Extrapolating stereotypical information on sexual orientation from race categories: the case of Black and Asian men

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Abstract

The current research analyzed whether race categories concerning Black and Asian men could lead to extrapolative inferences concerning the sexual orientation of these category members (i.e., ESOS, extrapolative sexual orientation stereotyping). Study 1 assessed perceived cultural-based ESOS and showed that Black men, compared to Asian men, were thought to be more heterosexual than gay men. Study 2 assessed participants' own ESOS and showed that Black men were conflated with heterosexual men and to a greater extent than Asian men, although Asian men were not assimilated to gay men. Black and White men were equally stereotyped as heterosexual men, thus suggesting a drop in the perceived heterosexuality of Asian men rather than an enhancement of the perceived heterosexuality of Black men. Study 3 confirmed that Black men were perceived as more masculine, less feminine and more heterosexual than Asian men, while no difference was found between the two racial categories in the perceived homosexuality. The enhanced perception of femininity of Asian compared to Black men was associated with a decreased perception of Asian compared to Black men as heterosexual. Together, results suggest that the category of Asian and Black men worked as the basis for inferring the sexual orientation of these group members. These racial categories affected the inferred heterosexuality and less, if not somewhat elusively, the inferred homosexuality of Asian and Black men. Results were discussed with respect to research concerning the extrapolative stereotyping and gender-inversion stereotypes of gay men.

Keywords: extrapolative stereotyping; sexual orientation; gender stereotypes; intersectionality.

Public Significance Statements: When processing race categories concerning Black men and Asian men participants relied on these category cues to infer the sexual orientation of these members (i.e., extrapolative sexual orientation stereotyping). In three studies we showed that Black men, compared to Asian men, were more likely to be considered heterosexual men or possess heterosexual male stereotypical characteristics, although no information concerning the sexual orientation of these individuals was directly available in the experimental contexts.

Accumulated evidence shows that stereotypes (i.e., a set of beliefs and expectations concerning the characteristics of members of social groups) play a pivotal role in the elaboration of social information (e.g., Fiske & Taylor, 1991; Kunda, 1999). Stereotypical knowledge orients individuals' attention (Sherman & Frost, 2000), biases encoding (Carnaghi & Yzerbyt, 2006; Srull & Wyer, 1989), memory and the interpretation (Bodenhausen & Wyer, 1985; Payne, 2006) of available information. Stereotypes also trigger the inferential process that takes advantage of detectable or available characteristics of a given stimulus, such as one's group membership, to derive assumed traits or characteristics that are not readily apparent in the social encounter. Indeed, stereotypes work as information-providing devices (Bodenhausen & Macrae, 1996; Bruner, 1957) given that they allow observers to perceive an individual group member (e.g., a man) as being highly likely to display group stereotype-consistent traits or characteristics (e.g., being a football fan) that are not directly available. Such a function of stereotypes has been referred to as the inductive potential or, more precisely, the extrapolative function of stereotypes (Allport, 1954; Bodenhausen & Macrae 1996; Craig & Bodenhausen, 2018).

The majority of studies concerning extrapolative stereotyping has involved individual and group targets that have been defined by a single category (e.g., race; Kang & Bodenhausen, 2015). Relatively little is known about the manner in which extrapolative stereotyping might bias the construal of a group of individuals that in principle may display multiple bases for social categorization (e.g., race and gender; Craig & Bodenhausen, 2018; Pittinsky, Shih, & Trahan, 2006). By contrast, no study has investigated thus far whether perceivers may differently take advantage of specific category intersection (e.g., being male and Asian) to further extrapolate additional categories characteristics (e.g., being a gay or heterosexual male) that are not explicitly observable in such category intersection. The current set of studies aims to fill this lacuna by posing the question of whether and how race categories

(e.g., *Asian* and *Black*) can lead to extrapolative inference concerning the sexual orientation of male members of these categories (i.e., ESOS, extrapolative sexual orientation stereotyping). Said otherwise, we intend to test whether knowing the race of a group of men, these being either *Blacks* or *Asians*, might lead observers to perceive these groups as variously having heterosexual/gay male typical characteristics as well as being more likely to be heterosexual/gay men, although no direct evidence regarding the sexual orientation of these groups of men is available.

This aim stems from theoretical and empirical efforts on the intersection of race and gender categories in general (Bowleg, 2012; Crenshaw, 1991; Purdie-Vaughns & Eibach, 2008), and the Intersectional Fusion Paradigm in particular (i.e., IFP; Liu & Wong, 2018). According to the IFP, the experiences of discrimination based on the crossover of race and gender are interdependent, cannot be reduced to either gender or racial discrimination only, and cannot be understood as the additive experiences of gender and racial discrimination (Goff, Di Leone, & Kahn, 2012; Liu et al., 2018; Wong, Tsai, Liu, Zhu, & Wei, 2014). Accordingly, experiences of gender discrimination are different between male individuals of different races (Schwing, Wong, & Fann, 2013; Wong, Liu, & Klann, *in press*). Given that stereotypes motivate, justify and enact group-based discriminations (Dovidio, Hewstone, Glick, & Esses, 2010; Fiske, 1998; Shamloo, Carnaghi, Piccoli, & Grassi, 2018), research rooted in the intersectionality tradition has addressed the unique, non-addictive stereotypes of subgroups related to gender and race. For instance, research has found that *Blacks* are stereotyped as more masculine/less feminine than *Asians*, and vice-versa (Galinsky, Hall, & Cuddy, 2013; Schug, Alt, & Klauer, 2015). In addition, the stereotypes regarding Blacks largely overlap the stereotypes regarding Black men rather than Black women, while the stereotypes concerning Asians overlap both the stereotypes concerning Asian men and Asian

women (Ghavami & Peplau, 2013). Together this evidence testifies to the fact that race categories are gendered (Goff, Thomas, & Jackson, 2008; Liu et al., 2018).

As race-related stereotypes map onto gender characteristics, the perceived and attributed masculinity of *Black* and *Asian men* can be dramatically different, at least in some geographic areas. For instance, in the US, the representation of *Black men* seems to be conflated with the representation of masculinity, while the representation of *Asian men* seems to be characterized by a lack of masculinity (Beckley, 2008; Liu, Iwamoto, & Chae, 2010; Wong, Horn, & Chen, 2013). More specifically, research on the stereotypes concerning Asian American men has reported that this group is frequently stereotyped as effeminate, physically emasculated and characterized by feminine attributes (Chua & Fujino, 1999; Ho, 2011; Wong, 2008; Wong, Owen, Tran, Collins, & Higgins, 2012; Wong, et al., 2013). By contrast, African American men are typically stereotyped as being physically strong, sexually powerful, having strong athletic abilities (Czopp & Monteith, 2006; Hall, 2001; Wilson, Valera, Ventuneac, Balan,Rowe, & Carballo-Dieguez, 2009).

Additional research has addressed how these stereotypes regulate the categorization of individuals who were simultaneously defined by both gender (e.g., being a man) and race information (e.g., being an Asian-American or an African-American individual). For instance, as revealed by an on-going categorization paradigm (i.e., mouse tracking paradigm; Johnson, Freeman & Pauker, 2012), when performing a gender categorization of Asian men, compared to the categorization of Black Men, the trajectory associated with the selected option (i.e., male) showed a larger trajectory that gravitated around the unselected option (i.e., female). Moreover, *Black male* applicants were perceived as more appropriate for a masculine role than *Asian men*, thus suggesting that the former are perceived as more fitting the representation of *masculinity* than the latter (Galinsky et al., 2013). In sum, the overlap of the stereotypical or phenotypical features of Black men and Men, and of Asian men and Women,

significantly affects the gender categorization of Black men and Asian men as well as the perceived typicality of these racial group members with respect to the relevant gender category (see also, Wong et al., 2013).

Thus far, the implication of the differential association of *Black* and *Asian men* with gender characteristics in general, and masculinity in particular, in terms of the inferred sexual-orientation of these group members has been unaddressed. The current research intends to address this neglected issue by testing the idea that the crossover of race categories and gender, and specifically being a Black or an Asian man, not only alter the gender stereotyping of these groups, but further shapes the perceived sexual orientation of Black and Asian men.

A different strand of research which falls under the banner of the Gender Inversion Theory (e.g., Kite & Deaux, 1987) backs this empirical endeavor. Indeed, accumulated evidence has documented that knowing that a group of men displays feminine characteristics dampens the likelihood that these men are perceived as heterosexuals, and enhances the possibility that these men might be considered gay (Blashill & Powlishta, 2009a; Martin, 1990; McCreary, 1994). Also, the assumed presence of gender-atypical characteristics in a heterosexual man, such as being feminine, is processed as questioning his heterosexual sexual orientation (e.g., Vandello, Bosson, Cohen, Burnaford, & Weaver, 2008). Consistent with this evidence, gay men are often stereotyped as less masculine than heterosexual men, whose cognitive representation is instead conflated with *masculinity*, and then perceived as feminine (i.e., gender inversion theory; Blashill & Powlishta, 2009b; Carnaghi, Anderson, & Bianchi, 2018; Kilianski, 2003; Kite & Deaux, 1987; Salvati, Ioverno, Giacomantonio, & Baiocco, 2016).

The current empirical effort intends to bridge these two strands of research that have developed independently thus far, by testing whether and how different racial categories concerning male individual members might lead to different extrapolative sexual orientation

stereotyping of these male members (i.e., ESOS). In other words, this set of studies aims to ascertain whether racial categories can bring perceivers to infer stereotypical characteristics that are not available in the experimental context and that are related to sexual orientation. Overall, we expected that *Black men* were more likely to be perceived as heterosexual than gay men, and to a greater extent than *Asian men*. Specifically, given that the degrees of perceived masculinity/femininity in men are often associated with perceived sexual orientation of men, we put forward that *Black men*, compared to *Asian men*, were stereotyped as more masculine and less feminine, and that the distinct gender stereotyping of these groups is consistently associated with the extrapolative sexual orientation stereotyping of these groups, namely by stereotyping *Black* men as heterosexual to a greater extent than *Asian* men.

By addressing this research aim, the current empirical efforts have different theoretical and practical advantages. First, we explore whether combining pieces of information regarding a specific category intersection, namely race and gender information, makes social perceivers infer emergent information, such as being a gay or a heterosexual man, that could not be reduced to the constituent information, namely being a man and being either a Black or an Asian individual (Kunda, Miller, & Claire, 1990). In doing so, and for the first time, we would show that, while processing a given category intersection, perceivers take advantage of such intersection to infer additional and novel category information that is not evident in that category crossover. Second, the current empirical efforts bridge together different lines of research that have separately addressed either the conflation of the representation of *heterosexual men* with the representation of masculinity (Kite & Deaux, 1987), or the differences between Asian and Black men in terms of perceived masculinity (e.g., Wong et al., 2013). The current research would further extend the theoretical implications of the gender inversion theory by suggesting that the race membership of a group of men could be appraised *per se* as a relevant tag for the construal of the sexual orientation of such men, even

if no information on the gender conformity of these men is explicitly and contextually available.

Third, the majority of research on intersectionality in general, and specifically on the intersection between race and gender categories has been carried out in the North American context. To our knowledge, the current research represents the first attempt to analyze category intersection in the Italian context. The Italian cultural setting is strongly characterized by high levels of sexual prejudice compared to other EU countries (European Commission, 2012; ILGA 2017; Zotti, Carnaghi, Piccoli, & Bianchi, 2018). Also, among EU countries, Italy is still characterized by relevant levels of gender inequality (European Union, 2018). Also men are strongly stereotyped in higher status roles than women, and they are associated with agency-related characteristics to a greater extent than women (Carnaghi, Piccoli, Brambilla, & Bianchi, 2014; Durante et al., 2013; Puvia & Vaes, 2013). In this unique context, the construction of masculinity appears to be also based on both sexist and chauvinist attitudes as well as on discriminatory behaviors towards gay men (Carnaghi, Maass, & Fasoli, 2011; Paladino, Zaniboni, Fasoli, Vaes, & Volpato, 2014; Volpato, 2014).

The racial makeup of the Italian and US context is strongly different, in that Asian Americans (i.e., 5.8% United States Census Bureau, 2017) and people of color (i.e., 13.4%, United States Census Bureau, 2017) are more prevalent in the US context than in Italy (i.e., East Asian and African citizens make up about 2% and 1% of the Italian population, respectively; Istituto Nazionale di Statistica [ISTAT], 2014). Despite the prevalence of racial minorities is dramatically different in the North America and Italian geographical and cultural area, scattered qualitative analyses carried out in the Italian context have suggested that Asian men and Black men are differently stereotyped in terms of physical attributes, being Asian men stereotyped as not tall while Black men as physically dominant, Asian men are also stereotyped as less athletic and less muscular than Black men, and Black men are particularly

stereotyped as virile and with a powerful sexuality (Giuliani, 2013; Migliorati, Echazarreta, Isidori, & Maulini, 2014; Volpato, 2014; Zannoni, 2007). Although a systematic investigation concerning the manner in which Asian and Black men are differently stereotyped in terms of gender characteristics in Italy has not been carried out yet, the above-mentioned qualitative analyses appear to suggest that Black men, compared to Asian men, are more likely to be stereotyped in terms of characteristics typically associated with the perceived masculinity. The current research would then provide the first quantitative evidence on the different gendered stereotypes of the groups in question by addressing the gender and ESOS of Asian and Black men in the Italian context.

Fourth, stereotypes promote and maintain discrimination at the societal level (Dovidio et al., 2010; Fiske, 1998; Shamloo et al., 2018) as well as they may be internalized by people who are target of such stereotypes, thus negatively affecting their well-being (Cheng, McDermott, Wong, & La, 2016; Wong et al., 2012). Hence, and by deepening the understanding of the ESOS of Asian and Black men, this research would help structure unique interventions aimed at possibly debunking and changing these stereotypes, and ultimately improving the well-being of these group members.

Methodological issues. For all the studies reported in this paper, analyses were performed after data collection was concluded. Sample size was informed by power analyses inputs. No participant was excluded from the analyses. All the independent and dependent variables are described in the procedures sections. Data were analyzed with JAMOVI statistical package.

Study 1

Study 1 aimed at gathering preliminary evidence on the ESOS of race categories. To attain this aim, rather than directly assessing participants' own ESOS of race categories, we

relied on a paradigm assessing the perceived cultural-based ESOS of race categories (see, Fasoli, Paladino, Carnaghi, Jetten, Bastian, & Bain, 2016, p. 240; Fiske, Cuddy, Glick, & Xu, 2002). This paradigm circumvented participants' potential social desirability concerns and helped us to gain initial, albeit indirect, evidence on the ESOS of race categories that would be insightful to set up the subsequent studies assessing participants' own ESOS of race categories. Moreover, to deepen the understanding regarding the manner in which social perceivers enable extrapolative stereotyping, we assessed the inductive potential of race categories in terms of sexual orientation attribution (i.e., inferring sexual orientation from race categories) as well as the inductive potential of sexual-orientation categories in terms of race attribution (i.e., inferring the race membership from sexual orientation categories; for a similar procedure, see Cloutier, Freeman, & Ambady, 2014). We hypothesized that when processing *Black men* as a social group, participants inferred that this social group referred to heterosexual men more than to gay men, and to a greater extent than *Asian men*. Also, we suggested that when processing *heterosexual* men as a social group, participants inferred that this social group was used to indicate *Black* over *Asian men*, and more so than *homosexual men*.

Participants. Eighty-four students from a University in the north of Italy (n = 51 women, n = 33 men) voluntarily took part in the study. Participants' age ranged from 18 to 35 years (M = 21.20, SD = 2.72). Seventy-seven participants were Italian, and seven participants were not Italian citizens. Eighty-one participants self-defined as White, three participants self-defined as 'other' (i.e., unspecified race/ethnicity). Eighty-three participants self-defined as heterosexuals, n = 1 as homosexual. Sensitivity analyses (α err. prob. = .05, Power [1-β err. prob.] = .8, N = 84) indicated a Minimal Detectable Effect (MDE) size dz = .31. Hence, the smallest effect size which we would be able to detect (at 80% power) with this sample fell within the small-effect size area (Cohen, 1988).

Procedure. Participants were handed a questionnaire after consenting to take part in the research. As a part of the cover story, they read that the *'This research aims at studying how people use words, and what people refer to when using these words*'. Participants were further told that ' *We are not interested in the linguistic correctness, namely how people should use these words, but we seek to understand how these words are actually used in everyday life*.' Participants then received a list of eight words. Four words pertained to the sexual orientation estimation task, namely two target words (i.e., Black man [*nero*], Asian man [*asiatico*]) and two filler words (i.e. right-handed [destrimane], myopic [miope]), and four words pertained to the race estimation task, namely two target words (i.e., Heterosexual [eterosessuale], Homosexual [omosessuale]) and two filler words (i.e. right-handed, myopic). Participants were instructed to report '*the probability that people in general – not you personally - think of when using the listed words*'. This procedure allowed us to assess in a covered fashion the extrapolative inferences participants made based on a specific target category (herewith referred to as 'word'). In the sexual orientation estimation task, participants reported the extent to which each word referred to a homosexual man vs. a heterosexual man on a 6-point scale, ranging from 1 (= *very much to a homosexual* [*del tutto a un omosessuale*]) to 6 (= *very much to a heterosexual* [*del tutto a un eterosessuale*]). The labels associated with the endpoints of the scales were counterbalanced across participants. In the race estimation task, participants indicated the extent to which each word referred to an Asian man vs. a Black man, on a 6-point scale, ranging from 1 (= *very much to an Asian* [*del tutto a un Asiatico*]) to 6 (= *very much to a Black* [*del tutto a un Nero*]). The labels associated with the endpoints of the scales were counterbalanced across participants. The order of the presentation of these two estimation tasks was randomly allocated across participants. Within each task, the order of the presentation of the target words was counterbalanced across participants.

It is worth noticing that the Italian language is a grammatically-gender marked language. Hence the end points of the scales were presented in a masculine form, as signaled by the masculine article. Also, Black and Asian were presented in the grammatical masculine form. After completing these tasks participants reported their gender (i.e., binary choice: men, women) and age (i.e., free format), citizenship (i.e., free format), ethnicity (i.e., nominal format of response: White, Black, Asian, other) and sexual orientation (i.e., nominal format of response: heterosexual, bisexual, homosexual, other). their age, their sexual They were then thanked for their participation in the study, they were explained the aim and the hypotheses of the current study, asked whether they had concerns with regards to the experiment and, in case of questions, the experimenter provided further clarifications.

Statistical approach. We analyzed the sexual orientation estimation task and the race estimation task separately. In the sexual orientation estimation task, the within-participant factor was the target word, namely *Black man* and *Asian man*. The dependent variable was the probability that the target word referred to a homosexual/heterosexual man, with higher scores indicating a higher probability that the target word referred to a heterosexual man. We first compared the participants' ratings of *Black man* and *Asian man* on the item pertaining to the probability that the word referred to a homosexual/heterosexual man. This comparison would allow us to test whether *Black man* and *Asian man* would differ in terms of ESOS. We would expect *Black man*, compared with *Asian man*, to be rated as referring more to heterosexual man. Furthermore, participants' ratings on the item under consideration would be analyzed by a one-sample *t*-test on the median value of the scale, separately for *Black man* and *Asian man*. Mean values significantly above the median value of the scale indicated that the target word was thought of pointing to a *heterosexual man*; mean values significantly below the median value of the scale indicated that the target word was thought of pointing to a *homosexual man;* mean values that did not significantly vary from the median value of the

scale suggested that the target word were processed as equally indicating a *heterosexual* and *homosexual man*.

Similarly, in the race estimation task, the within-participant factor was the target word, namely *Heterosexual* and *Homosexual*. The dependent variable was the probability that the word referred to an Asian man/a Black man, with higher scores indicating a higher probability that the word referred to a Black man. We first compared the participants' ratings of *Heterosexual* and *Homosexual* on the item pertaining to the probability that the word referred to an Asian man/a Black man. This comparison would allow us to test whether *Heterosexual* and *Homosexual* would differ in terms of their associations with respect to the race categories. We would expect *Heterosexual*, compared to *Homosexual*, to be rated as referring more to a Black man. Moreover, participants' ratings on the item under consideration would be analyzed by a one-sample *t*-test on the median value of the scale, separately for *Heterosexual* and *Homosexual*. Mean values significantly above the median value of the scale indicated that the target word was thought of pointing to *a Black man*; mean values significantly below the median value of the scale indicated that the target word was thought of pointing to *a Asian man;* mean values that did not significantly vary from the median value of the scale suggested that the target word were processed as equally indicating *a Black* and *Asian man*.

Results. We first analyzed the *sexual orientation estimation task*. Participants' ratings of *Black man* ($M = 4.44$, $SD = 1.21$) were significantly higher than ratings of *Asian man* ($M = 3.94$, $SD = 1.07$), $t(83) = 3.76$, $p < .001$, $d = 0.41$, 95% CI [0.24, 0.76], indicating that *Black man* was thought to refer to a heterosexual man to a greater extent than *Asian man*. One sample *t*-tests (test value = 3.5) also indicated that both *Black man*, $t(83) = 7.15$, $p < .001$, $d = 0.78$, 95% CI [0.68, 1.20], and *Asian man*, $t(83) = 3.78$, $p < .001$, $d = 0.41$, 95% CI [0.21, 0.67], were thought to refer to a heterosexual man.

We then analyzed the *race estimation task.* Participants' ratings of *heterosexual* (*M* = 4.00, *SD* = 0.99) were significantly higher than their ratings of *homosexual* (*M* = 3.23, *SD* = 0.92), $t(83) = 4.52$, $p < .001$, $d = 0.49$, 95% CI [0.43, 1.12], suggesting that *heterosexual* referred to a *Black man* to a greater extent than *homosexual*. One sample *t*-tests (test value = 3.5) also indicated that *heterosexual* was thought to preferentially refer to a *Black man* than to an *Asian man* (test value = 3.5), $t(83) = 4.61$, $p < .001$, $d = 0.50$, 95% CI [0.28, 0.72], while *homosexual* referred more to an *Asian man* than to a *Black man* (test value = 3.5), $t(83) = 2.72$, $p = .01$, $d = 0.30$, 95% CI [-0.47, -0.07].

The same analyses were performed taking into account participant gender. In the sexual orientation estimation task, neither the main effect of gender $F(1,82) = 2.16$, $p = .15$, $\eta^2 = .02$, nor the interaction between gender and race categories, $F(1,82) = 0.68$, $p = 0.41$, $\eta^2 = .002$, were statistically significant. In the race estimation task, neither the main effect of gender, $F(1,82) = 0.51$, $p = .48$, $\eta^2 = .002$, nor the interaction between gender and sexual orientation categories, $F(1,82) = 0.62$, $p = .43$, $\eta^2 = .01$, were statistically significant.

Discussion. Together, these results provide initial support for our hypothesis concerning the ESOS based on race categories. At least at the perceived cultural level, and in the Italian context, participants inferred that a *Black man* and an *Asian man* were used to refer to a heterosexual man by default, albeit *Black man* was understood to referring to a heterosexual man to a greater extent than *Asian man*. Complementarily, *heterosexual* was preferentially construed as indicating a *Black* over an *Asian man*, while *homosexual* was appraised as pointing less to a *Black man* and more to an *Asian man.* As for this study, several limitations, which guided the setting up of subsequent studies, should be acknowledged. First, and although cultural and personal social knowledge are often correlated, an investigation of the participants' *personal* ESOS based on race categories is mandatory to understand whether the observed results were replicated when participants' own inferential process were addressed.

Second, participants' ratings were obtained using a 6-point scale (no neutral option included in the scale), thus preventing the recording of nuanced, non-polarized ratings. For instance, and although *homosexual* was appraised as referring slightly more to an *Asian man* than to a *Black man*, we could not exclude that the lack of an explicit midpoint of the scale may have contributed to stressing the difference between the two racial groups under consideration. Hence, ruling out the possibility that the observed effects would have been a mere function of the characteristics of the assessment scale is needed to detect the ESOS based on race categories in a more reliable fashion. The set up of the next studies were based on these requirements. Moreover, Study 2 focused on the sexual orientation task, namely to infer sexual orientation characteristics on the basis of racial category cues. By contrast, Study 3 focused on the race estimation task, namely inferring racial categories by relying on sexual orientation cues.

Study 2

Similarly to the sexual orientation task from Study 1, in Study 2 we tested participants' extrapolative sexual orientation stereotyping based on race category. Hence, we tested whether *Black men* and *Asian men* were perceived differently as possessing varying degrees of heterosexual/gay males characteristics. As opposed to Study 1, we set our analyses at the level of the participants' own representations of the racial categories in question. Also, and differently from Study 1, participants were asked to rate these racial categories on heterosexual- and gay male-stereotypical traits. Moreover, participants' ratings were collected by means of 7-point scales rather than by 6-point scales as used in Study 1, thus including an explicit midpoint on the scale. In contrast to Study 1, three additional categories were entered into the experimental design. Participants rated two control groups, namely heterosexual men and gay men, on the same stereotypical traits. Also, participants rated *White men* on heterosexual- and gay male-stereotypical traits.

This experimental design allowed us to test whether participants inferred that, compared to *Asian men*, *Black men* were more likely to possess heterosexual over gay male-stereotypical characteristics, in line with the results of the sexual-orientation task from Study 1. Also, by entering the categories of *heterosexual* and *gay men* in the experimental design, we would be able to assess participants' levels of stereotyping of these sexual orientation categories (i.e., the application of the sexual orientation-related beliefs to heterosexual and gay men), and compare them to the ESOS of *Black* and *Asian men*. In line with the results of the sexual-orientation task from Study 1, we would expect that the ESOS of both racial categories were different from the stereotyping of *homosexual men*. Also, we would expect that the ESOS of *Black men,* but not the ESOS of *Asian men*, were similar to the stereotyping of *heterosexual men*. If this pattern of results were confirmed, the representation of *Black men*, but not of *Asian men*, would be conflated with the representation of *heterosexual men*. Finally, by assessing the ESOS of *White men*, we could ascertain whether the ESOS of *Black men* exceeded or were similar to an additional racial category, and whether the ESOS of *Asian men* were weaker than or comparable to another racial category (for a similar procedure, see Schug et al., 2015; Wong et al., 2013).

Participants. One hundred twenty students from a University in the north of Italy (n = 60 women, n = 60 men) voluntarily took part in the experiment. Participants' age ranged from 19 to 39 years (M = 22.90, SD = 3.34). One hundred and seventeen were Italian, two participants were non- Italian and one participant had dual citizenship, which included Italian. One hundred and ten participants were Italian native speakers, and ten participants reported themselves as Italian bilingual. One hundred and eleven participants self-defined as heterosexuals, n = 8 as bisexual, and n = 1 as 'other'.

We a priori decided to rely on a sample of 120 participants. This decision was backed by a sensitivity analyses (α err. prob. = .05, Power [1-β err. prob.] = .8, N = 120) which indicated a

Minimal Detectable Effect (MDE) size $f = .10$. Hence, the smallest effect size which we would be able to detect (at 80% power) with this sample size fell within the small-effect size area (Cohen, 1988).

Procedure. After having consented to take part in the experiment, participants were handed a questionnaire and were presented with five groups, one at a time. All the groups were presented in the grammatical masculine form. Groups were: heterosexual men, gay men, White men, Black men and Asian men. Half of the participants were presented with sexual orientation groups (i.e., gay men, heterosexual men) first, the other half were presented with ethnic groups (i.e., White men, Black men and Asian men) first. The order of presentation of the sexual orientation groups (i.e., gay men first, heterosexual men first) and the order of presentation of the ethnic groups was counterbalanced across participants. For each group, participants were asked to think about and report their opinion about this group. To attain this aim, participants read that they would rate several traits which would be useful for the experimenter to collect their opinion about these groups. Participants were instructed to indicate for each trait the extent to which a given trait was typical of the group in question. Participants were presented with 24 traits. Specifically, eight traits were stereotypical of gay men but counter-stereotypical of heterosexual men; eight traits were stereotypical of heterosexual men but counter-stereotypical of gay men; the remaining eight traits were filler traits, namely irrelevant to groups defined by their sexual orientation (see materials section). Participants reported their responses on 7-point scales, ranging from 1(= *not at all typical*) to 7 (= *very typical*). The order of presentation of the 24 traits was counterbalanced across participants. At the end of the questionnaire, participants reported their gender (i.e., binary choice: men, women), their age (i.e., free format), their sexual orientation (i.e., nominal format of response: heterosexual, bisexual, homosexual, other) their citizenship and their first language by means of a free format. Participants were then thanked, they were explained the

aim and the hypotheses of the current study, asked whether they had questions with regards to the experiment, in case of questions the experimenter provided further clarifications.

Materials. Likewise findings in North American context (Kite & Deaux, 1987), in the Italian context, the stereotype of gay men is molded on the idea that gay men display masculine counter-stereotypical traits, namely feminine stereotypical traits (Carnaghi et al., 2018). Also, in the Italian context, the representation of masculinity is strongly conflated with chauvinism (Volpato, 2014) and discrimination of gay men (Carnaghi et al., 2011; Salvati et al., 2016). Heterosexual men are typically stereotyped as *competitive*, *strong*, *powerful, vigorous, sturdy* and *independent*, but also as *aggressive*, *dominant, rough, authoritarian* (Cadinu, Latrofa, & Carnaghi, 2013; Gabbiadini, Riva, Andrighetto, Volpato, & Bushman, 2016; Latrofa, Vaes, Cadinu, & Carnaghi, 2010). In line with theoretical and empirical efforts, previous works on the sexual orientation stereotyping in the Italian context (Carnaghi, Yzerbyt, Cadinu, & Mahaux, 2005; Carnaghi & Yzerbyt, 2007), relied on heterosexual male stereotypical traits (i.e., robust, strong, dominant, nasty, impolite, aggressive) and gay male stereotypical traits (i.e., artistic, sensitive, tolerant, complicate, disorganized, effeminate), and showed that the group of gay men was stereotyped more on gay male than heterosexual male stereotypical traits. It is worth noticing that the trait selection in the above quoted studies was guided by the purpose of maximizing the perceived difference in terms of sexual orientation stereotyping between gay men and heterosexual men. Said otherwise, the selected gay male stereotypical traits were also counter-stereotypical of heterosexual men, and heterosexual male stereotypical traits were also counter-stereotypical of gay men. Moreover, the traits used in the quoted studies were selected in line with Judd and Park's (1993; Cadinu et al., 2013) recommendations concerning the assessment of stereotypes, namely that both gay and heterosexual male stereotypical traits should include an equal number of both positive and negative traits, thus minimizing the effect of trait valence, and refraining from confounding

the assessment of stereotypical beliefs with prejudice-driven, valence-based responses. Carnaghi and Maass (2007) elaborated on the traits outlined by the quoted studies (Carnaghi et al., 2005; Carnaghi & Yzerbyt, 2007) and provided a more extensive list of gay male stereotypical traits (i.e., elegant, artistic, sensitive, polished, effeminate, emotional, unsteady, complicated) and heterosexual male stereotypical traits (energetic, strong, leader, pragmatic, conservative, rude, intolerant, offensive), and fillers traits, namely those traits that were unrelated to the gay and heterosexual men (i.e., honest, confident, wise, trustworthy, stingy, formal, greedy, cheat). By using an implicit stereotyping assessment, Carnaghi and Maass (2007) showed that category primes related to gay men made gay male stereotypical traits more cognitively accessible than heterosexual male stereotypical traits.

In Study 2 we relied on a very similar set of traits as those used by Carnaghi and Maass (2007), that is we used gay male stereotypical traits (i.e., elegant, artistic, sensitive, polished, effeminate, emotional, unsteady, complicated), heterosexual male stereotypical traits (i.e., energetic, strong, leader, pragmatic, conservative, rude, intolerant, offensive), and fillers traits, namely traits that were irrelevant to sexual orientation (i.e., honest, confident, wise, trustworthy, worried, formal, greedy, cheat). To empirically corroborate this trait selection, N = 72 participants (n = 36 women, n = 35 men, n = 1 did not report their gender; age: M = 21.31, SD = 2.01), which were issued from the same population of the Study 2, were requested to rate gay men and heterosexual men (counterbalanced order across participants) on the above detailed traits. Participants indicated the extent to which each trait was typical of gay men and heterosexual men by means of 7-point scales, ranging from 1(= *not at all typical*) to 7 (= *very typical*). Participants' ratings on the gay male traits (Guttman's λ_6 = .66 - 77), the heterosexual male traits (Guttman's λ_6 = .57 – 75), and on the irrelevant traits (Guttman's λ_6 = .66 – 71) were averaged separately for gay men and heterosexual men. Participants attributed more gay male traits to gay men (M = 5.04, SE = .09) than heterosexual

men (M = 3.78, SE = .07) $t(71) = 10.31$, $p < .001$, $d = 1.22$, 95% CI [1.02, 1.50], and more heterosexual male traits to heterosexual men (M = 4.55, SE = .09) than gay men (M = 3.30, SE = .07), $t(71) = 10.43$, $p < .001$, $d = 1.23$, 95% CI [1.02, 1.50]. Participants attributed irrelevant traits to gay men (M = 4.14, SE = .08) and heterosexual men (M = 4.18, SE = .08) to a similar extent, $t(71) = 0.59$, $p = .56$, $d = .07$, 95% CI [-0.21, 0.11]. Moreover, participants attributed more gay than heterosexual male traits to gay men, $t(71) = 14.29$, $p < .001$, $d = 1.68$, 95% CI [1.50, 1.99], and more heterosexual than gay male traits to heterosexual men, $t(71) = 7.72$, $p < .001$, $d = .91$, 95% CI [0.57, 0.97]. Importantly, and as for gay men, participants attributed more gay male traits than irrelevant trait, $t(71) = 10.36$, $p < .001$, $d = 1.22$, 95% CI [0.73, 1.08], and less heterosexual male traits than irrelevant traits, $t(71) = 9.26$, $p < .001$, $d = 1.09$, 95% CI [0.66, 1.02]. Also, and as for heterosexual men, participants attributed less gay male traits than irrelevant traits, $t(71) = 5.95$, $p < .001$, $d = .70$, 95% CI [0.27, 0.53], and more heterosexual male traits than irrelevant traits, $t(71) = 5.12$, $p < .001$, $d = 0.60$, 95% CI [0.23, 0.52].

Together, these results suggested that, at least in the Italian context, gay male traits were stereotypical of gay men but counter-stereotypical of heterosexual men, and that heterosexual male traits were stereotypical of heterosexual men and counter-stereotypical of gay men. On the bases of this evidence, we relied on these tested gay male and heterosexual male stereotypical traits in the Study 2.

Statistical approach. We followed a two-phases analysis. In the first step, a preliminary analysis was conducted to confirm that the gay male traits were attributed more to *gay men* than *heterosexual men*, and that the heterosexual male traits were attributed more to *heterosexual men* than *gay men*. Also, we further tested whether gay male traits were more attributed than heterosexual male traits to *gay men*, and whether heterosexual male traits were

more attributed than gay male traits to *heterosexual men*. To test this expected pattern of findings, we followed the same statistical analyses outlined in the material section.

After having ascertained the suitability of the selected traits with respect to the experimental purpose, we aimed to gather evidence that the groups defined by race (i.e., Black men, Asian men, White men) differed in terms of attribution of gay male/heterosexual male traits (i.e., main analysis).

According to Judd and Park's (1993; see also, Carnaghi et al., 2005; Johnston & Coolen, 1995; Judd, Park, Yzerbyt, Gordijn, & Muller, 2005; Macrae, Hewstone, & Griffiths, 1993) theoretical and empirical efforts, stereotypes can be operationalized as an overestimation of a target group location on stereotypical attributes relative to some criterion (i.e., exaggeration). Hence, Judd and Park (1993) recommended to including both stereotypical and counter-stereotypical traits, thus assessing whether the target group is perceived as more extreme on the stereotypical traits than on the counter-stereotypical traits. To the extent that stereotypical traits are seen as more prevalent relative to counter-stereotypical traits, than the group representation stems from an exaggeration.

Importantly, Judd and Park (1993, p. 119) raised concerns regarding the judgment extremity bias when assessing exaggeration. Specifically, the judgment extremity bias refers to the tendency of either inflate or deflate the extremity of judgments. The judgment extremity bias might occur more with some target groups than with other target groups and, in such a case, the assessment of group stereotyping as an exaggeration of stereotypical over counter-stereotypical attributes can be confounded with the judgment extremity bias. In other words, if *a*) group A were rated more extremely on both stereotypical and counter-stereotypical traits than group B (i.e., main effect of group), and *b*) group A were rated slightly more on stereotypical than counter-stereotypical traits, while group B were rated strongly more on stereotypical than counter-stereotypical traits (i.e., group by trait

interaction), the judgment extremity bias (i.e., main effect of group) would overshadow the fact that the stereotyping (i.e., higher score on stereotypical than counter-stereotypical traits) was indeed stronger in group B than in group A. To overcome this limitation, a discrepancy score, namely the difference between the attribution of stereotypical and counter-stereotypical traits, would allow experimenters to assess the stereotype exaggeration while controlling for the judgment extremity bias (for a similar procedure, see also Carnaghi et al., 2005; Johnston & Coolen, 1995; Judd et al., 2005; Macrae et al., 1993).

In line with this reasoning, and for each group (i.e., Black men, Asian men, White men, heterosexual men, and gay men), in the main analyses, we computed the discrepancy between the attribution of gay male traits and heterosexual male traits (i.e., sexual orientation stereotyping). A positive sexual orientation score, which significantly differed from the zero value, indicated a stronger attribution of gay male traits compared to heterosexual male traits. A negative sexual orientation score, which significantly differed from the zero value, indicated a stronger attribution of heterosexual male traits compared to gay male traits. A sexual orientation score which did not significantly differ from the zero value indicated an equal attribution of both gay and heterosexual male traits. In line with this rationale, the sexual orientation score was analyzed by means of a one-sample t-test (test value equal to 0), thus analyzing the occurrence and the nature of the sexual orientation stereotyping of the groups under consideration. Then, the sexual orientation stereotyping was analyzed by means of an ANOVA 5(groups: heterosexual men *vs*. gay men *vs.* White men *vs.* Black men *vs.* Asian men), with groups as a within-participants factor. If the effect of groups were significant, inspection of the means (Tukey correction) would be carried out to test the above-mentioned hypotheses.

Reliability analyses. Participants' ratings on the heterosexual male traits (race groups: Guttman's λ_6 = .84; heterosexual men: Guttman's λ_6 = .77; gay men: Guttman's λ_6 = .66),

and on the gay male traits (race groups: Guttman's λ_6 = .87; heterosexual men: Guttman's λ_6 = .67; gay men: Guttman's λ_6 = .80) were averaged separately. This computation was performed for each group.

Preliminary analyses.

Participants attributed more gay male traits to gay men (M = 4.59, SE = .06) than heterosexual men (M = 3.95, SE = .05), $t(119) = 9.15$, $p < .001$, d = .83, 95% CI [0.50, 0.78], and more heterosexual male traits to heterosexual men (M = 4.40, SE = .06) than gay men (M = 3.32, SE = .06), $t(119) = 12.91$, $p < .001$, d = 1.18, 95% CI [0.91, 1.25]. Also, participants' ratings on irrelevant traits (Guttman's λ_6 = .58 – 72) were averaged separately for gay men and heterosexual men. Participants attributed irrelevant traits to gay men (M = 4.23, SE = .05) and heterosexual men (M = 4.17, SE = .05) to a similar extent, $t(119) = 1.12$, p = .27, d = 0.10, 95% CI [-0.16, 0.04]. Moreover, participants attributed more gay than heterosexual male traits to gay men, $t(119) = 16.54$, $p < .001$, d = 1.51, 95% CI [1.12, 1.42], and more heterosexual than gay male traits to heterosexual men, $t(119) = 6.21$, $p < .001$, d = 0.57, 95% CI [0.31, 0.59]. Importantly, and as for gay men, participants attributed more gay male traits than irrelevant traits, $t(119) = 9.91$, $p < .001$, d = .90, 95% CI [0.29, 0.44], and less heterosexual male traits than irrelevant traits, $t(119) = 12.77$, $p < .001$, d = 120, 95% CI [0.77, 1.04]. Also, and as for heterosexual men, participants attributed less gay male traits than irrelevant traits, $t(119) = 4.32$, $p < .001$, d = .39, 95% CI [0.12, 0.32], and more heterosexual male traits than irrelevant traits, $t(119) = 3.90$, $p < .001$, d = .36, 95% CI [0.12, 0.35].

This pattern of results fully overlapped the findings outlined in the material section and further corroborated the correctness of the selected traits with respect to the experimental purpose, namely that gay male traits were indeed stereotypical of gay men but counter-stereotypical of heterosexual men, and that heterosexual male traits were stereotypical of heterosexual men and counter-stereotypical of gay men.

Main analyses. Then, and in line with the rationale discussed above (see, statistical approach), and following the procedure outlined by Judd and Park (1993), participants' ratings on the gay male traits were subtracted from their ratings on the heterosexual male traits. This differential score operationalized the sexual orientation stereotype, with a higher value indicating a stronger stereotyping of the group as heterosexual over gay. The sexual orientation stereotype was analyzed by means of an ANOVA 5(groups: heterosexual men *vs*. gay men *vs.* White men *vs.* Black men *vs.* Asian men), with groups as a within-participants factor. The effect of groups was significant $F(4, 476) = 117$, $p < .001$, $\eta^2 = .43$ (Fig. 1). Post Hoc tests (Tukey correction) indicated that, compared to gay men, the sexual orientation stereotype was higher for heterosexual men ($t = 18.54$, $p < .001$). As both the sexual orientation stereotype of gay men, $t(119) = -16.54$, $p < .001$, $d = 1.51$, 95% CI [-1.43, -1.12] and of heterosexual men, $t(119) = 6.21$, $p < .001$, $d = 0.57$, 95% CI [0.31, 0.59], differed from zero as the test value, this pattern of results confirmed the correctness of the selected traits given that heterosexual men were more stereotyped on heterosexual than gay male traits, while homosexual men were more stereotyped on gay over heterosexual male traits.

Black men were stereotyped as heterosexual over gay men to a greater extent than Asian men ($t = 4.01$, $p < .001$). The sexual orientation stereotype of Black men was statistically similar to the sexual orientation stereotype of heterosexual men ($t = 1.27$, $p = .71$), while the sexual orientation stereotype of Asian men ($t = 5.28$, $p < .001$) was lower than the sexual orientation stereotype of heterosexual men. Also, the sexual orientation stereotype of both Black men ($t = 17.27$, $p < .001$) and of Asian men ($t = 13.26$, $p < .001$) was higher than the sexual orientation stereotype of gay men. Moreover, the sexual orientation stereotype of Black men did not differ from the sexual orientation stereotype of White men ($t = 0.16$, $p = 1.00$), while the sexual orientation stereotype of Asian men was significantly lower than the sexual orientation stereotype of White men ($t = 3.85$, $p = .001$). One-sample *t*-tests (test value

= 0) on the sexual orientation stereotype indicated that heterosexual men, White men, and Black men were stereotyped more as heterosexual men than gay men (*p*s < .001), while Asians were stereotyped as equally heterosexual and gay men ($p = .55$).

When controlling for participant gender, the effect of groups was again significant $F(4, 472) = 117.21$, $p < .001$, $\eta^2 = .43$, and neither the main effect of participant gender, $F(1, 118) = 0.78$, $p = .38$, $\eta^2 = .001$, nor the groups by participant gender interaction, $F(4, 472) = 0.95$, $p = .44$, $\eta^2 = .003$, were significant.

Discussion. Confirming the correctness of the selected traits, results indicated that *heterosexual men* were attributed more heterosexual traits than gay male traits, while the reverse pattern was found for *gay men. Black men* were thought of as possessing more heterosexual over gay male traits and to a greater extent than *Asian men*. Furthermore, *Black men* were attributed more heterosexual over gay male traits to a similar extent than *heterosexual men*, and, like *heterosexual men*, differed from the stereotyping of *gay men*. By contrast, *Asian men* were attributed less heterosexual over gay male traits than *heterosexual men*, indicating that they were not considered to be *heterosexual men*, but *Asian men* were also attributed more heterosexual over gay male traits than *gay men,* thus suggesting that they were not thought of as gay men. Finally, *Black men* were attributed more heterosexual over gay male traits as *White men*, while *White men* were attributed more heterosexual than gay male traits than *Asian men*.

In sum, and in line with the results of the sexual-orientation task from Study 1, the ESOS of *Black men* as heterosexual over gay men was stronger than the ESOS of *Asian men*. Moreover, the ESOS of *Black men* as heterosexual men was not unique to this group but extended to *White men*, as both racial categories were inferred to possess more heterosexual than gay male traits to a similar extent than *heterosexual men*. Hence, *Blank* and *White men* were conflated with *heterosexual men.* By contrast, the heterosexual defaulting of racial

categories was attenuated for *Asian men*, as they significantly differ from *heterosexual men*. However, this racial category was not processed as being gay, since *gay men* were thought to possess more gay male traits than heterosexual male traits to a greater extent than the *Asian men*. Indeed, *Asian men* were the only racial category that was inferred to display both heterosexual and gay male characteristics to a similar extent.

Study 3

Study 3 was designed to replicate the results of the race-estimation task from Study 1, and extended this analysis to three different, albeit related goals. First, we aimed to study whether *Black men* and *Asian men* were differently stereotyped in terms of gender characteristics (i.e., masculine and feminine). Specifically, we tested and expected that *Black men* were stereotyped as more masculine and less feminine than *Asian men*, in line with previous studies on this issue, which were carried out in the North American context (Beckley, 2008; Chua & Fujino, 1999; Galinsky et al., 2013; Ho, 2011; Johnson et al., 2012; Liu, Iwamoto, & Chae, 2010; Wong, 2008; Wong et al., 2012; Wong, et al., 2013). This first aim would establish a gender conformity perception of *Black men* and a gender non-conformity or gender inversion representation of *Asian men* in the Italian context. Second, and by providing participants with sexual orientation category attributes, namely heterosexual and gay men, we expected that participants would infer that *Black men* were more likely to be heterosexual men and less likely to be gay men than *Asian men*. Third, and according to the gender inversion theory, if a man were perceived as more feminine, this would decrease the probability that the man in question were represented as heterosexual (Blashill & Powlishta, 2009a; Falomir-Pichastor, Berent, & Anderson, 2019; Martin, 1990; McCreary, 1994). Consistent with this claim, we expected that the extent to which participants perceived a racial category as less displaying femininity than the other category enhanced the probability of inferring that the former racial category was more likely to be heterosexual than the latter racial category.

Participants. Sixty students from a University in the north of Italy (*n* = 39 women, *n* = 21 men) voluntarily took part in the experiment. Participants' ages ranged from 18 to 53 years (*M* = 26.80, *SD* = 6.87). All participants were Italian. Fifty-eight participants were Italian native speakers, one participant was Italian bilingual, and one participant was not an Italian-native speaker. Fifty-four participants self-identified as heterosexuals, four as bisexuals, and two as 'other sexual orientation'. Given that the size of the effects of interest fell in the small-size area (Study 1-2), we set the N-rule to 60 participants, which was confirmed as adequate for a Minimal Detectable Effect (MDE) size *dz* = .37 by a sensitivity analysis (α err. prob. = .05, Power [1-β err. prob.] = .80)

Procedure. After obtaining their written consent, participants were handed a questionnaire. Participants were asked to think of Asian individuals and to think of Black individuals. Then they were presented with six attributes and asked to indicate the extent to which they thought that either Asians or Blacks were more characterized by that attribute (e.g., thinking of Asian individuals and to think of Black individuals in general, do you think that Asians or Blacks are more *masculine*?). Specifically, two attributes were relevant to gender stereotyping (i.e., masculine, feminine), two attributes were fillers (i.e., left-handed, right-handed), and two attributes referred to sexual-orientation stereotyping (i.e., heterosexual, homosexual). Participants reported their answers by means of a bipolar scale -3(= *much more Asians*) to + 3(= *much more Blacks*). Then, participants reported their gender (i.e., man, woman), age (i.e., free format), sexual orientation (i.e., nominal format of response: heterosexual, bisexual, homosexual, other), citizenship and first language by means of a free format. Participants were thanked, they were explained the aim and the hypotheses of the current study, asked whether they had questions with regards to the experiment, and in the case of questions, the experimenter provided further clarifications.

Statistical approach. We first analyzed participants' ratings on the attributes relevant to the gender stereotyping (i.e. masculine and feminine). Positive ratings indicated a stronger attribution of these attributes to Black men than Asian men. Conversely, negative ratings indicated a stronger attribution of these attributes to Asian men than Black men. Hence, and by comparing via a paired sample *t*-test participants' ratings on the attributes in question we would be able to ascertain whether the gender stereotyping would be different for Black men and Asian men and, in line with our hypothesis, whether the masculine attribute were attributed more strongly than the feminine attribute to *Black men* compared to *Asian men*. To deeply ascertain the differential attribution of masculine and feminine traits to Black and Asian men, we then performed a one-sample *t*-test of participants' ratings on the masculine attribute, and used the middle point of the scale as referent value, as it indicated an equal attribution of the masculine attribute to Black and Asian men. The same analysis was then performed on participants' ratings on the feminine attribute. Together, these analyses would allow us to test whether the *Masculine* was attributed more to *Black* than *Asian men,* while *Feminine* was attributed more to *Asian* than *Black men*. We then analyzed the participants' ratings on the items pertaining to the sexual orientation stereotyping (i.e., homosexual, heterosexual). Positive ratings indicated a stronger attribution of these attributes to Black men than Asian men. Conversely, negative ratings indicated a stronger attribution of these attributes to Asian men than Black men. Hence, and by comparing via a paired sample *t*-test participants' ratings on these attributes we would be able to test whether the sexual orientation stereotyping would be different for Black men and Asian men and, in line with our hypothesis, whether the heterosexual attribute were attributed more strongly than the homosexual attribute to *Black men* compared to *Asian men*. To analyze the differential attribution of heterosexual and homosexual attribute to Black and Asian men, we then performed a one-sample *t*-test on participants' ratings on the heterosexual attribute, and used

the middle point of the scale as referent value, as it pointed to an equal attribution of the heterosexual attribute to Black and Asian men. The same analysis was then performed on participants' ratings on the homosexual attribute. Together, these analyses would allow us to analyze whether the *Heterosexual* was attributed more to *Black* than *Asian men,* while *Homosexual* was attributed more to *Asian* than *Black men*.

Finally, participants' ratings on the items pertaining to gender and to the sexual orientation stereotyping were analyzed by means of correlation test. This analysis would allow us to test our hypothesis concerning the possibility that the higher the perceived gender-non-conformity of a group, the higher the probability of that group to be perceived as homosexual.

Results

Participants' ratings on *Masculine* (M = 1.62, SD = 0.87), were higher than participants' ratings on *Feminine* (M = -0.82, SD = 0.91), $t(59) = 13.64$, $p < .001$, $d = 1.76$; 95% CI [2.08, 2.79], indicating that *Masculine* was attributed more strongly than *Feminine* to *Black men* compared to *Asian men*. Specifically, one-sample *t*-tests (test value = 0) showed that *Masculine* was attributed more strongly to *Black men* than *Asian men* (test value = 0), $t(59) = 14.47$, $p < .001$, $d = 1.87$; 95% CI [1.39, 1.84], while *Feminine* was attributed more strongly to Asian men than Black men (test value = 0), $t(59) = 6.94$, $p < .001$, $d = 0.90$; 95% CI [0.58, 1.05]. Also, participants' ratings on *Heterosexual* (M = 0.32, SD = 0.81), were higher than participants' ratings on *Homosexual* (M = -0.15, SD = 0.69), $t(59) = 2.69$, $p = .01$, $d = 0.35$; 95% CI [0.12, 0.81], indicating that *Heterosexual* was attributed more strongly than *Homosexual* to *Black men* compared to *Asian men*. Specifically, one-sample *t*-tests (test value = 0) showed that *Heterosexual* was attributed more strongly to *Black men* than *Asian men* (M = 0.32, SD = 0.81), $t(59) = 3.02$, $p = .004$, $d = 0.39$; 95% CI [0.11, 0.53], and that *Homosexual* tended to be attributed more to *Asian men* than *Black men*, although this

difference was not statistically significant (M = -0.15, SD = 0.69), $t(59) = 1.70$, $p = .10$, d = 0.22; 95% CI [-0.33, 0.03].

Controlling for participant gender, a gender by gender attribute interaction was found, $F(1,58) = 4.85$, $p = .03$, $\eta^2 = .02$. Such an interaction was driven by the greater difference between *Masculine* and *Feminine* ratings displayed by male participants (M = 2.95, SD = 1.32) compared to female participants (M = 2.15, SD = 1.35), $t(58) = 2.20$, $p = .03$, d = 0.60, 95% CI [0.07, 1.52]. Nevertheless, Post Hoc comparisons (Tukey correction) showed that both male and female participants' ratings of *Masculine* were significantly higher than ratings of *Feminine* (ts > 10.00, ps < .001), thus confirming the same trend for both genders. Therefore, gender difference did not affect the main finding of the study. As regarding sexual orientation ratings, neither the main effect of participant gender, $F(1,58) = 0.04$, $p = .84$, $\eta^2 = 0.00$, nor the participant gender by sexual orientation categories interaction, $F(1,58) = 0.03$, $p = .87$, $\eta^2 = 0.00$, were statistically significant.

Correlation analyses. Correlation analyses showed that the less the Black men compared to Asian men were stereotyped as feminine (or the more the Asians compared to Blacks were stereotyped as feminine), the more the Black men compared to Asian men were thought to be heterosexual (or the less the Asians compared to Blacks were thought to be heterosexual), $r(60) = -.29$, $p = .03$ (95% CI [-.50, -.03]. The correlation between the attribution of femininity and homosexual sexual orientation was not significant $r(60) = .05$, $p = .73$, 95% CI [-.21, .30]. The correlation between the attribution of masculinity and heterosexual sexual orientation $r(60) = .15$, $p = .25$, 95% CI [-.11, .39], or homosexual sexual orientation $r(60) = .02$, $p = .91$, 95% CI [-.24, .27], were not significant.

Discussion

In sum, we found that *Black men*, compared to *Asian men*, were stereotyped as more masculine and less feminine, thus confirming previous research attesting to the fact that the

representations of these racial groups are gendered (Galinsky et al., 2013; Ghavami & Peplau, 2013). It is worth noticing that this research is the first that tested the gendered stereotypes of Black and Asian men in the Italian context. This pattern of results compliments previous qualitative research calming that Black men are thought to display masculine stereotypical characteristics (e.g., being physically dominant, muscular, athletic and virile) to a greater extent than Asian men (Giuliani, 2013; Migliorati et al., 2014; Volpato, 2014; Zannoni, 2007) by systematically analyzing the attribution of masculinity and femininity to the groups under investigation. Importantly, we found that being *heterosexual* rather than *gay* was thought to be more likely for *Black men* than *Asian men*, and vice-versa. Specifically, being heterosexual was inferred to be displayed to a greater extent by *Black* than *Asian men,* while being gay tended to be inferred more for *Asian* than *Black men*, albeit in a statistically non-significant fashion. Finally, attributing less femininity to *Black men* than to *Asian men* was associated with participants extrapolative stereotyping of *Black men* as more heterosexual than *Asian men*. In conclusion, it seems that the degrees of perceived gender stereotyping of these racial groups in general, and of gender-non conformity in particular, is associated with a consistent biased extrapolative sexual orientation stereotyping, namely by stereotyping *Black* men less than *Asian men* as feminine and by inferring that *Black* men were more likely to be heterosexual than *Asian men*.

General discussion

In three studies we demonstrated that when processing race categories concerning male members, namely *Black men* and *Asian men*, participants relied on these category cues to infer the sexual orientation of these members (i.e., extrapolative sexual orientation stereotyping). Across three studies, we consistently demonstrated that *Black men*, compared to *Asian men*, were more likely to be considered heterosexual (Study 1 and 3) or possess heterosexual characteristics (Study 2 and 3), although no information concerning the sexual

orientation of these racial male individuals was directly available in the experimental contexts. These results were obtained by assessing participants' cultural-based ESOS (Study 1) as well as their own personal ESOS concerning the racial categories in question (Study 2 and 3). Moreover, the fact that *Black men*, compared to *Asian men*, were thought to be or stereotyped as heterosexual were independent from the type of judgments required, this being comparative (Study 1 and 3) or absolute (Study 2). This set of studies has the merit to extend the cognitive implication of the intersection between race and gender categories in general, and the cross-over of race categories and masculinity in particular to a novel domain, namely the construction of race categories in terms of sexual orientation. Specifically, Study 2 operationalized the ESOS of racial categories by means of heterosexual and gay male stereotypical traits, while Study 3 relied on two core dimensions of the stereotype of heterosexual and gay male members, namely the attribution of masculinity and femininity (Kimmel, 2012a; 2012b; Plummer, 2005). Results of Study 2 and 3 showed that, compared to *Asian men*, *Black men* were considered more characterized by heterosexual than gay male traits as well as being more masculine than feminine. As the ESOS of Black men was similar to the ESOS of White men and to the stereotyping of heterosexual men (Study 2), it may be plausible that the above-described pattern of results was driven by a drop in the inferred heterosexual sexual orientation of the Asian men rather than by an enhancement of the inferred heterosexual sexual orientation of Black men.

The extrapolative sexual orientation stereotyping based on racial categories seems to involve the inferred heterosexual rather than the inferred homosexual sexual orientation. Indeed, while the relative disadvantage of Asian men with respect to Black men to be thought of as heterosexual was found across studies, the extrapolative sexual orientation of Asian men as gay or as possessing more gay male than heterosexual male characteristics was not consistent across the studies. Indeed, Study 1 indicated that being gay was more likely for an

Asian man than for a Black man. By contrast, Study 3 indicated that being gay was equally likely for both Asian and Black men. As in both studies we employed a comparative judgment, it could be that this discrepancy in terms of results was driven by the level of analyses, this being set at the cultural level in Study 1 and at the personal level in Study 3. Indeed, in Study 2 we again assessed participants' own ESOS of the racial categories and found that that the ESOS of Asian men differed from the stereotyping of gay men, thus suggesting that Asian men were not considered gay men by default.

The fact that racial categories moderated the extrapolative sexual orientation stereotyping in terms of the inferred heterosexual sexual orientation consistently across three studies, while this moderating effect was less consistent and almost elusive when participants inferred the potential homosexual sexual orientation of the racial categories, is in line with studies showing that perceivers typically presume that men are heterosexual by default, unless cues suggest otherwise (Lick & Johnson, 2016). Hence, it could be plausible that the activated defaulting, namely the assumption of a heterosexual sexual orientation took a primary role in guiding participants' ESOS of the racial category. Indeed, the straight defaulting, and not the inferred homosexual sexual orientation, appeared to be especially sensitive to category information concerning the racial group. Consistent with studies showing that the perceivers' attribution of a heterosexual sexual orientation to a given target is embedded with the perceived lack of femininity in that target (Falomir-Pichastor et al., 2019), we found that Asian men were stereotyped as more feminine than Black men, and this stereotyping covaried with the lower probability that Asian men were thought to be heterosexual men compared to Black men, and not with a higher probability that Asian men were thought to be gay men compared to Black men (Study 3). In other words, the stronger presence of the gender non-conformity characteristic in the representation of Asian men was associated with an

attenuation of the ESOS of this group as heterosexual but not with an enhancement of the ESOS of this group as gay.

The current analyses on the extrapolative sexual orientation stereotyping of Black and Asian male categories responds to the call to address the stereotyping of multiple category memberships (Kang & Bodenhausen, 2015; Nicolas, de la Fuente, & Fiske, 2017) by bridging together two strands of research that has developed independently thus far, namely empirical efforts related to gender inversion theory (Blashill & Powlishta, 2009a; 2009b; Kilianski, 2003; Kite & Deaux,1987; Salvati et al., 2016) and research on extrapolative stereotyping (Craig & Bodenhausen, 2018; Pittinsky et al., 2006). Our results inform theorizing on gender inversion beliefs by suggesting that even in the absence of explicit information concerning the gender-non-conformity of a given group of male individuals, perceivers are able to infer such pieces of information mainly on the basis of the categories related to race/ethnicity. Also, although accumulated evidence in the North American context (Beckley, 2008; Chua & Fujino, 1999; Ho, 2011; Liu et al., 2010; Wong, 2008; Wong et al., 2012; Wong, et al., 2013) has shown that Black men, compared to Asian men, are processed as possessing more masculine and less feminine stereotypical characteristics, this research is the first that confirms this pattern of findings in another geographical and cultural context in general, and specifically in the Italian context.

Importantly, this work extends the research on the extrapolative gender stereotyping of racial categories (Galinsky et al., 2013; Ghavami & Peplau, 2013; Schug et al., 2015) by assessing the implications of such a process in terms of the extrapolative sexual-orientation stereotyping. Indeed, this work informs theorizing on the intersection of multiple social categories in the construction of individuals' social identities (Roccas & Brewer, 2002) by suggesting that the social perception of Asian men and Black men in the Italian context is not only based on the interaction between race and gender information, as demonstrated by Study

3, but this cross-over further extends to distinct assumptions regarding the sexual orientation of the groups in question. Said otherwise, these findings suggest that combining information concerning a specific identity intersection, such as being an either an Asian or a Black man, leads social observers to infer emergent attributes, such as being a gay or a heterosexual men, that could not be reduced to the constituent information concerning the gender and the race-related membership (Kunda et al., 1990).

Several limits should be acknowledged. First, this set of research limited its investigation to the ESOS of two racial categories, Black and Asian men. Future research should expand the analyses of the ESOS to additional categories, including, for example, Latinos. Second, we adopted a strong androcentric perspective in the studying of the ESOS based on racial categories. As Black women are perceived to be less prototypical of women in general and less feminine than White women in particular (Goff et al., 2008; Thomas, Dovidio, & West, 2014), and given that a lack of femininity might be associated with a weaker attribution of heterosexuality, subsequent studies may analyze whether Black women were less likely to be stereotyped as heterosexual in comparison to other racial groups, such as White women. Third, small samples of a specific population (i.e., university students) were recruited in the current studies. Although results were consistent across three studies, future research could boost the internal and external validity of the current results concerning the ESOS of race categories by relying on larger samples issued from different population.

At the practical level, these results have important implications. First, when processing asylum claims based on persecution on account of sexuality, the EU authorities should look at the applicant's statements relative to the determination of their sexual orientation. Bearing in mind that an ideal standard for an accurate decision concerning one's sexuality is not consensually available, if not unrealistic, it could be plausible that, at least in situations of ambiguity such as those represented by the determination of the applicant's sexual orientation

(see, ILGA-Europe 2016), stereotypical beliefs could bias the interpretation of the evidence (i.e., interpolative function of stereotypes; Craig & Bodenhausen, 2018). Conjecturally, our results could suggest that the ESOS based on racial cues might guide the appraisal of the applicant's statements thus interfering with judgments concerning their asylum claims. Future research should investigate this issue, by testing whether the ESOS based on racial categories might further bias the interpretation of available information in a stereotype-consistent fashion. Second, and in line with Liu and Wong's (2018) analyses, the current results suggest that it is extremely important to take into consideration the salient and unique dimensions of the stereotypes in general, and particularly of the ESOS of race categories, when addressing the Asian men's and African men's experience of discrimination in Italy. As for the Asian men, given that they are highly likely to be perceived as feminine and not matching the consensual representation of male heterosexual sexual orientation, Asian men might either stress their attempts to imitate the hegemonic masculine ideal or internalize these prevalent stereotypes. Both forms of coping may bolster Asian men' experiences of gender identity and gender role stress (Liu, 2002; Wong et al. 2013). As for Black men in Italy, the conflation of the social representation of this group of people with the masculine and heterosexual male stereotype may contribute to enacting the social invisibility of Black gay men within the LGBTQ community, as recently warned by Philadelphia Office of LGBT Affairs' *More Color More pride campaign* (e.g., medium.com, 2019). Together, these considerations might inform to practitioners' appraisal of both Asian and Black heterosexual/gay men's experience of discriminations by resituating their unique gender role, gender identity and sexual orientation related discriminations within the cultural background that contributes to clients' issues (APA, 2002). Third, media portrayals of Asian and Black men in North America (Larson, 2006; Wilson et al. 2009) and UK either tend to be underrepresented (BBC, 2012) or perpetuate the gendered stereotypes, and then the ESOS of Black and Asian men. Hence, and

given that media play a crucial role in both forming and altering stereotypes of the public at large (Cheryan, Master, & Meltzoff, 2015; Guizzo, Cadinu, Galdi, Maass, & Latrofa, 2017; Scherer, 1970; Zhang & Tan, 2011), informing media professionals about the gendered stereotypes and the ESOS concerning the Asian and Black men may help them to set up media products that can counteract and possibly help revise the social stereotypes concerning both Asian and Black men.

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Figure caption

Figure 1. The sexual orientation stereotype as a function of groups. Bars represent standard errors of the means.