RUNNING HEAD: Social Categorization at the Crossroads

Social Categorization at the Crossroads:

Mechanisms by Which Intersecting Social Categories Bias Social Perception

Kerri L. Johnson

and

Colleen M. Carpinella

University of California, Los Angeles

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The human mind must think with the aid of categories... Once formed, categories are the basis for normal prejudgment. We cannot possibly avoid this process. Orderly living depends upon it.
Allport (1954) The Nature of Prejudice, page 20

In 1954, Gordon Allport elucidated the importance of categorical thinking for impression formation, attitudes, and prejudice. In the half-century since Allport opined about such factors, countless empirical studies have confirmed the role of social categorization in shaping interpersonal judgments and preparing interpersonal behaviors. In spite of the abundance of such work, Allport's early insights remain just as important for current research as they were over half a century ago, albeit with a slightly more nuanced focus. This chapter reviews recent evidence concerning one such nuance – the mechanisms of social categorization when various social identities intersect. It draws from research conducted by my own and others' labs to clarify multiple routes by which the perception of one social category impacts the perception of orthogonal social categories.

Background

As illustrated in Allport's quote, scholars have long believed that the perception of another's social category memberships has pronounced implications for subsequent interpersonal interactions (Allport, 1954; Tajfel, 1969; 1974). These insights shaped decades of research that examined the implications of social categorization, much of which focused on the consequences of categorization. The mere perception of social categories is sufficient to elicit stereotypes that are recruited to form impressions, elicit attitudes, and guide behaviors (Allport, 1954; Bargh, 1999; Devine, 1989; Dovidio, Evans, & Tyler, 1986; Fazio & Dunton, 1997; Gilbert & Hixon, 1991; Grant & Holmes, 1981; Sinclair & Kunda, 1999; Tajfel, 1969). Indeed, such a volume of work has been amassed that some features of social categorization appear to be incontrovertible.

First, social categorization occurs readily. In general, categorizing others into groups appears to be the norm, and this occurs in response to visual cues associated with social categories. Although there are empirical demonstrations that highlight exceptions

to this overarching rule (see, e.g., Gilbert & Hixon, 1991; Kurzban, Tooby, & Cosmides, 2001; Quinn & Macrae, 2005) they remain rare. Moreover, these exceptions tend to highlight the motivated nature of social perception. Since some of the earliest tests of spontaneous social categorization (e.g., Taylor, Fiske, Etcoff, & Ruderman, 1978) it has been demonstrated repeatedly that people unintentionally and inevitably categorize others along social category dimensions, a process that has been proposed to unleash stereotyping (Bargh, 1999; Bodenhausen & Peery, 2009; Devine, 1989).

Second, social categorization occurs rapidly in response to visual cues. Evidence from studies utilizing event related potentials, for instance, has shown strong attention to social categories as early as 50 ms after visual exposure (Ito & Urland, 2003; 2005). Additionally, recent findings demonstrate how the categorization is a temporally dynamic process that begins with the visual apprehension of a target. Thereafter, categorization is heavily influenced by visual cues to both category relevant and irrelevant features, and the representation gradually builds over time to culminate in a judgment (Freeman, Ambady, Rule, & Johnson, 2008).

For example, we recently demonstrated the dynamics of sex categorization in a series of studies in which we tracked the dynamic motion of participant's arm movements as they used a computer mouse to categorize the sex of a series of faces (Freeman et al., 2008). Although perceivers rarely miscategorized the sex of faces, the gender typicality of the visual cues were reflected in participants' responses, specifically in their response latencies and in the trajectory of their mouse movements.
For gender typical faces, response latencies were relatively short, and mouse trajectories were direct; for gender atypical faces, in contrast, response latencies were longer, and mouse trajectories were less direct, showing a significant curve toward the incorrect category. We argued that this occurred because the measured gender atypical features in the face cued the incorrect category alternative and affected the unfolding of the categorical judgment, even though the response culminated in a correct categorization. Similar patterns have been obtained for sexual orientation judgments (Freeman, Johnson, Ambady, & Rule, 2010), race categorizations (Freeman, Pauker, Apfelbaum, & Ambady, 2009) and stereotype activation (Freeman & Ambady, 2009). Such effects have been

more fully elaborated in a forthcoming formal model and theoretical review (Freeman & Ambady, in press).

Third, social categorization is malleable. Factors that originate in both the perceiver and in the target of perception have been shown to impact the perceptual judgments that people make. For example, social categorization is modulated by factors inherent in the perceiver, such as implicit levels of racial prejudice. In one study demonstrating such effects, Hugenberg and Bodenhausen (2003) found that perceivers who were high in implicit racial prejudice more readily perceived anger in Black, but not White faces, suggesting that emotion perception can be modulated by a target's racial category membership. This tendency also has implications for race categorization. In another set of studies, perceivers who were high in implicit racial prejudice tended to categorize hostile faces that were racially ambiguous faces to be Black (Hugenberg & Bodenhausen, 2004). In both cases, perceivers who were low in implicit racial prejudice did not show the effects. Similar findings have also been obtained for the perceived *intensity* of emotion expressions (Hutchings & Haddock, 2008).

Additionally, a perceiver's motivation and attention state changes the likelihood that certain social categories will be perceived. For example, Quinn and Macrae (2005) found that only perceivers who were instructed to actively attend to a particular category dimension were faster to categorize them along that dimension later. Gilbert and Hixon (1991) reported that perceivers induced to maintain a cognitive load were less likely than controls to have stereotypes activated incidentally by race, but that they were more likely to apply race-based stereotypes if they had already become activated. Finally, Kurzban, Tooby, & Cosmides (2001) found that when the coalitional alliances of targets of perception were made salient using a visual cue *other* than race, the tendency to encode race category was significantly reduced. Specifically, when groups were demarcated by color-coded jerseys, race based categorization was minimized. That said, the tendency for perceivers to categorize according to sex remained high, regardless of their manipulation. These are just a few of several reports in which a perceiver's attitudes, knowledge structures, or motivations were shown to fundamentally alter the efficiency of social perception, changing both stereotyping and categorization.

Social categorization is also modulated by contextual factors in the target of perception. For instance, the hairstyle paired with a face that is otherwise race ambiguous biases categorization to be consistent with the context provided by the cue (MacLin & Malpass, 2001; 2003). Additionally, race-cuing facial features bias the perception of skin tone (Levin & Banaji, 2006). Faces that exhibit Black-typical phenotypes are perceived to be darker than those that exhibit White-typical phenotypes. Finally, race category labels assigned to otherwise race-ambiguous faces determines how a face is processed (Corneille, Huart, Becquart, & Bredart, 2004; Michel, Corneille, & Rossion, 2007; 2010) and the likelihood that the face will be remembered (Pauker & Ambady, 2009; Pauker, Weisbuch, Ambady, Sommers, Adams, & Ivcevic, 2009).

Finally, social categorization has weighty consequences. This is perhaps the most well-understood aspect of social categorization. Once perceived, the perception of social categories activates knowledge structures that alter evaluative judgments of others (for a recent review, see e.g., Bodenhausen & Peery, 2009; see also Brewer, 1988; Fiske & Neuberg, 1990). These social category judgments have important implications such as bias in the treatment of out-group individuals. Thus, these studies that examined the mechanisms underlying social categorization aimed to inform our understanding of (and ultimate prevention of) stereotyping and prejudice.

Collectively, these findings suggest that, like other domains of perception, social categorization is: a) highly probable, if not inevitable, b) rapid and dynamic, c) prone to biases, and d) consequential.

The vast majority of empirical work that has established these principles of social categorization has isolated one social category dimension (e.g., race or sex category), while holding all other social categories constant. Specifically, studies examining the impact of race categorization tended to hold the sex of stimulus targets constant while varying race; studies examining the impact of sex categorization tended to hold race constant while varying sex. While such approaches afforded methodological precision to enhance our understanding of the impacts of social categorization, our knowledge remains incomplete. In naturalistic settings, targets of social perception vary not only along one social category dimension, but along many. The perceiver, therefore, is faced with a task that is inherently complex because targets of perception naturally fall into

multiple social categories simultaneously (Bodenhausen & Peery, 2009). Put simply, identities intersect, and this poses distinct challenges for the perceiver.

In spite of its known importance, research investigating the complexities of social perception involving intersectional identities (e.g., being both male and Black) remains relatively rare. Recent attempts to achieve a more nuanced understanding of such complexities are noteworthy. Experiments that examined *which* social category dimension (e.g., race or sex) is more likely to capture perceptual attention have shed light on motivational aspects of social perception and stereotyping (Bodenhausen & Macrae, 1998; Bodenhausen, Macrae, & Sherman, 1999; Quinn & Macrae, 2005), and research probing the perception of social categories that are nested within one another or that are co-dominant is becoming increasingly common (Crisp & Hewstone, 1999; Dovido, Gaertner, & Saguy, 2009). Finally, research identifying the category alternatives – male versus female or black versus white – that serve as default judgments (e.g., Merritt & Harrison, 2006; Smith & Zárate, 1992; Zárate & Smith, 1990) has helped reveal why some individuals are particularly likely to go unnoticed entirely (e.g., Black women, Purdie-Vaughns & Eibach, 2008; Sesko & Biernat, 2010).

In my recent research, I have been examining a question that has heretofore remained unanswered by prior research. Specifically, my research has examined how the perception of one social category may systematically bias the perception of other social categories. My colleagues and I have proposed that such biases in social perception may stem from two sources – one through the bottom-up influence of covariant visual cues, and one through the top-down influence of covariant social stereotypes.

Bottom-Up Intersectional Biases

One way that the perception of one social category may bias the perception of another social category is through overlaps in phenotypic cues associated with each category. This possibility entails that the visual cues to social categories may be overlapping to a degree that makes some social categorizations easier than others.

Evidence that is consistent with this possibility has been described for observations that the sex category of a target appears to bias the perception of emotional expressions. Facial expressions of emotion were long *presumed* and *perceived* to vary between men and women (Grossman & Wood, 1993; Plant, Hyde, Keltner, & Devine,

2000). Ambiguous expressions were decoded in sex-typed ways (Hess, Senécal, Herrera, Kirouac, Philippot, & Kleck, 2000; Plant et al., 2000; Plant, Kling, & Smith, 2004). Such findings were generally described in terms of the pervasiveness of gender stereotypes of emotion.

Yet more recent research has revealed that these effects were likely to have obtained, at least in part, because of a systematic overlap in the facial features that cue sex categories and the facial features that cue emotion categories. For instance, women's faces have morphologies such as large eyes and round cheeks. These cues are related to perceptions of warmth, approachability, and affiliation (Berry & Brownlow, 1989; Berry & McArthur, 1986; Hess, Adams, & Kleck, 2004; 2005; Hess, Blairy, & Kleck, 2000). Men's faces have features such as thick brows and square jaws. These cues overlap significantly with anger expressions and convey dominance (Becker, Kenrick, Neuberg, Blackwell, & Smith, 2007; Hess et al., 2000; 2004; 2005; Senior, Phillips, Barnes, & David, 1999). The covariation of these cues enables observers to more readily categorize angry men and happy women, relative to happy men or angry women (Hess, Adams, Grammar, & Kleck, 2009).

Collectively, therefore, these recent findings highlight a bottom-up route by which the perception of one social category – here sex category – biases the perception of another category, emotion expression. We propose that similar processes are likely to operate in the perception of other intersecting social categories as well.

Top-Down Intersectional Biases

Another way that the perception of one social category may bias the perception of another social category is through overlaps in stereotype content associated with each category. This possibility entails that groups are stereotyped in a manner that facilitates some categorizations, but hinders others.

For instance, it's now clear that visual processes are moderated by higher cognitions (Henderson & Hollingworth, 1999). A perceiver's desire and or motivation changes the interpretation of an ambiguous stimulus (Balcetis & Dunning, 2006); the presence of social support metaphorically "lightens one's load," thereby altering the perceived steepness of a slope (Schnall, Harber, Stefanucci, & Proffit, 2008); and the threat/fear associated with falling leads to overestimations for vertical distance (Jackson

& Cormack, 2008; Stefanucci & Proffitt, 2009). Thus, the perception of physical stimuli is prone to systematic biases, and similar processes may apply to social categorization as well. Specifically, knowledge structures that are associated with one category may also have implications for the perception of other social categories via a top-down route.

Two Identity Intersections

In ongoing work, my colleagues and I have been examining the extent to which top-down and bottom-up factors bias social perceptions when identities and/or emotions intersect with one another. Our empirical work has focused primarily on two intersections – the intersection of race and sex and the intersection of sex and emotion. We have examined these intersections for two sources of visual cues – static cues in the face and dynamic cues in the body.

The Intersection of Race and Sex. One domain in which we have conducted a considerable amount of empirical research is at the intersection of race and sex categories in the domain of face perception. We suspected that, like in the facial expression of emotion, facial cues to sex and race categories may covary. We also noted a conspicuous covariation in the stereotypes associated with the categories Black and Male (e.g., aggressive) and the categories Asian and Female (e.g., communal). This is evident in the overlap of stereotype content across the past several decades (see e.g., Bem, 1974; Devine& Elliot, 1995; Karlins, Coffman, & Walters, 1969; Spence, Helmreich, & Strapp, 1974).

We reasoned that overlaps in stereotypes or phenotypes (or both) may lead sex categorization to be systematically biased by the race of a face. Specifically, we predicted that "male" categorizations would be more efficient for Black, relative to White or Asian faces, but that "female" categorizations would be more efficient for Asian, relative to White or Black faces. That is, although we expected categorizations to be overwhelmingly accurate, we examined differences in the response latencies for sex category judgments. In a series of studies, we have demonstrated that sex categorization is systematically biased by the race category of a target (Johnson, Freeman, & Pauker, 2011), and we tested for both bottom-up and top-down sources of influence.

Our first test of the possibility that race categories may bias sex categorization was straightforward. We reasoned that when a person's sex category membership was unclear, perceivers might use race category to disambiguate the person's sex. To test this, we created a set of androgynous faces using commercially available face generating software. Each face was manipulated along a continuum of race that varied from Black to White to Asian. Then, we simply asked participants to categorize each image, as quickly as possible, to be either male or female. The results were telling. Although presumably irrelevant to the sex categorization task at hand, perceivers' judgments were systematically influenced by the race of each target. Consistent with our predictions, we found the highest proportion of "male" categorizations for Black faces, but the lowest proportion of "male" categorizations for Asian faces.

These findings were corroborated in a study in which perceivers made sex category judgments of both male and female faces that varied by race. Not surprisingly, the vast majority of categorizations were accurate, but the response latency for judgments varied as a function of sex and race. Categorizations of men were made more quickly for Black, relative to White or Asian faces, but categorizations of women were made more quickly for Asian, relative to White or Black faces. Moreover, analyses of computer mouse trajectories revealed a pronounced deviation toward the *incorrect* category alternative when participants categorized Black Women and Asian Men. Importantly, these are the two groups that we suspected might either have facial cues or elicit stereotypes that were conflated with the opposite sex.

While these findings provided evidence that race category biases one's perception of sex category, the reason for such biases remained unclear. Our results may have been obtained because the stereotypes associated with the category Black are common to the stereotypes for the category Male, and the stereotypes associated with the category Asian are common to the stereotypes for the category Female. If correct, race categories may have biased sex categorization through a top-down route. Alternately, our results may have been obtained because Black faces are phenotypically similar to Male faces and Asian faces are phenotypically similar to Female faces. If correct, race categories may have biased sex categorization through a bottom-up route. Additional research shed light on each of these possibilities.

First we tested the possibility that shared stereotype content between specific race and sex categories enhanced perceivers' ability to categorize some faces according to sex (e.g., Black men and Asian women), but impaired their ability to categorize others (e.g., Black women and Asian men). We measured our participants' degree of association between the categories Black and Male and the categories Asian and Female using a customized IAT. We also recorded sex categorizations, their latencies, and their mouse trajectories for faces that varied by race and sex. Interestingly, when participants held *low* associations between the categories Black and Male and the categories Asian and Female, their sex category judgments were relatively unaffected by the intersection of sex and race. When participants held *high* associations between the target categories, in contrast, their sex category judgments showed a pronounced effect for the intersection of sex and race. As before, judgments of Black Men and Asian Women were more efficient – in terms of both response latency and computer mouse trajectories – relative to judgments of same sex targets of other races. These findings suggest that shared stereotypes exert a top-down influence on social categorization when identities intersect.

These findings could not speak to the alternative possibility that the cues associated with the categories Black and Male and the categories Asian and Female overlap in their phenotypes. To test this possibility, we obtained objective measures of the *gender* typicality of both facial photographs and computer-generated faces that varied by race and sex. To the extent that phenotypes overlap, we predicted that the gendered cues on a face would vary by race. Across both categories of stimuli, Black faces were, on average, phenotypically masculine; White faces tended to be phenotypically feminine; and computer-generated Asian faces were phenotypically masculine, but Asian photographs were phenotypically feminine, albeit non-significantly so. These findings highlighted a consistent masculine phenotype in the cues in Black faces.

Based on our analyses of facial phenotypes, we reasoned that this phenotypic overlap may also contribute to biases in social categorization, especially for judgments of Black faces. To test this possibility, we statistically controlled for covarying phenotypes and examined the efficiency of categorizations for faces that varied by race and sex. Interestingly, when we controlled for phenotype, the effect of race dropped to non-significance for judgments of men, but not women. Moreover, controlling for phenotype

shed additional light on the unique role of overlapping stereotypes in categorizations, as well. Judgments made by participants who held low associations between the categories Black and Male and the categories Asian and Female, were unaffected by intersecting race and sex once phenotype was controlled; but judgments made by participants who held high associations remained tethered to race for female, but not male targets, once phenotype was controlled.

Collectively, these findings clarify the role of overlapping stereotypes and phenotypes for sex categorizations when identities intersect. Judgments of men were affected by overlaps in both phenotypes and stereotypes associated with the categories Black and Male; judgments of women were affected primarily by overlaps in the stereotypes associated with the categories Asian and Female.

The Intersection of Sex and Emotion. Another domain in which we have conducted numerous empirical studies is at the intersection of sex and emotion categories in the domain of body perception. In a series of studies, we tested the notion that sex categorization is systematically biased by emotional body motions (Johnson, McKay, & Pollick, 2011).

As mentioned above, similar questions have a long history of research examining the perception of facial expressions of emotion, yet our investigation provides unique insights. First, our question centered on sex categorization, rather than the more common question about how sex biases emotion perception. As such, it provides an opportunity to understand bias in an under-investigated domain. Second, our stimuli were dynamic body motions, rather than facial images. This domain of perception is acknowledged to carry profound implications for social judgments (see e.g., Johnson & Shiffrar, 2011; Shiffrar, Kaiser, & Chouchourelou, 2011). Indeed, some have even argued that under certain circumstances, body perception is even more potent than face perception insofar as body perception at a physical distance that precludes face perception, provides information about appropriate behavioral responses, and allows perceivers to avoid contact with others (de Gelder, 2006). Finally, our stimuli afforded direct manipulation to control for differences in covariant cues, in this case the velocity of the body's motion.

Importantly, dynamic body motions prove to be a potent source of social information. Some of the earliest work in this area asked the simplest of social

perception questions: Can perceivers identify bodies in motion to be human. Perceivers viewed points of light attached to the joints of individuals engaged in a variety of activities. These "point-light displays," as they came to be called, provided sufficient information for observers to perceive not only human motion, but also social categories (Cutting, Proffitt, & Kozlowski, 1978; Kozlowski & Cutting, 1977; Johnson, Gill, Reichman, & Tassinary, 2007; Johnson & Tassinary 2005; Pollick, Kay, Heim, & Stringer, 2005), individual identities (Cutting & Kozlowski, 1977; Loula, Prasad, Harber, & Shiffrar, 2005), behavioral intentions and affordances (Runeson & Frykholm, 1983; Johnston, Hudson, Richardson, Gunns, & Garner, 2004), and even affect states (Chouchourelou, Matsuka, Harber, & Shiffrar, 2006; Pollick, Paterson, Bruderlin, & Sanford, 2001). Collectively, these findings demonstrated that dynamic body motions convey meaningful information to observers. Yet this growing body of research provided few insights into the question of whether the perception of one social category may affect the perception of another social category. Instead, it emphasized the mechanisms by which perceivers extract meaningful information from minimal body motion displays.

To test the possibility that sex categorization may be biased by emotional body motions, we first recorded the body motions of men and women in four emotion states (angry, happy, sad, neutral). Specifically, we used three-dimensional motion capture techniques to measure the x, y, and z coordinates for each target's arm motion as they threw a ball toward a target on the wall. We used these coordinates to generate point-light displays for each actor that were presented to naïve observers who categorized them according to sex. Overall, the accuracy of sex categorizations was only modestly above chance, a pattern that stood in stark contrast to countless other studies demonstrating perceivers' pronounced ability to discern sex categories from point light displays. Instead, we found a systematic pattern in which sex categorizations varied with the intersection of sex and emotion. Judgments for two emotion categories, in particular, are most telling. Displays depicting anger were overwhelmingly judged to be men; displays depicting sadness were more likely judged to be women. Consequently, overall accuracy hovered near chance. Even though it was orthogonal to the sex categorization task at hand and it received no mention whatsoever in the introduction to the study, the emotion content of the displays biased sex category judgments.

As in our other work, this demonstration of emotion categories biasing sex categorization is mute with respect to the mechanisms of bias. As before, we examined two distinct possibilities. First, we tested the possibility that low-level perceptual features of the body's motion may be common for the categories 'male' and 'angry' and the categories 'female' and 'sad.' Indeed, across our stimuli, we did observe significant differences in the velocity associated with men's and women's movements. Men tended to move their arms at a higher velocity than did women. Similarly, angry motions had a higher velocity than sad motions. To examine if these covariant velocity cues were biasing sex categorizations in a bottom-up fashion, we designed an additional experiment. We velocity normalized each point light display by setting it to the average of the entire set. This effectively removed velocity as a possible cue to sex category membership. In spite of this, sex categorizations of these displays showed the same intersectional pattern of bias. Angry motions were still more likely to be categorized as men; sad motions were more likely to be categorized as women. Analyses to compare judgments of the natural versus the velocity normalized displays showed no differences. Thus, the most salient low-level perceptual feature, velocity, was not driving our effects.

We next turned our attention to the possibility that stereotyped knowledge biased sex categorization through a top-down route. This possibility entails that individuals accurately perceived the emotion category of each display and used that to help disambiguate the sex of each target. Indeed, we found that perceivers were above chance in categorizing the emotion depicted in each display. Moreover, mediational analyses confirmed that these perceptions were the source of bias. An unmediated contrast revealed marked differences in sex categorizations for sad versus angry displays. Angry displays were judged to be men; sad displays were judged to be women. When mediated by perceptions of emotion, however, this contrast dropped to non-significance.

Collectively, these findings highlight a role by which sex categorizations can be biased by emotional body motion through top-down influences. The overlap in the stereotype content of emotion and sex categories affected the categorization of sex in body movements. Therefore, social information conveyed through the body's movement can bias social perception when multiple social categories intersect.

Implications for Other Aspects of Social Perception

Although much of our work has examined the accuracy or efficiency of categorizations along orthogonal dimensions, we suspect that these biases in social perception have a more pervasive impact on social perceptions, affecting evaluations in addition to categorizations. This prediction is derived from the well-documented effects in which social categories change evaluative judgments. It is well established, for example, that knowing another person's sex category fundamentally changes the standards that are applied when rendering social judgments, specifically as they relate to gender stereotyped domains (Biernat, 2005; Biernat & Manis, 1994). Other work has demonstrated that when one stereotype becomes activated, it alters the potency of other stereotypes during impression formation, at times leading their impact to be exacerbated, but at other times leading their impact to be curtailed (Kunda & Thagard, 1996). Finally, the manner in which visual cues affect evaluative social judgments, such as physical attractiveness or even perceptions of sexual orientation, differ according to a target's sex category (Freeman, Johnson, Ambady, & Rule, 2010; Johnson & Tassinary, 2007a; 2007b; Johnson, Gill, Reichman, & Tassinary, 2007). Thus, a substantial body of work highlights the role of social categorization for evaluative judgments.

We suspected that these outcomes were likely to also vary depending on the intersection of multiple social categories, and we have also begun to explore how intersectional biases implicate other social perceptions as well. One domain, in particular, is pertinent to the current chapter – the implications of race biased sex categorizations suggests that this intersection may also impact perceptions of sexual orientation.

We based our intersectional predictions on recent findings in which we examined how perceivers use gendered cues in the face and body to make judgments about sexual orientation. In one set of studies, for example, we found that perceivers used gender atypical body shape and motion to categorize others as gay men or lesbians (Johnson et al., 2007). More recently, we demonstrated similar processes for categorization of faces to be either straight or gay (Freeman et al., 2010). Thus, the perception of sexual orientation is closely tied to perceptions of gender typicality, and perceivers tend to adopt a heuristic of gender inversion when they categorize others to be gay.

Given that the gendered cues and stereotypes for men and women vary depending on their race category as described above, we reasoned that race might also have implications for the perception of sexual orientation. Specifically, we predicted that race would affect sexual orientation categorizations and their accuracy because race is highly gendered and perceivers tend to use gender inversion as a heuristic for making judgments.

We tested this possibility in a study in we presented to observers the faces of Black, White, and Asian men and women who self-identified to be either gay or straight (Johnson & Ghavami, 2011). Observers categorized each face according to sexual orientation and, in a separate block of trials, rated each face for masculinity and femininity.

Perhaps the simplest prediction concerned the direct impact of race on the perception of sexual orientation. Indeed, sexual orientation judgments varied as a function of sex and race. For men, Asian targets were the most likely, but Black targets were the least likely to be categorized as gay. These findings are consistent with gendered stereotypes that are associated with race. Asian men are more likely than their White or Black counterparts to be perceived as feminine. Thus, when perceivers adopted a gender inversion heuristic, Asian men were also the most likely to be categorized as gay. For women, in contrast, race had no significant impact on sexual orientation judgments. This finding is interesting, but not surprising. Indeed, it is consistent with prior work that has shown greater latitude of acceptability for gender atypicality among women than among men (Feinman, 1981; 1984; Johnson & Tassinary, 2007a; 2007b; McCreary, 1994; Oswald, 2007). Although categorizing someone to be a gay man or lesbian is not explicitly an evaluative judgment, it does assign the target of perception to a stigmatized group which has downstream consequences for interpersonal interactions.

A more interesting pattern of results, however, revealed systematic effects of race on measures of the accuracy of categorizations. For men, we found overall accuracy to be highest for Black faces, but lower for White and Asian faces (in that order). For women, in contrast, we found overall accuracy to be highest for Asian faces, but lower for White and Black faces (in that order). We suspected that this result was obtained, at least in part, because the gendered expectations among our observers were particularly

strong for Black men and Asian women. Consequently, any departures from these extreme expectations were likely to be noted. Indeed, signal detection analyses confirmed these predictions.

These findings demonstrate that the intersection of race and sex has implications that extend beyond the perception of either race or sex in isolation. We predict that this will be the first of many such demonstrations as the field seeks to better understand the implications of intersecting identities on the most fundamental aspects of social perception.

Remaining Questions

The work that we have discussed in this chapter addresses the question of how intersecting social categories bias one another's perception, fundamentally altering the efficiency of judgments, the categorization that observers make, or both. These findings should be considered an important step toward understanding intersectional social perception. Yet several questions remain unanswered, and are the focus of ongoing research.

First, a better understanding of intersectional social perception will necessitate more precise models of social perception. Although researchers increasingly acknowledge the roles of both top-down and bottom-up factors in social perception, our findings suggest that the contributions should be considered more broadly. In particular, it will become increasingly important to consider how overlaps in phenotypes and stereotypes operate within this context.

Additionally, an intersectional model of social perception will afford a more comprehensive understanding of the self-reinforcing nature of group-based cognitions. For instance, the fact that the category Black is associated with masculine stereotype content may have emerged, at least in part, due to phenotype overlaps between the categories Black and Male. This raises the important question about the primacy of social category percepts. While some scholars have argued that groups memberships that are non-normative (i.e., non-white, non-male, non-heterosexual) will attract perceptual attention (e.g., white male norm; see Smith & Zárate, 1992), it remains unclear how such percepts occur spontaneously. A more comprehensive reckoning of the timeline of

various social categorizations will help illuminate which category dimension (e.g., race or sex) is likely to exert influence over another category dimension.

We began this chapter with a quote from Gordon Allport concerning the importance of categorization for social perception. Allport noted the necessity and inevitability of categorizing others into social groups. In recognizing that social categorization may be unavoidable, researchers have largely overlooked the impact that intersecting identities may have on fundamental aspects of the categorization process. The work reviewed in this chapter – and other research like it – provides an important next step in our understanding of social categorization at the crossroads of orthogonal social groups.

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