decreased perceptions of masculinity and greater perceptions of assumed homosexuality.

Overall, I found that racial prototypicality had different consequences for Black and Asian male targets, on judgments of both masculinity and sexual orientation. Predictions for Black targets were fully supported: Among Black targets, racial prototypicality predicted higher judgments of masculinity and lower judgments of homosexuality, and masculinity mediated the prototypicality→ low perceived homosexuality path. For Asian men, however, hypotheses were not supported.

A review of the attention check items in Study 1 revealed that when asked about the race/ethnicity of the men in the photographs they saw, participants indicated having seen photos of White, Black, Asian, Hispanic, and American Indian/Alaskan Native men. This suggests that participants might not always be accurately categorizing Black and Asian faces. This could explain the lack of mediation for Asian targets especially since mis-categorization precludes the

activation of relevant group-based information (i.e., racial prototypicality, perceptions of masculinity) that might otherwise be used to help participants make judgments of sexual orientation. However, it should be noted that because participants did not make individual judgments of the race of each target separately, we cannot know for sure which specific faces in the data set were miscategorized. It is also possible that, for Asian men, the relationship between racial prototypicality and judgments of sexual orientation could be mediated by a mechanism other than perceived masculinity.

Overall. the results suggest partial support for the predicted mediation model. In Study 2, I examined the role of relevant cultural stereotypes about Black and Asian men in the U.S. context that might moderate the mediation model that emerged (albeit partially) in Study 1.

Study 2

Method

Study 2 was designed as a replication of Study 1 but used the more standard approach of treating participants/perceivers as the unit of analysis. Participants judged the masculinity and sexual orientation of highly racially prototypical and highly racially non-prototypical Black and Asian male faces. I again test the key hypotheses about the differential effects of racial prototypicality on perceived masculinity and sexual orientation of Asian and Black men, and the predicted moderated mediation of the effect of prototypicality on sexual orientation, mediated by masculinity. New to this study is consideration of an additional moderator: The extent to which perceivers endorse stereotypes that associate Blacks with masculinity and Asians with femininity. Group stereotypes pervade popular culture and provide an easily accessible heuristic for making judgments about members of the groups to which they have been applied. In particular, cultural stereotypes that associate gender performance with race/ethnicity have been

codified and ingrained through media representations of Black and Asian men and influence over how group members are perceived.

Participants

I recruited 399 participants using Prolific (www.prolific.co) (July 7, 2021), who each received $3.20 as payment. Although guidelines for estimation parameters for moderated mediation are still unclear, a review of similar research designs suggested an N = 400 to have sufficient power to probe all the effects of interest. The sample consisted of 181 (45.4%) women and 205 men (51.4%), 3 (0.9%) persons who identified as non-binary, 1 (0.3%) who identified as non-binary, born male as well as 4 (1%) individuals who identified as genderqueer, 3 (0.3%) who identified as transgender men, and 1 (0.3%) who identified as a transgender woman. One participant indicated "something not listed" but did not elaborate further. A majority of the sample identified as White (*n* = 304, 76.2%); 9.5% (*n* = 38) as Black/African American; 4.8% (*n* = 19) as Asian or Pacific Islander; 4.8% (*n* = 19) as having multiple ethnic identities; 3.0% (*n* = 12) as Latinx; 0.8% (*n* = 3) as American Indian/Alaskan Native and 0.8% (*n* = 3) as "something not listed". The sample was also predominantly heterosexual (*n* = 301, 75.4%) with the remainder identifying as bisexual (*n* = 63, 15.8%), gay/homosexual (*n* = 19, 4.8%), pansexual (*n* = 6, 1.6%), asexual (*n* = 5, 1.5%), questioning (*n* = 2, 0.5%), queer (*n* = 1, 0.3%), and demisexual (*n* = 1, 0.3%). Participants ranged in age from 18 to 71 years-old (*M* = 32.41, *SD* = 10.39, *mdn* = 31.00). A majority of the sample indicated not having family who identified as Black (73.9*%, n* = 295) or Asian (82.2%, *n* = 328), while 64.4% (*n* = 257) of the sample indicated having close friends who identified as Black and 58.6% (*n* = 234) indicated having close friends who identified as Asian.

Materials and Procedure

Participants completed an online survey (built in Qualtrics) that asked them to first rate their agreement with ten statements about stereotypes of different social groups using a Likert-type measure from 'Strongly disagree' (1) to 'Strongly agree' (7). For the purpose of Study 2, the two items of central importance were: “Black men are masculine” and “Asian men are feminine”. These two items were specifically selected to activate group-level cultural stereotypes about gender performance for Black and Asian men in the U.S. context.

Participants were then exposed to a subset of photographs from Study 1. Based on racial prototypicality ratings from the Chicago Face Database, I selected 10 high prototypical Black faces, 10 low prototypical Black faces, 10 high prototypical Asian faces, and 10 low prototypical Asian faces (creating a Race X Prototypicality design). In selecting these faces, I also ensured that the Asian and Black images of each type did not differ in perceived age, attractiveness, trustworthiness, youthfulness, unusualness, and emotive facial expressions (happy, sad, threatening, angry, afraid, disgusted, surprised). This ensured that the only the construct of interest which varied between the Asian and Black faces was racial prototypicality.

The forty faces were presented in a completely randomized order for each participant. Participants made two passes through the photos, using Likert-type measures that assessed (a) their perception of the masculinity/femininity of the target from ‘Extremely masculine’ (1) to ‘Extremely feminine’ (7) and (b) the perceived sexual orientation of the target from ‘Very likely to be straight/heterosexual’ (1) to ‘Very likely to be gay/homosexual’ (7). Whether participants rated masculinity/femininity or sexual orientation first was counterbalanced. The survey ended with standard demographic questions. The entire procedure took 15-20 minutes to complete, and the study was approved by the University of Kansas Human Research Protections Program (Institutional Review Board) prior to data collection.

Results

Table 2 includes means, standard deviations, and correlations between all continuous variables split by race condition. For both high and low prototypical Asian men, greater stereotype endorsement predicted less perceived masculinity. Additionally, for both high and low prototypicality Asian men increased perceptions of masculinity predicted greater assumed heterosexuality. For low prototypicality Black men, increased stereotype endorsement predicted less perceived masculinity. For both high and low prototypicality Black men, increased perceptions of masculinity predicted greater assumed heterosexuality. Each judgment (e.g., of masculinity of highly prototypical Black faces) is based on the average of the 10 faces in that category. The Cronbach alpha's for each index ranged from .77 to .88.

My proposed moderated mediation model includes within-participant measurements, making a formal test of any conditional indirect effect difficult. Indeed, scholars have acknowledged that there are no established systematic procedures to examine complex mediation and moderation (let alone moderated mediation) when condition effects vary within participants (e.g., Montoya & Hayes, 2017; Judd, Kenny, & McClelland, 2001). The predominant framework for examining models similar to the one I have proposed relies on testing a series of hypotheses about the components of the model (see Judd et al., 2001). Recent work suggests a path-analytic framework to assess complex repeated-measures mediation models (without moderation) that uses bootstrapping processes to estimate the indirect effect (Montoya, 2018; Montoya & Hayes, 2017).

I used a combination of strategies described above. In what follows, I examined the Target Race X Racial Prototypicality interactive effect on perceptions of masculinity (the proposed mediator) as well as on sexual orientation judgments (the outcome). I then examined

how stereotype endorsement moderated the interactive effects on both the mediator and the outcome. These latter results would be akin to testing the *a* and *c* pathways in a typical between-participant mediation model. Next, I used Montoya's (2018) path-analytic framework to test two moderated mediation models: the effect of racial prototypicality on sexual orientation judgments via perceptions of masculinity as a function of stereotype endorsement, separately by the two race conditions.

Target race X racial prototypicality on perceptions of masculinity

I first ran a 2 (Target race: Asian, Black) X 2 (Racial Prototypicality: Low, High) repeated-measures ANOVA with perceptions of masculinity as the outcome. Both main effects were significant such that participants perceived Black men as more masculine (M = 5.27, SD = .80) than Asian men (M = 4.80, SD = .85), $F(1, 398) = 321.57$, $p < .001$, d = .57, and high prototypicality targets as more masculine (M = 5.31, SD = .80) than low prototypicality targets (M = 4.76, SD = .85), $F(1, 398) = 514.74$, $p < .001$, d = .67. However, these main effects were qualified by the expected target race X racial prototypicality interaction, $F(1, 398) = 586.21$, $p < .001$, $\eta_p^2 = .60$.

I probed the significant interaction by examining the simple effects (see Figure 3). Within the Asian target condition, participants perceive no difference in masculinity between low prototypicality targets (M = 4.79, SD = .83) and high prototypicality targets (M = 4.80, SD = .87), $F < 1$. Within the Black target condition, however, participants perceived high prototypicality men as more masculine (M = 5.82, SD = .72) compared to low prototypicality men (M = 4.73, SD = .87), F (1, 398) = 788.32, $p < .001$, d = 1.36.

Target race X racial prototypicality on sexual orientation judgments

I next ran a 2 (Target race: Asian, Black) X 2 (Racial Prototypicality: Low, High) repeated-measures ANOVA with sexual orientation judgments as the outcome. Again, both main effects were significant. Black men were assumed to be less homosexual (M = 3.17, SD = .96) than Asian men, (M = 3.29, SD = .87), $F(1, 398) = 15.40$, $p < .001$, d = -.13, and high racial prototypicality men were assumed to be less homosexual (M = 2.91, SD = .95) than low racial prototypicality men (M = 3.54, SD = .88), $F(1, 398) = 409.08$, $p < .001$, d = -.69. The main effects, though, were qualified by the predicted Target race X Racial Prototypicality interaction, $F(1, 398) = 137.82$, $p < .001$, $\eta_p^2 = .26$.

I ran simple effects tests to probe the significant Race X Racial Prototypicality interaction (see Figure 4). Contrary to my hypothesis, within *both* Asian and Black target conditions, men high in racial prototypicality were judged to be more heterosexual (M_{Asian} = 3.12, SD_{Asian} = .89 and M_{Black} = 2.71, and SD_{Black} = 1.00) than men low in racial prototypicality (M_{Asian} = 3.46, SD_{Asian} = .85 and M_{Black} = 3.62, and SD_{Black} = .90), $F(1, 398) = 114.40$, $p < .001$, d = -.39 for Asian targets, and $F(1, 398) = 399.02$ $p < .001$, d = -.96 for Black targets. The effect was larger, however, for Black targets. Additionally, in the high racial prototypicality conditions, Black men were reported as more heterosexual than Asian men, $F(1, 398) = 79.15$, $p < .001$, d = -.43. The latter pattern also emerged among the low racial prototypicality conditions, $F(1, 398) = 28.22$, $p < .001$, d = -.18.[1]

Stereotype endorsement as a moderator of the Target race X Prototypicality interaction on perceptions of masculinity

Thus far, I've provided evidence of target race X prototypicality interactions on both perceptions of masculinity (the proposed mediator) and sexual orientation judgments (the outcome), with hypotheses regarding Black men supported and those regarding Asian men not

[1] I examined whether participant gender moderated the race X prototypicality interactions on perceived masculinity and sexual orientation. It did not, 3-way interaction Fs < 1, ps > .37.

supported. The next step was to introduce stereotype endorsement as an additional moderator. I conducted a second set of repeated-measures ANOVAs to examine the Racial Prototypicality X Stereotype Endorsement interaction on perceptions of masculinity as well as on sexual orientation judgments, separately for each race condition.

I split the race condition because of the nature of the stereotype endorsement variable. While both cultural stereotypes ("Asian men are feminine" and "Black men are masculine") engage notions of gender performance, I consider it a stronger empirical test of the proposed model to restrict the moderator to the specific racial group for which the stereotype is relevant.

I ran a 2 (Racial Prototypicality: Low, High) X 1 (Stereotype Endorsement) mixed design GLM with stereotype endorsement as a between-subjects continuous variable and prototypicality as the repeated factor, considering only Asian targets. In this analysis, the racial prototypicality effect is not interpretable, as it reflects an effect when stereotype endorsement is 0 (a nonexistent level). The main effect of stereotype endorsement, $F(1, 397) = 30.96$, $p < .001$, was qualified by the Racial Prototypicality X Stereotype Endorsement interaction, $F(1, 397) = 7.36$, $p = .007$, $\eta_p^2 = .02$.

To probe the Racial Prototypicality X Stereotype Endorsement interaction, I examined the differences in masculinity as a function of racial prototypicality at the mean of stereotype endorsement as well as at 1 standard deviation below and above the mean (see top panel of Figure 5). Highly racially prototypical Asian men were perceived as more masculine ($M = 5.06$, $SD = 1.18$) than low racial prototypicality men ($M = 4.97$, $SD = 1.16$) but only when stereotype endorsement was weak (one standard deviation below the mean of stereotype endorsement), $F(1, 397) = 4.95$, $p = .03$, $d = .08$. However, the effect did not emerge for participants at the mean or at one standard deviation above the mean on stereotype endorsement, $ps > .10$

I next ran a similar analysis considering only Black targets. In this case, the stereotype endorsement item was "Black men are masculine". The stereotype endorsement main effect emerged, $F(1, 397) = 4.08$, $p = .04$, $\eta_p^2 = .01$. Contrary to my prediction, the Racial Prototypicality X Stereotype Endorsement interaction did not emerge, $F < 1$. Nonetheless, I probed the interaction to examine perceptions of masculinity as a function of racial prototypicality at the mean of stereotype endorsement as well as at one standard deviation below and above the mean. Participants perceived highly racially prototypical Black men as more masculine than low racially prototypical Black men, and this mean difference emerged at all levels (high, average, low) of stereotype endorsement, Fs > 368.90, ps < .001 (see bottom panel of Figure 5).

Stereotype endorsement as a moderator of the Race X Prototypicality interactive effects on sexual orientation judgments

I ran a similar set of ANOVAs to the ones described above but with the outcome variable as sexual orientation judgments. I started by considering judgments of Asian men only. The stereotype endorsement main effect, $F(1, 397) = 7.39$, $p = .007$, $\eta_p^2 = .02$, was qualified by an interaction with prototypicality, $F(1, 397) = 7.39$, $p = .007$, $\eta_p^2 = .02$ (see top panel of Figure 6). Participants perceived low racial prototypicality Asian men as more homosexual than high racial prototypicality Asian men, and this effect emerged among participants who were one standard deviation below the mean on stereotype endorsement ($M_{LowProto} = 3.37$, $SD_{LowProto} = 1.19$ vs $M_{HighProto} = 2.94$, $SD_{HighProto} = 1.23$, $F(1, 397) = 90.97$, $p < .001$, $d = .35$), at the mean of stereotype endorsement ($M_{LowProto} = 3.46$, $SD_{LowProto} = .84$ vs $M_{HighProto} = 3.12$, $SD_{HighProto} = .88$, $F(1, 397) = 116.24$, $p < .001$, $d = .39$), and one standard deviation above the mean on stereotype endorsement ($M_{LowProto} = 3.55$, $SD_{LowProto} = 1.19$ vs $M_{HighProto} = 3.29$, $SD_{HighProto} = 1.23$, $F(1, 397) = 32.53$, $p < .001$, $d = .21$. This pattern

is counter to my hypothesis, in that I predicted highly prototypical Asian men would be more likely to be seen as homosexual. But the reverse pattern was weakest among those who strongly endorsed the stereotype of Asians as feminine.

When only considering Black men, the stereotype endorsement main effect emerged, $F(1, 397) = 18.74$, $p < .001$, $\eta_p^2 = .045$, along with the Racial Prototypicality X Stereotype Endorsement interaction, $F(1, 397) = 25.88$, $p < .001$, $\eta_p^2 = .06$. As shown in the bottom panel of Figure 6, highly racially prototypical Black men were perceived as more heterosexual than low racially prototypical Black men, and this effect emerged among participants at one standard deviation below the mean on stereotype endorsement ($M_{HighProto} = 3.00$, $SD_{HighProto} = 1.35$ vs $M_{LowProto} = 3.69$, $SD_{LowProto} = 1.27$, $F(1, 397) = 119.70$, $p < .001$, $d = -.53$), at the mean of stereotype endorsement ($M_{HighProto} = 2.71$, $SD_{HighProto} = .96$ vs $M_{LowProto} = 3.62$, $SD_{LowProto} = .90$, $F(1, 397) = 423.96$, $p < .001$, $d = -.98$), and at one standard deviation above the mean on stereotype endorsement ($M_{HighProto} = 2.42$, $SD_{HighProto} = 1.35$ vs $M_{LowProto} = 3.60$, $SD_{LowProto} = 1.27$, $F(1, 397) = 397.00$, $p < .001$, $d = -.90$). The interaction was nonetheless driven by the fact that the prototypicality effect was largest among respondents who most strongly endorsed the "Black men are masculine" stereotype.

Path Analysis of Conditional Indirect Effects of Racial Prototypicality on Sexual Orientation Judgments via Perceptions of Masculinity by Target Race

Thus far, I have shown evidence suggesting Target race X Racial Prototypicality effects on perceived masculinity and sexual orientation, and Stereotype Endorsement X Racial prototypicality effects on sexual orientation in both the Black and Asian target conditions, and on masculinity in the case of Asian faces. The stereotype endorsement effects were significant, but weak overall, in that the same prototypicality effects generally appear, regardless of stereotype endorsement level.

I next used MPlus statistical software to conduct the path-analytic framework established by Montoya (2018) to formally examine the conditional indirect effects of racial prototypicality on sexual orientation judgments via perceptions of masculinity as a function of stereotype endorsement, separately for Asian and Black men. Analyses used 10,000 bootstrapped samples for estimation.

When considering Asian male faces, the index of moderated mediation was significant, b = .022, SE = .01, z = 2.17, p = .03, 95% CI (.005, .044). This suggests that the indirect effect of prototypicality on sexual orientations judgments, mediated by perceived masculinity, varied depending on stereotype endorsement. The mediation path was significant only among participants who weakly endorsed the "Asian men are feminine" stereotype, b = -.034, SE = .017, z = -2.024, p = .043, 95% CI (-.071, -.005). For these perceivers, highly racially prototypical Asian men were perceived to be more masculine than low racial prototypicality Asian men, b = .08, SE = .035, z = 2.35, p = .019, 95% CI (.014, .15), and increased perceptions of masculinity predicted more presumed homosexuality, b = .10, SE = .039, z = 2.62, p = .009, 95% CI (.027, .18). The mediational model did not emerge for participants who strongly endorsed the "Asian men are feminine" stereotype, b = .025, SE = .018, z = 1.37, p = .17

When considering Black male faces, the index of moderated mediation was *not* significant (b = -.016, SE = .02, z = -.85, p = .39) suggesting stereotype endorsement does not moderate the indirect effect. Indeed, the mediational model emerged for both those who weakly (b = -.58, SE = .06, z = -9.33, p < .001, 95% CI (-.71, -.46)) and strongly (b = -.62, SE = .07, z = -9.36, p < .001, 95% CI (-.76, -.49)) endorsed the "Black men are masculine" stereotype. I re-ran the basic mediational model without stereotype endorsement, and the indirect effect of racial

prototypicality on sexual orientation judgments via perceptions of masculinity was significant, b = .02, SE = .01, z = 1.86, p = .063, 95% CI (.001, .048).

Discussion

The purpose of Study 2 was to replicate the effects of Study 1 and examine the endorsement of relevant cultural stereotypes as a potential moderator of the predicted mediation of racial prototypicality on judgments of sexual orientation via perceptions of masculinity for Black and Asian male targets. I predicted that for Black targets, racial prototypicality would predict more judgments of targets as heterosexual via increased perceptions of masculinity, and that this effect would be stronger among participants who endorse cultural stereotypes that associate "Blackness" with masculinity. Conversely, I predicted that for Asian targets, racial prototypicality would predict more judgments of targets as homosexual via decreased perceptions of masculinity, and that this effect would be stronger among participants who endorse cultural stereotypes that associate "Asian-ness" with femininity.

Results were only partially consistent with these hypotheses. In line with my predictions, the effect of prototypicality on masculinity and sexual orientation was moderated by target race. Highly racially prototypical Black men were perceived as more masculine, and more heterosexual compared to their low prototypicality counterparts. Furthermore, the mediational hypothesis was supported: For Black targets, prototypicality prompted increased judgments of heterosexuality, via perceived masculinity. However, counter to my prediction, stereotype endorsement played little role in either the mean judgments of masculinity and sexual orientation, or in the mediational model. This suggests that regardless of whether one explicitly endorses the "Black men are masculine" stereotype, highly prototypical Black men are judged as more masculine, and, in turn, more heterosexual, than low racially prototypical Black men.

Similar to Study 1, hypotheses were generally not supported for Asian men. High and low prototypicality targets were perceived as equally masculine, and highly prototypical Asian men were also judged as more heterosexual (not less) compared to their less prototypical counterparts. For Asian targets, masculinity mediated the effect of prototypicality on sexual orientation only among participants who weakly endorsed the cultural stereotype that "Asian men are feminine" (i.e., 1 SD below the mean on stereotype endorsement). Given that these individuals rejected the stereotype of Asian men as feminine, perhaps it is not surprising that they viewed highly prototypical Asian men as more masculine than their low prototypicality counterparts. What is odd in these data is that among those low in endorsement of the stereotype, the masculinity-homosexuality path was positive, not negative. I have no clear explanation for this association, as the correlational data (Table 2) indicate masculinity was negatively associated with perceived homosexuality in all groups. In general, predictions regarding judgments of Asian male faces were not supported.

General Discussion

Across two studies, I investigated the relationship between racial prototypicality, perceptions of masculinity/femininity and judgments of sexual orientation for Black and Asian men. The gender inversion heuristic, which assumes that gay men will enact a more feminized gender expression than straight men and that lesbian women will enact a more masculinized expression than straight women, drives the interpretation of most behavioral cues used to determine sexual orientation. Concurrently, there are pervasive and easily accessible group stereotypes that influence and constrain the ways in which Black and Asian men perform and negotiate their own gender performance. My central hypotheses in this research was that perceptions of racial prototypicality (i.e., how typical is a person of their racial/ethnic group in

terms of physical features) and the endorsement of cultural stereotypes that link racial/ethnic groups to traits that are either stereotyped as masculine or feminine drives the judgment of sexual orientation for non-White persons. Both studies test a theoretical model that argues that perceptions of target masculinity/femininity will mediate the relationship between racial prototypicality, and judgments of sexual orientation and that this predicted mediational relationship will be moderated by the extent to which a person endorses cultural stereotypes that associate Black culture with masculinity and Asian culture with femininity.

In both studies the results suggest partial support for these hypotheses. In Study 1, a significant moderated mediation emerged for judgments of Black men such that perceptions of higher racial prototypicality predicted lower judgments of homosexuality via increased perceptions of masculinity. Black men were also perceived as more masculine than Asian men at the mean level of racial prototypicality. In Study 2, there was a significant interaction between racial prototypicality and stereotype endorsement such that highly prototypical Black men were perceived as more heterosexual than their less prototypical counterparts and this effect emerged consistently across all levels of stereotype endorsement. However, the index of moderated mediation was not significant suggesting that, for Black men, stereotype endorsement does not moderate the indirect effect of racial prototypicality on judgments of sexual orientation via perceptions are masculinity.

In Study 1, prototypicality of Asian faces did not affect judgments of masculinity, there was no moderation of the prototypicality effect by race on judgments of sexual orientation, and the mediational path was not supported when targets were Asian. In Study 2, there was a significant Racial Prototypicality x Stereotype Endorsement interaction such that highly racially prototypical Asian men were rated as more masculine than their low racial prototypicality

counterparts, but only among those who weakly endorsed the stereotype that Asian men are feminine (i.e., 1 SD below the mean of stereotype endorsement). Contrary to my predictions, low prototypical Asian men were rated as more homosexual than highly prototypical Asian men and this pattern persisted at every level of stereotype endorsement. However, the index of moderated mediation was significant suggesting that the indirect effect of racial prototypicality on sexual orientation judgments via perceived masculinity varied as result of stereotype endorsement.

Overall, while the predicted patterns emerged for Black targets, the data for Asian targets was considerably more divergent. One possibility, to which I alluded in Study 1, is that participants were systematically mis-categorizing low prototypical targets, especially when they were Asian. It is perhaps not surprising that low prototypical faces are the most likely to be miscategorized (i.e., differently categorized compared to the self-identification of the men themselves). But I suspect this was especially true of the Asian faces, in part because "Asian" for many White perceivers = "East Asian" (see Lee & Ramakrishnan, 2019) and the less prototypical Asian faces seem most deviant from the East Asian prototype. For Black faces, given the history of the "one drop" rule (Davis, 1991; Khanna, 2010), even low prototypical Black faces might have been categorized as Black.

In both studies, a significant proportion of participants reported seeing and rating pictures of White, Latinx and multiple ethnicity men in addition to the self-identified Black and Asian targets, who actually comprised the totality of the sample for both studies. In Study 2, I did not ask participants to categorize the race of each target, so I cannot be sure of the extent to which mis-categorization occurred. However, the theoretical model that I propose is inherently predicated on the categorization of the targets into specific racial/ethnic groups and the subsequent activation of relevant cultural stereotypes and heuristics (e.g., Black men are

masculine, Asian men are feminine) associated with that group membership and germane to the task of rapidly judging sexual orientation. If a participant does not classify a target as either Black nor Asian, then even if the associated stereotypes are both accessible and endorsed, they are no longer applicable to the cognitive task at hand. In the impression formation process, many factors are considered simultaneously to render judgments, especially for concealable identities such as sexual orientation. It is also possible that perceptions of masculinity proceed rather than follow from racial prototypicality, and future research could examine this possibility.

An additional possibility is that for Asian men, the relationship between racial prototypicality and judgments of sexual orientation is predicated on a different standard of masculinity compared to Black men. Historical and contemporary media representations of Black men in the U.S context often situates masculinity *within* the physical body and the performance of masculinity *through* their inherent (and in more racist readings, violent) physicality (Lavelle, 2010; Brooks & Hébert, 2005). In contrast, I would argue that the masculinization of Asian men has largely occurred outside of the realm of their physical characteristics, and when the physicality of Asian men is discussed, it is often a proxy for a perpetual foreignness (Zou & Cheryan, 2017) that is applied to and continues to be applied to Asian communities in the United States. It may be the case that for Asian men, their racial prototypicality is not connected to their masculinity in as perceptually direct a way as it appears for Black men. This may also suggest a need to measure masculinity and femininity as orthogonal constructs in future iterations of this work to more precisely ascertain if these are the guiding mechanisms driving the relationship, particularly in settings outside of the U.S. context.

Limitations and Future Directions

One potential limitation of this work is the challenge of disambiguating the impact of skin color (as a singular metric) from the broader construct of racial phenotypical prototypicality. Considerable scholarship has documented the positive and negative consequences of having a darker skin complexion as well as the centrality of skin color to judgments of racial/ethnic prototypicality (Hall, 1998; Klonoff and Landrine, 2000; Brown, Ward, Lightbourn, and Jackson, 1999; Maddox and Gray, 2002; Blair et al., 2004). Future studies could use computer generated Black and Asian faces that would allow for experimental manipulation of skin color and other facial features (e.g. broadness of lips and/or nose, hair texture) to more precisely determine their relative impact on judgments of racial prototypicality. Future studies will also apply the model to Black and Asian female targets to investigate how gender impacts the relationship between racial prototypicality and judgments of sexual orientation and downstream consequences of these judgments for perceptions of suitability/fit for a job that is stereotyped as either masculine or feminine.

Another limitation of the present research is the decision to measure perceptions of masculinity/femininity on a continuous scale. This paradigm, while appropriate when considering a layperson's traditional understanding of the construct, precludes the consideration of masculinity and femininity as orthogonal constructs that are not inherently antagonistic. Future studies should measure masculinity and femininity simultaneously for each photo to allow me to detect how changes in racial prototypicality, especially for Asian men, impacted perceptions of both masculinity and femininity, and verify whether a decreased perception of masculinity necessarily leads to an increased perception of femininity (or vice versa) for Asian and Black men and how these relationships are impacted by racial prototypicality.

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Table 1

Study 1: Means, Standard Deviations, and Zero-order Correlations Among Perceived Sexual Orientation, Racial Prototypicality, Femininity, Masculinity, and Dominance for Black Men and Asian Men

			Correlations				
Variables	*M*	*SD*	1	2	3	4	5
	Asian Men						
1. Age	29.66	6.88					
2. Sexual Orientation	3.26	0.57	-.53**				
3. Femininity	1.56	0.28	-.34*	.45**			
4. Masculinity	3.48	0.36	.24	-.33*	-.20		
5. Dominance	2.71	0.47	.21	-.33*	-.13	.57**	
6. Racial Prototypicality	3.05	0.88	.08	-.17	.04	-.16	-.02
	Black Men						
1. Age	29.13	6.88					
2. Sexual Orientation	3.07	0.55	-.31**				
3. Femininity	1.60	0.34	-.24*	.66**			
4. Masculinity	3.42	0.65	.29**	-.60**	-.63**		
5. Dominance	3.36	0.83	.40**	-.45**	-.67**	.73**	
6. Racial Prototypicality	4.96	0.49	-.07	-.37**	-.28**	.49**	.28**

Note. Sexual orientation is scored such that high numbers = more likely to be gay/homosexual.

*$p < .05$, ** $p < .01$.

Table 2

Study 1: Means, Standard Deviations, and Zero-order Correlations Among Perceived Sexual Orientation, Stereotype Endorsement, Perceptions of Masculinity and Sexual Orientation Judgments for High and Low Prototypicality Black and Asian Men

			Correlations			
Variables	*M*	*SD*	1	2	3	4
	Asian Men					
1. Stereotype Endorsement	4.43	0.70				
2. Masculinity (Low Prototypical)	4.79	0.83	-.12*			
3. Sexual orientation (Low Prototypical)	3.46	0.85	.08	-.38**		
4. Masculinity (High Prototypical)	4.80	0.87	-.12*	.82**	-.35**	
5. Sexual Orientation (High Prototypicality	362	0.90	.06	-.24**	.73**	-.36**
	Black Men					
1. Stereotype Endorsement	4.43	.070				
2. Masculinity (Low Prototypical)	4.73	0.87	-.11*			
3. Sexual Orientation (Low Prototypical)	3.62	0.90	.08	-.43**		
4. Masculinity (High Prototypical)	5.82	0.72	-.02	.54**	-.21**	
5. Sexual Orientation (High Prototypical)	2.71	1.01	-.06	-.18**	.55**	-.40**

Note. Sexual orientation is scored such that high numbers = more likely to be gay/homosexual.

*$p < .05$, ** $p < .01$.

Figure 1

Target Race X Prototypicality Interaction on Perceptions of Masculinity, Study 1.

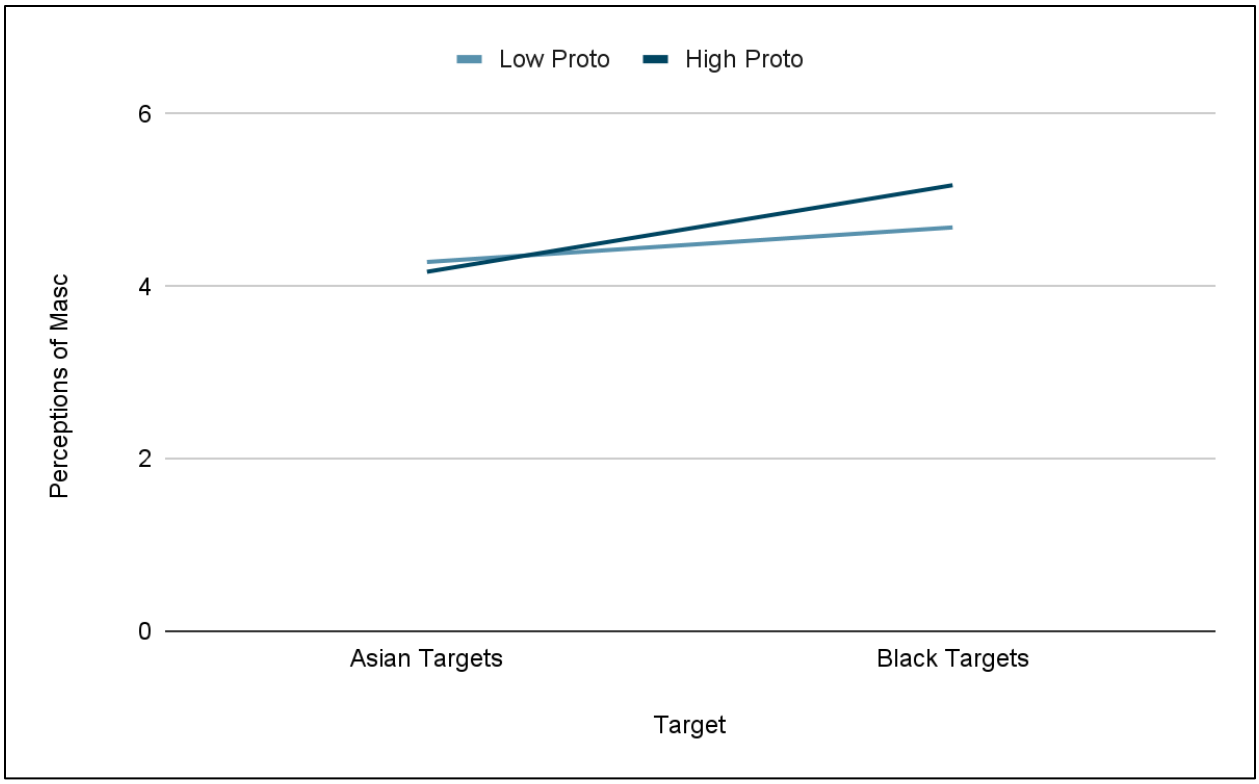
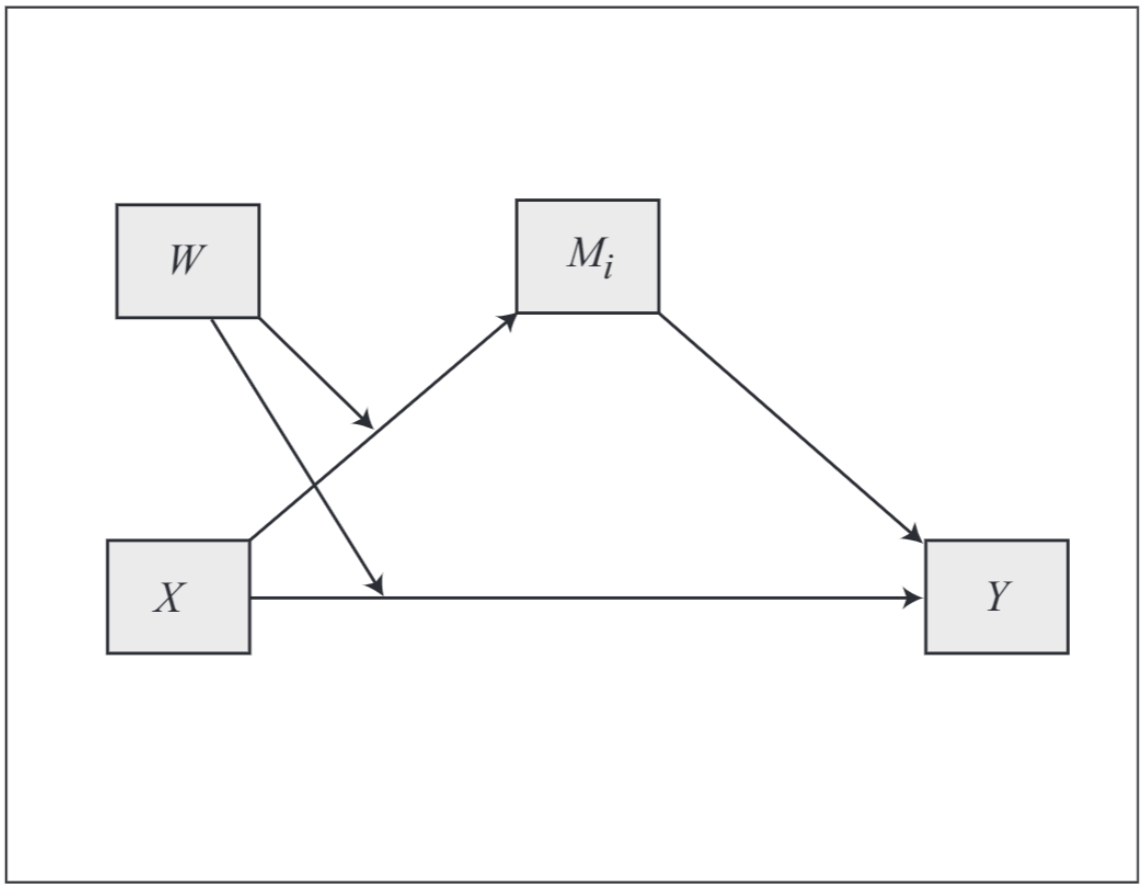


Figure 2

Conceptual Diagram of PROCESS Model for Mediated Moderation, Study 1 and Study 2



Note. For both Study 1 and 2, X = racial prototypicality, M_i = perceptions of masculinity, and Y = perceived sexual orientation. For Study 1, W = race, and for Study 2, W = stereotype endorsement. Model tested separately for Black and Asian targets.

Figure 3

Target Race X Prototypicality Interaction on Perceptions of Masculinity, Study 2

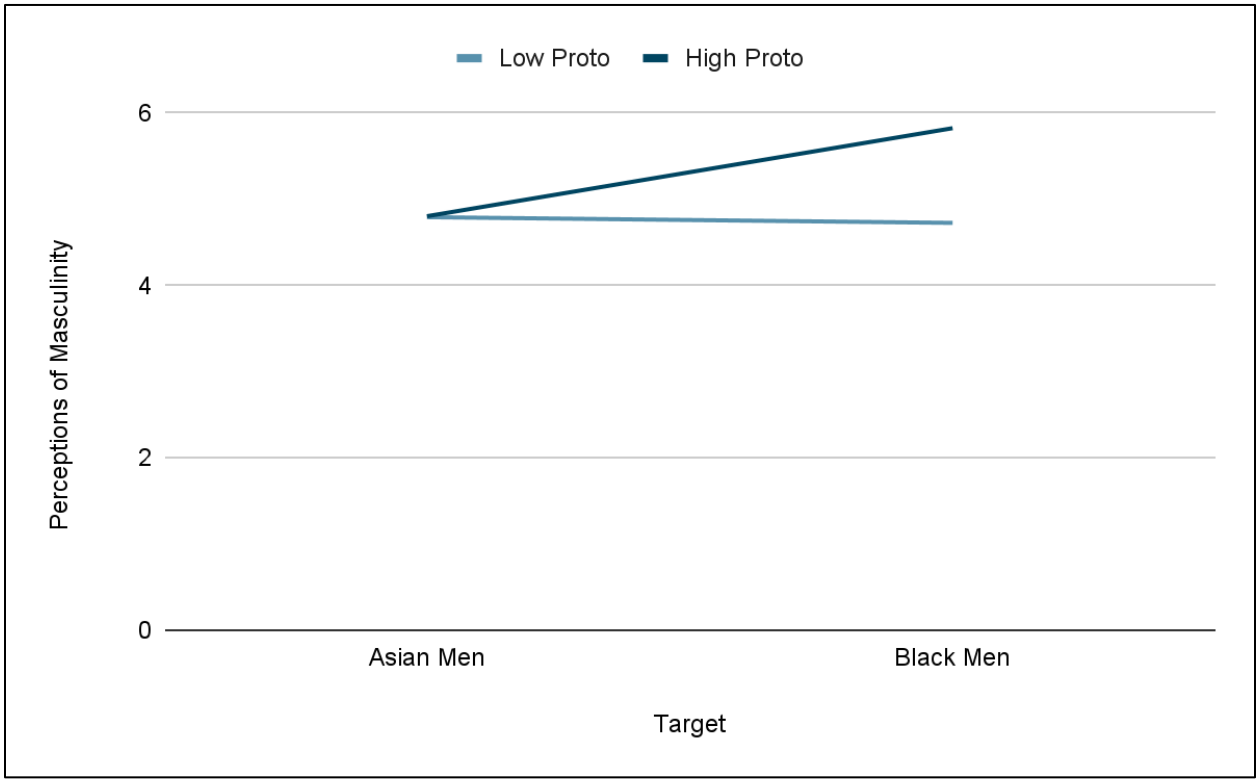


Figure 4

Target Race X Prototypicality Interaction on Perceptions of Sexual Orientation (High Numbers Indicate More Homosexuality), Study 2

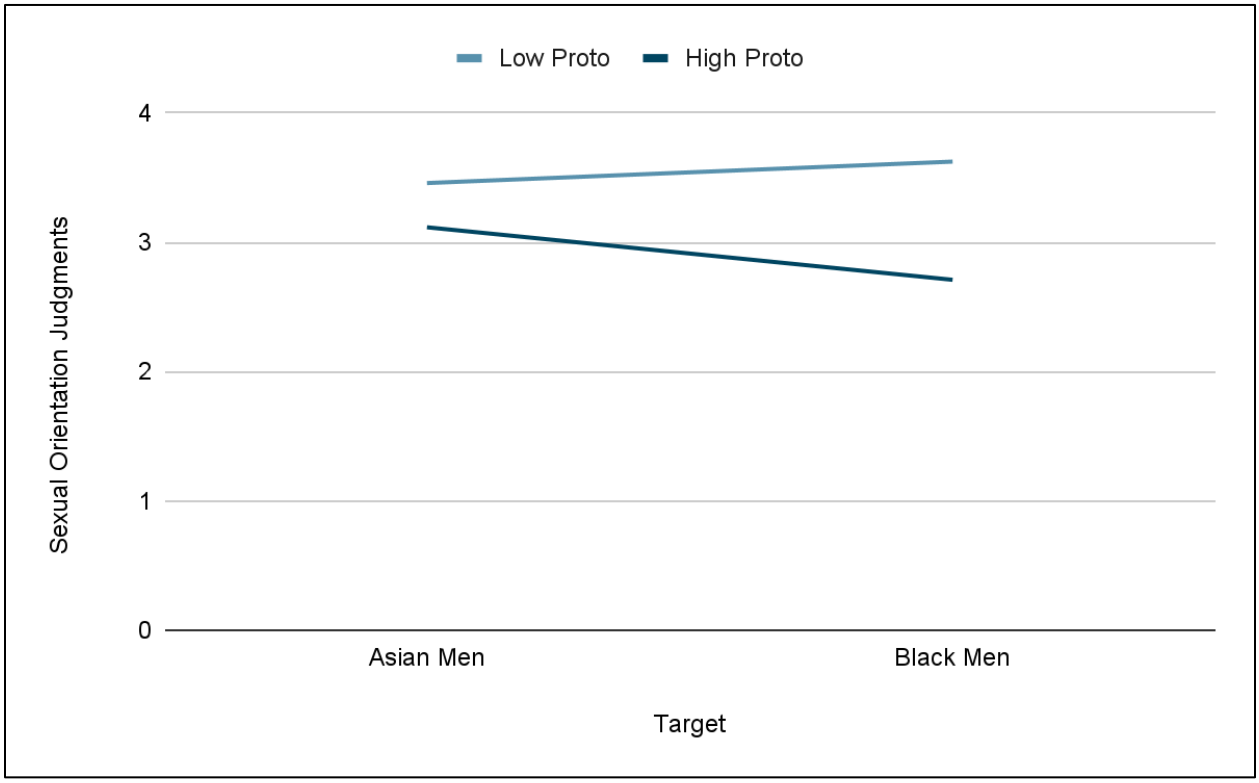


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Figure 5

Stereotype Endorsement as a Moderator of the Prototypicality Effect on Masculinity Perceptions in Asian (top panel) and Black (bottom panel) Faces, Study 2

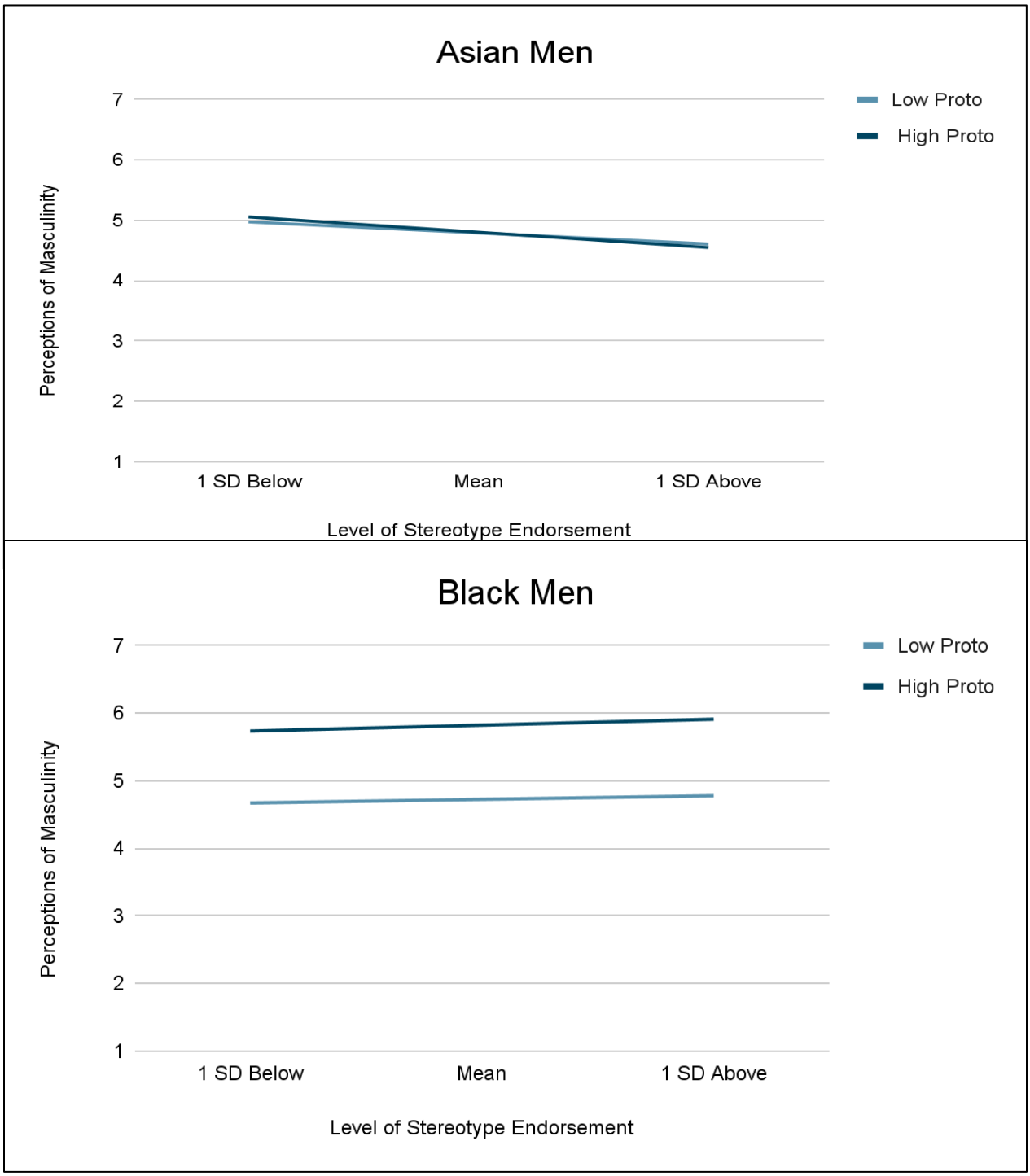
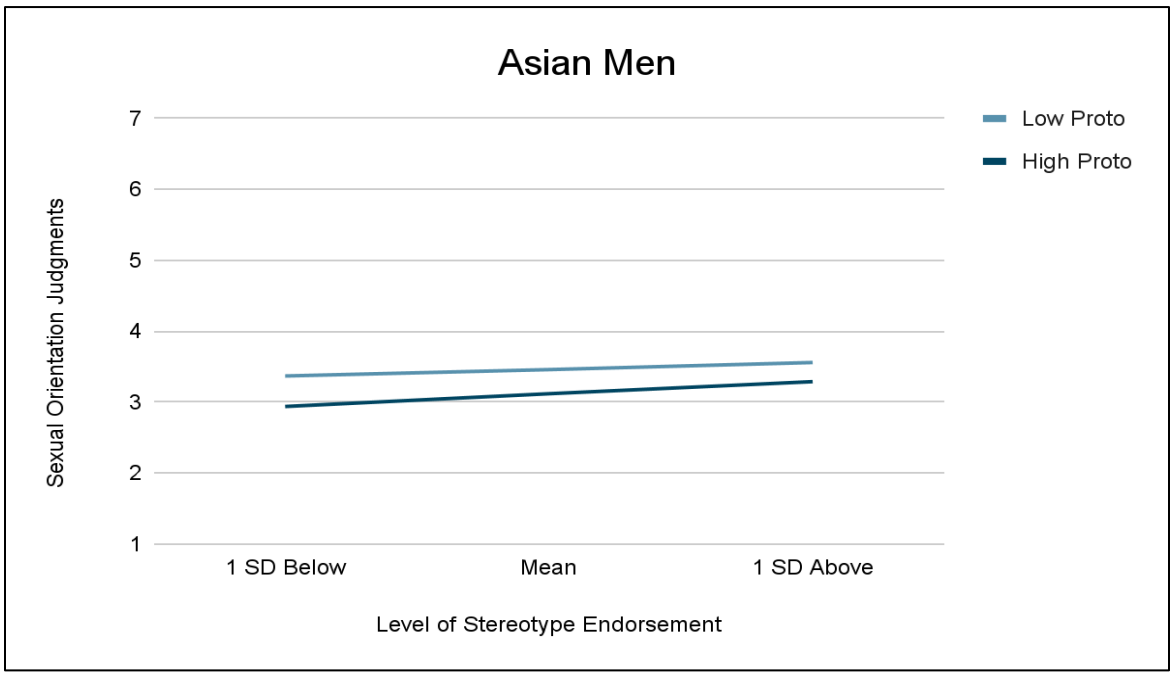
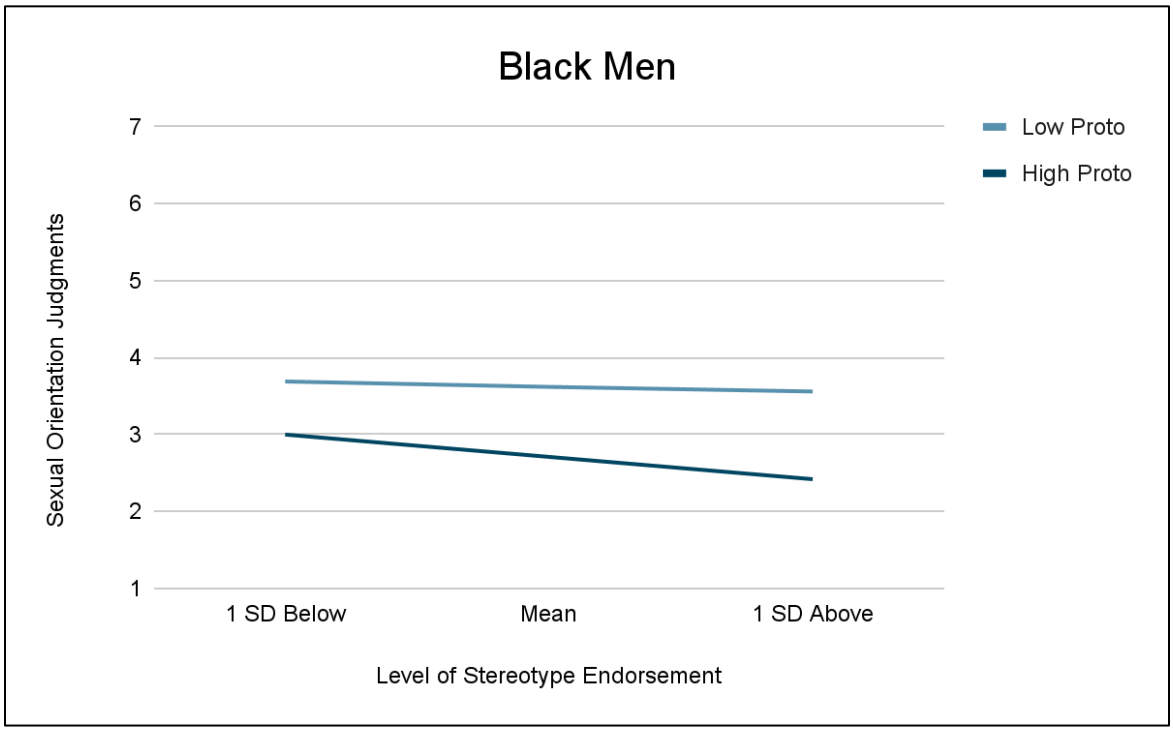


Figure 6

Stereotype endorsement as a moderator of the prototypicality effect on sexual orientation perceptions in Asian (top panel) and Black (bottom panel) faces, Study 2.





Appendix A
Study 1 Materials

Participants judged the sexual orientation of 146 photos

Instructions: You will now see a series of faces of men, and be asked to judge the likely sexual orientation of the person pictured (e.g., straight/heterosexual or gay/homosexual). We realize you have little information to go on, but please use your best judgment or guess about each person's likely sexual orientation.

Figure 1: High Prototypicality Black male (Photo).

How likely is this person to be straight (heterosexual) versus gay (homosexual)?

(1) Very likely to be straight/heterosexual

(2) Moderately likely to be straight

(3) Somewhat likely to be straight

(4) Neither straight nor gay

(5) Somewhat likely to be gay

(6) Moderately likely to be gay

(7) Very likely to be gay/homosexual

Figure 2: Low Prototypicality Black male (Photo).

How likely is this person to be straight (heterosexual) versus gay (homosexual)?

(1) Very likely to be straight/heterosexual

(2) Moderately likely to be straight

(3) Somewhat likely to be straight

(4) Neither straight nor gay

(5) Somewhat likely to be gay

(6) Moderately likely to be gay

(7) Very likely to be gay/homosexual

Figure 3: High Prototypicality Asian male (Photo).

How likely is this person to be straight (heterosexual) versus gay (homosexual)?

(1) Very likely to be straight/heterosexual

(2) Moderately likely to be straight

(3) Somewhat likely to be straight

(4) Neither straight nor gay

(5) Somewhat likely to be gay

(6) Moderately likely to be gay

(7) Very likely to be gay/homosexual

Figure 4: Low Prototypicality Asian male (Photo).

How likely is this person to be straight (heterosexual) versus gay (homosexual)?

(1) Very likely to be straight/heterosexual

(2) Moderately likely to be straight

(3) Somewhat likely to be straight

(4) Neither straight nor gay

(5) Somewhat likely to be gay

(6) Moderately likely to be gay

(7) Very likely to be gay/homosexual

Demographics

What is your age in years? ____

What is your gender?

____ Male

____ Female

____Transgender

____Genderqueer

____ Something not listed, please specify: ___

With which race/ethnicity do you identify?

____ White or Caucasian

____ American Indian or Alaska Native

____ Asian
____ Black or African American
____ Hispanic, Latinx, or Spanish Origin

____ Middle Eastern or North African

____ Native Hawaiian or Other Pacific Islander

____ Something not listed, please specify: ___

What is your religion (if applicable)? _____

Politically, I consider myself:

1 2 3 4 5 6 7

VERY CONSERVATIVE **VERY LIBERAL**

What is your level of education?

____ Some high school

____ High school diploma or equivalent

____ Vocational training

____ Some college
____ Associate's degree (e.g., AA, AE, AFA, AS, ASN)

____ Bachelor's degree (e.g., BA, BBA BFA, BS)

____ Master's degree (e.g., MA, MBA, MFA, MS, MSW)

____ Specialist degree (e.g., Ed.S.)

____Applied or professional doctorate degree (e.g., MD, DDC, DDS, JD, PharmD)

____Doctorate degree (e.g., EdD, PhD)

____Something not listed, please specify: ____

What is your sexual orientation?

____Straight/Heterosexual

____Gay/Homosexual

____Bisexual

____Pansexual

____Questioning

____Something not listed (please specify)

What is your yearly household income? ____

Do you have any family who identify as Black/Asian? Y/N

Do you have any close friends who identify as Black/Asian? Y/N

Do you have any family who identify as sexual minorities (i.e., members of the LGBTQ+ community)? Y/N

Do you have any close friends who identify as sexual minorities (i.e., members of the LGBTQ+ community)? Y/N

Appendix B
Study 2 Materials

(Part 1)

We all have beliefs about different groups of people. Please indicate your agreement with each of the following statements about groups of people in the United States. There are no right or wrong answers to these questions. We are interested in your honest and personal opinion.

1 2 3 4 5 6 7

STRONGLY DISAGREE STRONGLY AGREE

1. Older adults are forgetful.
2. Toddlers are uncoordinated
3. Millennials are spoiled.
4. Baby Boomers are stubborn.
5. Christians are sexually repressed.
6. Muslims are conservative.
7. Asian men are feminine.
8. Black men are masculine.
9. Women are emotional.
10. Men are arrogant.

(Part 2: Participants judged 40 photos from Study 1 (10 each of Black low prototypicality, Black high, Asian low, and Asian high) on two dimensions: sexual orientation (as in Study 1), and masculinity-femininity)

Black Low Prototypicality Photos (CFD designation):

BM-031
BM-012
BM-204
BM-004
BM-222
BM-044
BM-219
BM-027
BM-221
BM-234

Asian Low Prototypicality Photos (CFD designation):

AM-250
AM-232
AM-216
AM-211
AM-212
AM-243
AM-247
AM-214
AM-244
AM-235

Black High Prototypicality Photos (CFD designation):

BM-210
BM-251
BM-045
BM-039
BM-205
BM-241
BM-229
BM-200
BM-236
BM-223

Asian High Prototypicality Photos (CFD designation):

AM-210
AM-201
AM-213
AM-238
AM-205
AM-229
AM-239
AM-227
AM-203
AM-209

Instructions: You will now be exposed to a series of photographs of men and asked to make a judgement about the masculinity or femininity of the person in the photograph. There is no right or wrong answer. We are only interested in your honest first impression.

How masculine or feminine is this person?

(1) Extremely feminine

(2) Moderately feminine

(3) Somewhat feminine

(4) Neither feminine nor masculine

(5) Somewhat masculine

(6) Moderately masculine

(7) Extremely masculine