Journal of Experimental Psychology: General

# Examining the Role of Social Comparison Perceptions on Identity-Safety for Black Americans in Organizations

Veronica Derricks, Eva S. Pietri, India R. Johnson, and Daniela Gonzalez

Online First Publication, February 27, 2025. https://dx.doi.org/10.1037/xge0001722

CITATION

Derricks, V., Pietri, E. S., Johnson, I. R., & Gonzalez, D. (2025). Examining the role of social comparison perceptions on identity-safety for Black Americans in organizations. *Journal of Experimental Psychology: General*. Advance online publication. https://dx.doi.org/10.1037/xge0001722

AMERICAN PSYCHOLOGICAL ASSOCIATION

Journal of Experimental Psychology: General


ISSN: 0096-3445

https://doi.org/10.1037/xge0001722

# Examining the Role of Social Comparison Perceptions on Identity-Safety for Black Americans in Organizations

Veronica Derricks[1, 2], Eva S. Pietri[2], India R. Johnson[1], and Daniela Gonzalez[1]
[1] Department of Psychology, Indiana University Indianapolis
[2] Department of Psychology and Neuroscience, University of Colorado Boulder

Black Americans remain underrepresented in organizations. Although extensive research demonstrates that inadequate representation undermines inclusion, few studies have assessed the psychological processes through which this relationship emerges. Across three online experiments, we investigate the role of *social comparison perceptions*—concerns about being assimilated, or likened, to another ingroup member by external observers—as a mechanism underlying reduced inclusion for Black Americans in organizations. Moreover, we examine the dynamics of social comparison perceptions for individuals who have multiple marginalized identities (Black women). Across studies, Black adults (Study 1) and Black women (Studies 2 and 3) imagined that they were one of two (duo status) or many (nonduo status) Black employees at a company and read about a Black male or White female colleague who performed poorly on a work task. Findings showed that Black individuals with duo (vs. nonduo) status reported stronger social comparison perceptions and worse organizational outcomes (e.g., decreased identity-safety, or beliefs that one's identity is valued in a setting). Moreover, social comparison perceptions served as a mechanism underlying worse organizational outcomes. In Studies 2 and 3, Black women who had duo (vs. nonduo) status reported increased social comparison perceptions in response to a target who shared either of their marginalized identities (a Black man or White woman). Study 3 showed that organizational cues which condemned stereotypes significantly reduced concerns about social comparison perceptions and improved organizational outcomes. Collectively, this work elucidates a psychological process through which underrepresentation can undermine inclusion for Black adults, the dynamics of this process for persons with multiple marginalized identities, and an intervention that can disrupt this process.

***Public Significance Statement***

This work helps us better understand why being numerically underrepresented in organizations can lead to worse organizational outcomes for Black Americans. Specifically, we identify social comparison perceptions (i.e., feeling compared to someone who shares one's social group membership) as a concern that (a) decreases feelings of inclusion and intentions to remain in the setting and (b) arises in response to various distinctive marginalized identities (race or gender). Moreover, we identify a strategy (i.e., condemnation of stereotype use) that organizations can leverage to mitigate these concerns.

*Keywords:* social comparison perceptions, tokenism, Black Americans, organizations, stereotype condemnation

*Supplemental materials:* https://doi.org/10.1037/xge0001722.supp



Musawenkosi Donia Saurombe served as action editor.

Veronica Derricks https://orcid.org/0000-0002-8142-0597

The data and study analysis code used for these studies can be accessed on the Open Science Framework at https://osf.io/rkwpu/. Some of the reported analyses were presented at conferences (Society for the Psychological Study of Social Issues and Society for Personality and Social Psychology). The data have not been shared online or via any other outlet prior to publication. The authors do not have any conflicts of interest to disclose.

This article was funded by the National Center for Advancing Translational Sciences, National Institutes of Health (Grant KL2TR002530) awarded to Veronica Derricks.

Veronica Derricks played a lead role in conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, supervision, writing–original draft, and writing–review and editing. Eva S. Pietri played a supporting role in investigation, methodology, and writing–review and editing. India R. Johnson played a supporting role in investigation, methodology, and writing–review and editing. Daniela Gonzalez played a supporting role in writing–review and editing.

Correspondence concerning this article should be addressed to Veronica Derricks, Department of Psychology and Neuroscience, University of Colorado Boulder, 1905 Colorado Avenue, Boulder, CO 80309, United States. Email: veronica.derricks@colorado.edu

Black Americans are severely underrepresented in organizations (Gee, 2018). For example, although Black individuals make up 14% of the U.S. population, they account for less than 8% of the professional White-collar workforce (Gee, 2018). This racial disparity is problematic because previous research has documented a myriad of negative outcomes associated with inadequate representation, including a low sense of belonging, reduced organizational attraction, and decreased participation in the setting (Dasgupta et al., 2015; N. A. Lewis et al., 2019). These psychological and behavioral responses are consequential because they can undermine intentions to remain in the setting, an outcome that ultimately results in continued underrepresentation (Murphy et al., 2007).

Although existing research has focused primarily on documenting features of organizational environments (e.g., lack of representation) that diminish feelings of inclusion among minoritized groups, few studies have investigated the mechanisms through which this relationship emerges. To address this theoretical gap, the current work investigates the role of a specific mechanism, *social comparison perceptions* (i.e., beliefs that one is being assimilated, or likened, to an ingroup member by external observers), that might underlie decreased feelings of inclusion for Black Americans who are underrepresented in organizational settings (Derricks & Sekaquaptewa, 2021). Furthermore, we (a) examine how characteristics of the comparison target affect social comparison perceptions among individuals who have multiple marginalized identities (e.g., Black women) and (b) assess features of organizational environments that may effectively mitigate concerns about these perceived direct comparisons.

## Consequences of Inadequate Representation

To date, research has elucidated a broad range of environmental features that undermine belonging for minoritized groups in institutions, including experiencing and witnessing microaggressions, having limited exposure to identity-congruent role models, and encountering stereotypical objects (Cheryan et al., 2009; Miles et al., 2020; O'Brien et al., 2020). In addition to these cues, inadequate numerical representation has been established as a particularly robust predictor of negative psychological outcomes (Veldman et al., 2017; Watkins et al., 2019). For example, when members of minoritized groups are underrepresented in a setting, especially one in which they are negatively stereotyped, they show performance deficits (Inzlicht & Ben-Zeev, 2000; Sekaquaptewa & Thompson, 2002, 2003), distress about being the focus of others' attention (Crosby et al., 2014; Pollak & Niemann, 1998), greater concerns about conforming to the organization's norms (Liao et al., 2004), and increased turnover intentions (E. B. King et al., 2010). Importantly, inadequate representation uniquely affects members of minoritized groups, such as Black Americans, who are more likely to express concerns about whether one's group is being devalued by others (Kiefer et al., 2006; Sekaquaptewa & Thompson, 2002, 2003).

Although organizations can vary in the extent to which certain social groups are underrepresented, there are distinct levels of underrepresentation that have received empirical attention due to their associated consequences. For instance, tokenism refers to a specific situation in which a minoritized group comprises less than 15% of a company's workforce (Kanter, 1977a, 1977b; Sackett et al., 1991). While tokenism is generally characterized by numerical ratios, experiences of tokenism are directly tied to perceptions about the psychological climate (E. B. King et al., 2010). As such, several investigations have identified the subjective experiences that accompany tokenism for minoritized groups, such as perceived pressure to perform well (due to concerns that one's performance outcomes are being evaluated by others) and feeling hyperscrutinized due to the visibility of one's social identity (Jackson et al., 1995; Kanter, 1977b; E. B. King et al., 2010). Thus, when a minoritized person is in a token situation and there are few identity-affirming cues to attenuate this threat, they will exhibit concerns about being viewed stereotypically or devalued by others based on their distinctive identity (L. L. Cohen & Swim, 1995).

These psychological processes may become especially relevant in situations with severe forms of numerical representation, such as in instances of duo status. For instance, duo status refers to a particular instance of tokenism where there are two individuals with shared group membership in a setting (Loyd et al., 2008). Importantly, duo status is characterized by shared group membership in a larger setting (e.g., being one of two Black individuals in a 20-person organization) as opposed to small group contexts (e.g., being one of two Black individuals in a four-person small group). Loyd et al. (2008) theorized that in these contexts, minoritized individuals will feel the greatest pressure to manage their relationship with the other ingroup member. At the same time, individuals in these situations must navigate identity-based concerns caused by being viewed through the lens of their salient identity from outgroup members (Kanter, 1977a, 1977b). Thus, due to the nature of this situation (i.e., having duo status), concerns about how one is being evaluated by outgroup members may also be tied to the presence and actions of another group member who shares this distinctive marginalized identity (Henderson-King & Nisbett, 1996).

## Divergent Effects of Encountering Ingroup Representation

According to social identity theory, membership in a particular social group can increase psychological attachment to other ingroup members and promote a stronger sense of inclusion in one's social environments (Tajfel & Turner, 1986). Thus, the presence of other ingroup members tends to be psychologically beneficial and can serve as an identity-safety cue. *Identity-safety cues* are defined as cues which signal that one's identity is valued in a particular setting, and several empirical investigations have demonstrated that ingroup representation is an especially robust predictor of identity-safety (Derricks et al., 2023; Hagedorn et al., 2007; Johnson et al., 2019). For example, Black and Hispanic adults who view organizational images with racial ingroup members and/or high racial diversity report greater attraction and trust in an organization than when they view images containing low racial diversity (Avery et al., 2004; Purdie-Vaughns et al., 2008).

Although the presence of ingroup members is largely beneficial, research has also shown that when members of minoritized groups are severely underrepresented, there are certain contexts where the presence of other ingroup members can evoke threat. For instance, research examining the "queen bee" phenomenon demonstrates that in hostile male-dominated settings, women tend to psychologically distance themselves from their gender identity to alleviate threat associated with this visibly salient identity (Derks et al., 2011). Efforts to assimilate with outgroup members, consequently, can lead women to legitimize gender inequalities and exhibit

detrimental behaviors toward other ingroup members. As one example, underrepresented women faculty who reside in environments characterized by gender inequality are more likely to report negative evaluations of female doctoral students (e.g., viewing them as less committed to their work) than male doctoral students, even when they have the same qualifications (Derks et al., 2016; Ellemers et al., 2004). Other research has explored forms of threat that arise specifically in response to ingroup behavior; when minoritized students learn about an ingroup member who performs poorly on a stereotype-relevant task, they exhibit threat and worry that their ingroup will be negatively stereotyped (G. L. Cohen & Garcia, 2005). These concerns may be exacerbated in the context of numerical underrepresentation because minoritized persons in these settings may be especially vigilant for cues to determine how their identity will be perceived by others. Therefore, for Black individuals, the presence of another person who shares their distinctive marginalized racial identity may prompt beliefs that the way in which one group member is evaluated will be used to make generalizations about the group as a whole (G. L. Cohen & Garcia, 2005; Taylor et al., 2018).

## The Role of Social Comparison Perceptions

In the current work, we theorize that one reason why inadequate underrepresentation may undermine inclusion for Black individuals is that it can lead to concerns about being assimilated, or likened, to other ingroup members. Classic research on social comparisons demonstrates that people routinely compare themselves to others as a means of evaluating aspects of the self and/or enhancing one's self-esteem (Festinger, 1954). As such, extensive research has identified the consequences of making different types of social comparisons. For instance, making upward comparisons to people with superior attributes is generally associated with worse outcomes, such as lower self-esteem, whereas making downward comparisons to people with inferior attributes generally enhances one's self-esteem (Suls & Wheeler, 2013). However, it is critical to consider the unique consequences of social comparisons that are perceived to be made by *external observers*. In particular, we propose that social comparisons can be threatening for minoritized individuals when (a) external observers are drawing these comparisons and (b) the comparison target is an ingroup member.

Because being numerically underrepresented can enhance the salience of one's social identity, Black persons in this context may report increased concerns that external observers are attending to the behavior of people who share their distinctive racial identity and are drawing direct comparisons between them (Marques et al., 1988; Pinto et al., 2010). Perceiving these *social comparison perceptions*—beliefs that one is being directly assimilated, or likened, to another ingroup member by external observers—may yield negative consequences, such as diminishing one's sense of inclusion (Derricks & Sekaquaptewa, 2021). Indeed, existing work on social comparison perceptions shows that when women have duo status in a hypothetical science, technology, engineering, and mathematics (STEM) course, they report stronger social comparison perceptions (e.g., concerns about being compared to another woman in the setting) than women in a gender-balanced STEM course (Derricks & Sekaquaptewa, 2021). Moreover, consistent with previous theorizing (Duguid et al., 2012), perceiving these direct comparisons undermined inclusion regardless of whether the comparison target performed well or poorly (Derricks & Sekaquaptewa, 2021). To build upon extant findings, the current work investigates whether these processes generalize to Black individuals who hold duo status in organizational settings.

## The Importance of Considering Multiple Marginalized Identities

Although having duo status can activate concerns about social comparison perceptions, the nature of these concerns may depend on characteristics of the perceiver and the comparison target. Intersectionality theory contends that people belong to multiple social groups and that having various combinations of identities can contribute to unique lived experiences (Crenshaw, 1989). For instance, Black women are multiply marginalized in the United States whereby they have both a racial and a gender identity that are stigmatized. As such, Black women can negotiate their intersecting identities in various ways. The double jeopardy perspective posits that Black women experience compounded mistreatment based on both their racial and their gender identity and, consequently, are cognizant of their unique identity-relevant experiences (relative to Black men and White women; Beal, 1970; Berdahl & Moore, 2006; D. K. King, 1988). Other intersectional approaches, such as the ethnic prominence perspective, theorize that Black women are more likely to prioritize their racial identity over their other marginalized identities because race is an especially salient source of stigma in U.S. society (Levin et al., 2002).

Empirical support for both of these approaches is well-documented. In alignment with the double jeopardy perspective, Black women report experiencing greater discrimination and harassment than individuals who have one marginalized racial or gender identity (e.g., a Black man or White woman; Berdahl & Moore, 2006; Charleston et al., 2014; J. A. Lewis et al., 2016). In addition, Black women identify unique lived experiences based on their intersecting identities (Settles, 2006); specifically, they report feeling both invisible and hypervisible in organizational settings because they do not reflect the prototype of a Black person or a woman (McCluney & Rabelo, 2019; Smith et al., 2019). At the same time, there is also evidence for the ethnic prominence perspective (Pietri et al., 2018; Remedios et al., 2012). For instance, several investigations have shown that Black women tend to prioritize their racial (vs. gender) identity when making attributions about identity-relevant stigma cues (K. R. King, 2003; Pietri et al., 2018). Further supporting this theory, Black women report a greater sense of belonging and perceived allyship when they are exposed to STEM role models who share their racial identity (e.g., a Black man) as opposed to their gender identity (e.g., a White woman; Johnson et al., 2019).

In light of these perspectives delineating the disparate ways that Black women can negotiate their identity, it is important to consider the organizational dynamics that may affect these responses. Within the United States, organizations typically function as microcosms of society where racism and anti-Blackness are pervasive. For instance, many organizations routinely employ policies and practices that explicitly or more indirectly "police" Blackness in that they encourage Black employees to conform to norms and standards of Whiteness (Ferguson & Dougherty, 2022). In particular, Black women in the workplace report being held to White display rules and beauty standards (e.g., being told to smile or having their natural hair admonished), being exploited (e.g., constantly being

asked to support or accommodate others), and having their individuality disregarded (e.g., lack of accountability for colleagues who mistake them for other ingroup members; Rabelo et al., 2021). Consequently, Black women may be especially likely to perceive that their race is a source of stigma in organizations (Ferguson & Dougherty, 2022). Given strong empirical support for the ethnic prominence perspective, as well as perceptions that race-based discrimination is pervasive in organizations, Black women who have duo status in organizations may report stronger social comparison perceptions in response to a comparison target who shares their racial (as opposed to their gender) identity.

## Strategies for Mitigating Identity-Based Threat

Prior research suggests that the consequences associated with numerical underrepresentation may depend largely on the perceived psychological climate. Indeed, when women imagine that they are in a male-dominated organization and encounter male allies who explicitly endorse gender equality (vs. not), they anticipate less workplace hostility and greater support (Moser & Branscombe, 2022). Other types of interpersonal prodiversity behaviors may also cultivate feelings of inclusion for minoritized groups. For instance, exposure to colleagues who explicitly condemn prejudice and stereotype use can enhance women's sense of identity-safety (Hildebrand et al., 2020). Identity-affirming cues can also be implemented at the organization level; when organizations implement a company-wide policy mandating pronoun disclosure, lesbian, gay, bisexual, transgender, queer and questioning persons report more positive organizational attitudes, increased perceptions that the organization is procedurally fair to gender and sexual minorities, and stronger beliefs that employees and managers are allies for lesbian, gay, bisexual, transgender, queer and questioning employees (Johnson et al., 2021). Likewise, other research shows that when organizations have gender-inclusive policies or encourage employees to express support for social justice movements, minoritized persons report reduced social identity threat and stronger feelings of identity-safety (Derricks et al., 2023; Hall et al., 2018).

One reason why these cues encourage safety is that they can reduce concerns about being viewed through the lens of one's group membership. In fact, one key characteristic of numerical underrepresentation (e.g., experienced tokenism) is feeling deindividuated by outgroup members. Therefore, employing cues which condemn stereotype use (e.g., to individuate targets from marginalized peers who share the identity) might be an effective strategy for reducing social comparison perceptions and enhancing identity-safety in duo situations. Consistent with this notion, many interventions have focused on strategies to reduce stereotype use and individuate targets, with the expectation that this approach will reduce biased treatment toward minoritized groups (Brewer & Miller, 1984). The benefits of these interventions are well-documented (Harper, 2015; Hildebrand et al., 2020); research focusing specifically on the target's perspective shows that when members of diverse groups are individuated, they are more likely to feel understood and connected to the group, which subsequently increases work productivity (Swann et al., 2003). Therefore, when Black individuals who have duo status perceive that they are in an organizational environment that condemns stereotype use, as evidenced by the other employees and more formal organizational policies, presence of this cue may mitigate concerns about social comparison perceptions and improve organizational outcomes.

## The Present Research

This work investigates the role of social comparison perceptions in understanding why inadequate numerical representation undermines Black Americans' organizational outcomes and explores the conditions under which this process emerges. Across three online experiments, we examine whether having duo (vs. nonduo) status in a hypothetical organization impacts Black adults (Study 1) and Black women's (Studies 2 and 3) likelihood of making social comparison perceptions in response to a comparison target who is a Black man (Studies 1–3) or a White woman (Studies 2 and 3). Because prior research demonstrates that social comparison perceptions emerged and produced worse outcomes regardless of the comparison target's performance, we investigate this question in a context where the comparison target performs poorly (Derricks & Sekaquaptewa, 2021). Moreover, we assess whether social comparison perceptions serve as a mechanism underlying organizational outcomes such as identity-safety—a robust predictor of recruitment and retention in organizations. Finally, we investigate whether the presence of an organizational cue that condemns stereotype use will diminish participants' concerns about social comparison perceptions and improve organizational outcomes.

In Study 1, we hypothesized that, consistent with prior research conducted with women in STEM, Black Americans who imagine that they are one of two (vs. many) Black employees in a fictional organization will report stronger social comparison perceptions and worse organizational outcomes (e.g., reduced identity-safety). Moreover, we predicted that social comparison perceptions would serve as a mechanism underlying worse outcomes. In Study 2, we expected that the pattern of findings observed in Study 1 would replicate with a sample of Black women. Moreover, we predicted that when Black women have duo (vs. nonduo) status in the organization, they would report stronger social comparison perceptions in response to a Black man (relative to a White woman), in line with the ethnic prominence hypothesis. Finally, in Study 3, we hypothesized that the presence of a stereotype condemnation cue suggesting that employees will not be viewed through the lens of their social identity would mitigate Black women's social comparison perceptions and yield better organizational outcomes.

# Study 1

Study 1 examined whether Black Americans who have duo (vs. nonduo) status in an organization report stronger social comparison perceptions and decreased identity-safety. Moreover, we tested whether having duo status undermines identity-safety via increased social comparison perceptions.

## Method

### *Transparency and Openness*

The present and subsequent studies follow the Journal Article Reporting Standards for quantitative research (Appelbaum et al., 2018). We report how we determined our sample size and describe all data exclusions and manipulations in the present and subsequent

studies. For the sake of brevity, secondary measures of interest and filler items are included in an online repository. All data, analysis code, and research materials for these studies are available in the Supplemental Materials or online repository at https://osf.io/rkwpu/.

### Participants

A priori power analyses in G*Power recommended 200 participants for an independent-samples $t$ test when expecting a small-to-medium effect size ($d = 0.40$), with 80% power and $\alpha = .05$. Although previous research examining similar questions found smaller effect sizes ($d = .30$), meta-analytic data suggest that race-based identity threat effects (e.g., for Black Americans) are stronger than effects observed for women (Spencer et al., 2016). As such, we expected to observe a larger effect on our outcomes. We overrecruited participants to account for exclusions (e.g., participants who failed to correctly identify characteristics about the target).

We recruited 221 Black Americans using Prolific Academic. Before data analysis, we excluded 10 participants: two who incorrectly identified the target employee's name (Desmond), two who incorrectly identified the target employee's race, and six who did not identify their racial/ethnic identity as Black. Participant exclusions did not significantly differ across conditions, $\chi^2(1) = 0.33$, $p = .566$. After removing these participants, we retained 211 participants in our sample (0.9% multiracial; 71 participants reported their gender as women and 140 reported their gender as men; $M_{age} = 31.40$, $SD_{age} = 8.16$).

### Procedure

Participants were randomly assigned to one of two conditions: duo status or nonduo status.

In this online experiment, participants were told that the researchers were interested in organizational experiences and were asked to imagine that they worked for a fictitious company named GRT Market Management. GRT Market Management was described as a prestigious marketing firm that recruits top talent from across the country and has been known to discipline employees who are not meeting company standards. Next, they were told about another employee named Desmond who was recently hired at the company, though they had never interacted directly. We manipulated the racial composition of the organization by showing participants an image of the company employees. The image was comprised of 20 employees, one of whom was Black (other than the participant; duo condition) or six of whom were Black (nonduo condition). The images used in the present and subsequent studies are available from the corresponding author upon request.

Following the experimental manipulation, participants read a vignette in which Desmond presented a project proposal to the company that went poorly (some of the coworkers looked confused and clapped politely after Desmond finished). Although participants were told that they received feedback that was satisfactory, they overheard Desmond speaking on the phone and learned that he was being placed on probation at the company. The content featured in the vignette was adapted from previous research (Derricks & Sekaquaptewa, 2021), and complete wording for the vignette is presented in the Supplemental Materials.

### Measures

After reading the vignette, participants completed survey items for social comparison perceptions and identity-safety.[1] Across measures, we calculated the mean of the items, with higher scores indicating more of each construct. Sample items from each measure are provided below, and complete wording for all measures is reported in the Supplemental Materials.

**Social Comparison Perceptions.** We measured the extent to which participants reported social comparison perceptions using seven items on a 7-point Likert-type scale, with response labels ranging from *strongly disagree* to *strongly agree* or *not at all* to *very much so* depending on the question stem (e.g., "How much do you think your work performance is being directly compared to Desmond's by your supervisor and coworkers?"; adapted from Derricks & Sekaquaptewa, 2021; $\alpha = .85$; $M = 3.75$, $SD = 1.37$).

**Identity-Safety.** Given that identity-safety is often defined as a multifaceted, collective set of concerns (Murphy et al., 2007), our measure of identity-safety was comprised of three subscales. Similar measures have been used in existing published work (Johnson et al., 2021; Pietri et al., 2018). Participants responded to eight items measuring *anticipated belonging at the organization* (1, *strongly disagree* to 7, *strongly agree*; "I would probably feel like I belong at GRT Market management"), five items measuring *willingness to participate in the organization* (1, *not at all likely* to 7, *very likely*; "How likely would you be to participate during group meetings at GRT Market Management"), and three items measuring *motivation in the organization* (1, *strongly disagree* to 7, *strongly agree*; "I would probably feel motivated to perform well at GRT Market Management"). These three scales were strongly correlated, and we performed an exploratory principal factor analysis using oblimin rotation on the 16 survey items. Although the analysis revealed three factors with eigenvalues >1, Factor 1 accounted for 60.84% of the variance. All items loaded on Factor 1 > .71 with exception of one item from the motivation subscale that had a factor loading of .06. This item was subsequently dropped from the identity-safety index. Given statistical support and to streamline the presentation of analyses, the remaining 15 items were aggregated into an index for identity-safety ($\alpha = .95$; $M = 5.14$, $SD = 1.16$). Additional details about the factor analysis, as well as analyses for the dropped motivation item, are presented in the Supplemental Materials.

**Demographic Variables.** In the present and subsequent studies, participants reported their demographic information using multiple choice items with exception of age, which was an open-ended item. The exact items used to collect this information, including response options, are presented in the Supplemental Materials for brevity.

### Analytic Strategy

Analyses were conducted in SPSS V.29.0 using independent-samples $t$ tests. We tested our hypotheses that Black Americans in the duo (vs. nonduo) condition would report increased social comparison perceptions and reduced identity-safety. Due to a manual

[1] In the present and subsequent study, we included measures for racial identity strength (Studies 1 and 2) and gender identity strength (Study 2) as potential moderators of our effects. Analyses showed that these measures did not significantly moderate our results. For the sake of parsimony, these results are reported in the Supplemental Material.

survey error, the first 10 participants did not see all of the participation items. We corrected this error before the remaining participants completed the study. Nevertheless, there is a slightly smaller sample of participants for the identity-safety outcome (and this difference is reflected in the degrees of freedom across measures). Statistical means and standard deviations are reported below.

## Results

### *Social Comparison Perceptions*

There was a significant $t$ test on social comparison perceptions, $t(209) = -3.11$, $p = .002$, $d = -0.43$. As hypothesized, means showed that participants reported stronger social comparison perceptions in the duo condition ($M = 4.04$, $SD = 1.32$) compared to the nonduo condition ($M = 3.47$, $SD = 1.36$).

### *Identity-Safety*

Findings showed a significant $t$ test for identity-safety, $t(199) = 4.80$, $p < .001$, $d = 0.68$. As predicted, means indicated that participants in the duo condition reported lower identity-safety in the organization ($M = 4.76$, $SD = 1.26$) than participants in the nonduo condition ($M = 5.51$, $SD = 0.92$).

### *Testing the Proposed Mechanism*

Next, we examined whether social comparison perceptions underlie the relationship between the racial composition of the organization and identity-safety.[2] To conduct this analysis, we used Model 4 in Hayes (2018) PROCESS macro V.3.0 with 5,000 bootstrap samples (see Figure 1).

As observed in the $t$ test, analyses showed that participants in the duo condition reported stronger social comparison perceptions than participants in the nonduo condition, $b = 0.60$, $SE = 0.19$, $p = .002$, 95% CI [0.23, 0.97]. Increased social comparison perceptions were associated with lower levels of identity-safety, $b = -0.37$, $SE = 0.05$, $p < .001$, 95% CI [−0.47, −0.26]. The direct effect of demographic composition on identity-safety remained significant, $b = -0.53$, $SE = 0.14$, $p < .001$, 95% CI [−0.81, −0.25]. Moreover, the indirect effect was significant, $b = -0.22$, $SE = 0.07$, 95% CI [−0.37, −0.08].

## Discussion

As hypothesized, Study 1 demonstrated that Black Americans who imagined they were employed in an organization that was made up of one other Black employee (duo condition) versus several other Black employees (nonduo condition) reported stronger social comparison perceptions and a decreased sense of identity-safety. Furthermore, modeling the indirect effect offered supportive evidence for social comparison perceptions as a mechanism underlying the relationship between the organization's demographic composition and identity-safety. Specifically, analyses showed that having duo (vs. nonduo) status increased social comparison perceptions, which was related to lower levels of identity-safety.

# Study 2

Study 2 investigated the extent to which Black women—who have multiple marginalized identities—perceive social comparison perceptions in response to an ingroup target who shares just one of their marginalized identities. Thus, Study 2 sought to replicate and extend Study 1 by testing whether Black women who have duo (vs. nonduo) status in an organization report stronger social comparison perceptions in response to a Black man and/or a White woman. Although each comparison target shares one marginalized identity (race and gender, respectively), we hypothesized that Black women would report stronger social comparison perceptions in response to a Black man (relative to a White woman). This prediction is supported by past research indicating that (a) within U.S. contexts, organizations tend to function as microcosms of society whereby race-based discrimination is pervasive, and (b) due to the nature of their experienced discrimination, Black women's racial (vs. gender) identity can be a more salient source of stigma. Consequently, Black women may perceive a stronger connection with targets who share their racial identity (Pietri et al., 2018).

## Method

### *Participants*

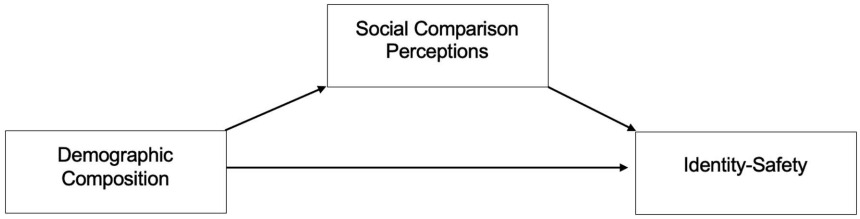
A priori power analyses in G*Power recommended 245 participants for a 2 × 2 analysis of variance (ANOVA) when expecting a small-to-medium effect size ($f = 0.18$), with 80% power and $\alpha = .05$. To match the cell sizes used in Study 1, we sought to recruit approximately 100–110 participants per condition. We overrecruited participants (beyond the sample size recommended by G*Power) to account for exclusions (e.g., participants who failed to correctly identify demographic characteristics about the target) and probe for a smaller interaction effect.

We recruited 457 Black U.S. women using Prolific Academic. Before data analysis, we excluded 89 participants: two who incorrectly identified the target employee's name (Desmond or Danielle), 62 who incorrectly identified the target employee's race, 22 who incorrectly identified the target employee's gender, and three who did not identify their racial/ethnic identity as Black. Participant exclusions significantly differed across conditions, $\chi^2(3) = 15.61$, $p = .001$. In particular, participants were more likely to be excluded when they saw the White female target. Examining the exclusions suggested that participants in these conditions were less likely to correctly identify the White female target's race (relative to the Black male target's race).[3] After excluding these participants, we retained 368 Black women in our sample (4.1% multiracial; $M_{age} = 31.32$, $SD_{age} = 12.06$).

[2] In line with prior research, we also examined the role of stereotype threat concerns as a serial mediator between social comparison perceptions and identity-safety. Using Model 6, findings showed that this serial mediation pathway was significant. Notably, the relationship between social comparison perceptions and identity-safety remained significant when accounting for stereotype threat concerns. These results are reported in the Supplemental Materials.

[3] When examining open-ended responses at the end of the survey, some participants indicated that they accidentally reported their own race when they were asked to identify the White female target's race. Thus, incorrect responses to the attention check items are likely a combination of inattention to the vignette and inattention to the survey items being asked. The reported results do not change when we include participants who failed the attention check questions.

**Figure 1**
*Mediation Analysis (Study 1)*






### *Procedure*

Participants were randomized to one of four conditions in a 2 (Demographic Composition: Duo Status, Nonduo Status) × 2 (Target: Black Man, White Woman) between-subjects design.

This online experiment directly replicated Study 1. However, there were two key changes to the procedure to account for our new manipulation (target). First, the demographic composition of the organization was manipulated by showing participants an image of the 20 company employees (including the participant): 17 White men, one Black man, and one White woman (duo condition) or nine White men, five Black men, and five White women (nonduo condition). Thus, the demographic composition was revised such that (a) the duo condition contained only one employee with shared racial or gender identity membership and (b) the nonduo condition contained multiple employees who matched either their racial or gender identity. The second change was that participants reviewed vignettes about Desmond, the Black male employee used in Study 1, or Danielle, a White female employee. The content of the vignettes was identical to those used in Study 1, except that the vignette for the "White woman target" condition used Danielle's name (instead of Desmond's). Therefore, participants learned that Desmond or Danielle delivered a presentation at the company that was poorly received. Complete wording for these vignettes is presented in the Supplemental Materials.

### *Measures*

Following the vignette, participants completed survey items measuring their social comparison perceptions ($\alpha = .91$; $M = 3.82$, $SD = 1.54$) and identity-safety ($\alpha = .94$; $M = 4.67$, $SD = 1.15$). We also included items for a new measure: intentions to remain in the organization. As in Study 1, we calculated the mean of the items, with higher scores indicating more of each construct.

**Intentions to Remain in the Organization.** Given the well-documented relationship between numerical underrepresentation and retention (Casad et al., 2021), we wanted to assess whether social comparison perceptions also relate to retention in organizational settings. Thus, we measured participants' intentions to remain in the organization using four items on a Likert-type scale ranging from 1 (*not at all likely*) to 5 (*very likely*; e.g., "How likely would you be to remain at GRT Market Management for a long time"; adapted from Highhouse et al., 2003; $\alpha = .86$; $M = 3.09$, $SD = 0.97$).

### *Analytic Strategy*

Analyses were conducted in SPSS V.29.0 using univariate ANOVA. We examined the effects of demographic composition, target, and their two-way interaction on the primary study outcomes. Significant interactions were further probed by examining the simple effects.

Statistical means and standard deviations for significant main effects are presented below, and all means and standard deviations for the two-way interaction are reported in Table 1.

## Results

### *Social Comparison Perceptions*

Consistent with Study 1, there was a significant main effect of demographic composition on social comparison perceptions, $F(1, 363) = 28.15$, $p < .001$, $d = -0.56$. Means showed that participants reported stronger social comparison perceptions in the duo condition ($M = 4.22$, $SD = 1.57$) compared to the nonduo condition ($M = 3.41$, $SD = 1.39$). Moreover, there was a significant main effect of target, $F(1, 363) = 15.08$, $p < .001$, $d = -0.41$. In line with our hypotheses, means showed that participants who saw Desmond reported stronger social comparison perceptions ($M = 4.09$, $SD = 1.54$) than participants who saw Danielle ($M = 3.49$, $SD = 1.48$). Contrary to our hypotheses, however, the Demographic Composition × Target interaction was not significant, $F(1, 363) = 0.12$, $p = .734$, $\eta_p^2 = .000$.

**Table 1**
*Study Means and Standard Deviations (Study 2)*

| Outcome | Desmond, nonduo condition *M* (*SD*) | Desmond, duo condition *M* (*SD*) | Danielle, nonduo condition *M* (*SD*) | Danielle, duo condition *M* (*SD*) |
|---|---|---|---|---|
| Social comparison perceptions | 3.70 (1.42) | 4.46 (1.56) | 3.06 (1.28) | 3.92 (1.54) |
| Identity-safety | 4.86 (1.02) | 4.31 (1.24) | 5.05 (1.02) | 4.53 (1.17) |
| Intentions to remain in organization | 3.22 (0.81) | 2.92 (1.01) | 3.27 (1.01) | 2.96 (1.03) |

### *Identity-Safety*

Replicating Study 1, findings revealed a significant main effect of demographic composition on identity-safety, $F(1, 364) = 20.81$, $p < .001$, $d = 0.48$. As hypothesized, means showed that participants reported decreased identity-safety in the duo condition ($M = 4.41$, $SD = 1.21$) relative to the nonduo condition ($M = 4.94$, $SD = 1.02$). However, the main effect of target was not significant, $F(1, 364) = 3.16$, $p = .076$, $d = 0.19$. While study means showed that participants reported lower feelings of identity-safety when they saw Desmond ($M = 4.58$, $SD = 1.17$) versus Danielle ($M = 4.79$, $SD = 1.13$), this difference did not reach significance. The Demographic Composition × Target interaction was not significant, $F(1, 364) = 0.01$, $p = .912$, $\eta_p^2 = .000$.

### *Intentions to Remain in the Organization*

Findings showed a significant main effect of demographic composition on intentions to remain in the organization, $F(1, 364) = 9.28$, $p = .002$, $d = 0.32$. In line with predictions, means indicated that participants reported decreased intentions to remain in the organization in the duo condition ($M = 2.94$, $SD = 1.02$) relative to the nonduo condition ($M = 3.24$, $SD = 0.91$). The main effect of target was not significant, $F(1, 364) = 0.18$, $p = .668$, $d = 0.04$; thus, participants reported equal intentions to remain in the organization regardless of whether they saw Desmond ($M = 3.07$, $SD = 0.93$) or Danielle ($M = 3.11$, $SD = 1.03$). The Demographic Composition × Target interaction was not significant, $F(1, 364) = 0.00$, $p = .983$, $\eta_p^2 = .000$.

### *Testing the Proposed Mechanism*

Next, we sought to assess our proposed mechanism by replicating the model tested in Study 1. As such, we examined the extent to which social comparison perceptions underlie the relationship between the demographic composition of the organization and the primary study outcomes (i.e., identity-safety and intentions to remain in the setting). However, because ANOVA analyses revealed significant main effects (and nonsignificant interactions), we extended Study 1 by conducting mediation analyses using Model 4 in PROCESS with 5,000 bootstrap samples. Specifically, we ran two separate mediation analyses with demographic composition and the target condition as predictors, respectively (see Figures 2 and 3). Both models controlled for the remaining experimental manipulation. All statistical parameters and test statistics not reported below are presented in Table 2.

As observed in the ANOVA, analyses showed that participants in the duo condition reported stronger social comparison perceptions than participants in the nonduo condition, $b = 0.81$, $SE = 0.15$, $p < .001$, 95% CI [0.51, 1.11]. Furthermore, participants who saw Desmond reported stronger social comparison perceptions than participants who saw Danielle, $b = 0.59$, $SE = 0.15$, $p < .001$, 95% CI [0.29, 0.90].

**Identity-Safety.** Increased social comparison perceptions were related to lower levels of identity-safety, $b = -0.33$, $SE = 0.04$, $p < .001$, 95% CI [−0.41, −0.26]. The direct effect of demographic composition on identity-safety remained significant, $b = -0.26$, $SE = 0.11$, $p = .017$, 95% CI [−0.48, −0.05]. Moreover, the indirect effect of demographic composition on identity-safety via social comparison perceptions was also significant, $b = -0.27$, $SE = 0.06$, 95% CI [−0.40, −0.16].

Additionally, the direct effect of target on identity-safety remained nonsignificant, $b = -0.00$, $SE = 0.11$, $p = .967$, 95% CI [−0.22, 0.21]. However, the indirect effect of target on identity-safety via social comparison perceptions was significant, $b = -0.20$, $SE = 0.06$, 95% CI [−0.31, −0.10].

**Intentions to Remain in the Organization.** Increased social comparison perceptions were associated with lower intentions to remain in the organization, $b = -0.25$, $SE = 0.03$, $p < .001$, 95% CI [−0.31, −0.19]. The direct effect of demographic composition on intentions to remain in the organization was no longer significant, $b = -0.11$, $SE = 0.10$, $p = .255$, 95% CI [−0.30, 0.08]. However, the indirect effect was significant, $b = -0.20$, $SE = 0.05$, 95% CI [−0.30, −0.12].

The direct effect of target on intentions to remain the organization remained nonsignificant, $b = 0.10$, $SE = 0.10$, $p = .296$, 95% CI [−0.09, 0.29]. However, the indirect effect was significant, $b = -0.15$, $SE = 0.04$, 95% CI [−0.24, −0.07].

## Discussion

Study 2 replicated many of the results found in Study 1 with a sample of Black women. In particular, findings showed that having duo (vs. nonduo) status increased social comparison perceptions and reduced feelings of identity-safety. Building on Study 1, having duo (vs. nonduo) status also decreased Black women's intentions to remain at the organization.

Further extending Study 1, findings from our novel target manipulation showed that overall, Black women reported stronger social comparison perceptions when they read about a Black man (Desmond) as opposed to a White woman (Danielle). However, reading about different targets did not significantly impact Black

**Figure 2**

*Mediation Analysis Using Demographic Composition as the Key Predictor (Study 2)*

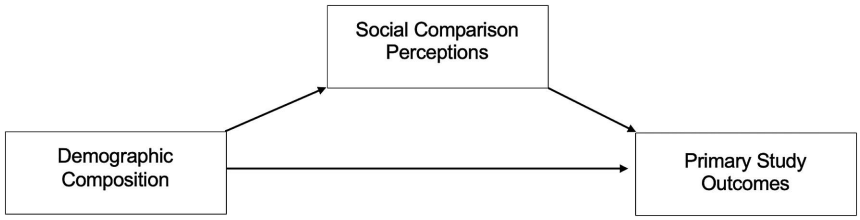


**Figure 3**
*Mediation Analysis Using Target as the Key Predictor (Study 2)*




women's sense of identity-safety or intentions to remain at the organization. Moreover, in contrast to our hypothesis that the demographic composition of the organization would have a stronger effect on Black women's responses to Desmond (relative to Danielle), none of the Demographic Composition × Target interactions were significant. Thus, Black women's responses in the duo (vs. nonduo) condition were unaffected by whether the comparison target was a Black man or a White woman.

Finally, modeling the indirect effect showed that being in the duo (vs. nonduo) condition or being exposed to Desmond (vs. Danielle) led to stronger social comparison perceptions which, in turn, were associated with the primary study outcomes (e.g., lower identity-safety and intentions to remain at the organization). As such, findings suggest that Black women who have duo status in organizations or who see a Black man performing poorly may experience a lower sense of inclusion and decreased retention because these conditions raise concerns that they are being compared to another person who shares one of their marginalized identities.

## Study 3

The primary aim of Study 3 was to replicate and extend the previous studies by testing a potential intervention to reduce concerns about social comparison perceptions and enhance organizational outcomes for Black women who have duo status in organizations. To investigate this question, we examined whether the presence of a cue that signals stereotype condemnation—having colleagues who condemn identity-based stereotyping and organizational policies that discourage employee comparisons—would improve Black women's outcomes. We hypothesized that when Black women in the duo condition encountered this stereotype condemnation intervention, they would exhibit significantly better outcomes than Black women in the duo condition who did not observe this intervention. Furthermore, we predicted that outcomes for Black women who were exposed to the intervention would return to baseline (i.e., they would report outcomes that are statistically similar to Black women in the nonduo condition). This study design and analytic strategy were preregistered at https://osf.io/jpwm3.

### Method

#### *Participants*

A priori power analyses in G*Power recommended 295 participants for a 2 × 3 ANOVA when expecting a small-to-medium effect size ($f = 0.18$), with 80% power and $\alpha = .05$. To match the cell sizes used in the previous studies, we sought to recruit approximately 100–110 participants per condition. As in the previous studies, we overrecruited participants to probe for a smaller interaction effect and account for exclusions.

We recruited 356 Black women using Prolific Academic and 319 Black women using Amazon's Mechanical Turk (MTurk). Before data analysis, we excluded 128 participants: 13 who did not identify as Black women, 40 who incorrectly identified the target employee's

**Table 2**
*Statistical Parameters for Mediation Analyses (Study 2)*

| Pathway | *b* | *SE* | *p* | 95% CI |
|---|---|---|---|---|
| Demographic composition → social comparison perceptions | .81 | .15 | <.001 | [0.51, 1.11] |
| Target → social comparison perceptions | .59 | .15 | <.001 | [0.29, 0.90] |
| Identity-safety | | | | |
| Social comparison perceptions → identity-safety | −.33 | .04 | <.001 | [−0.41, −0.26] |
| Demographic composition → identity-safety | −.26 | .11 | .017 | [−0.48, −0.05] |
| Target → identity-safety | −.00 | .11 | .967 | [−0.22, 0.21] |
| Indirect effect (demographic composition) | −.27 | .06 | | [−0.40, −0.16] |
| Indirect effect (target) | −.20 | .06 | | [−0.31, −0.10] |
| Intentions to remain in organization | | | | |
| Social comparison perceptions → intentions to remain in organization | −.25 | .03 | <.001 | [−0.31, −0.19] |
| Demographic composition → intentions to remain in organization | −.11 | .10 | .255 | [−0.30, 0.08] |
| Target → intentions to remain in organization | .10 | .10 | .296 | [−0.09, 0.29] |
| Indirect effect (demographic composition) | −.20 | .05 | | [−0.30, −0.12] |
| Indirect effect (target) | −.15 | .04 | | [−0.24, −0.07] |

*Note*. *SE* = standard error; CI = confidence interval.

gender, 73 who incorrectly identified the target employee's race, and two who incorrectly identified the target employee's name.[4] Participant exclusions did not significantly differ across conditions, $\chi^2(5) = 6.33$, $p = .275$. After excluding these participants, we retained 548 Black women in our sample (286 from Prolific Academic and 261 from MTurk; 3.6% multiracial; $M_{age} = 35.20$, $SD_{age} = 12.33$).

### Procedure

Participants were randomized to one of six conditions in a 3 (Demographic Composition: Duo Status + Intervention, Duo Status, Nonduo Status) × 2 (Target: Black Man, White Woman) between-subjects design.

This online experiment directly replicated Study 2. Thus, participants learned about the demographic composition of the organization and read a vignette where Desmond (the Black male target) or Danielle (the White female target) performed poorly on a work presentation. To incorporate our novel intervention, participants read a second vignette that contained the stereotype condemnation cue. Thus, in the duo + intervention condition, participants read a vignette where their colleagues were discussing a news article about someone who was fired for using racist (or sexist) stereotypes and explicitly condemned the use of stereotyping to evaluate or judge people. Whether the colleagues condemned racist or sexist stereotypes depended on the target manipulation, such that the colleagues condemned racist stereotypes when participants read about Desmond and sexist stereotypes when participants read about Danielle. Next, their supervisor, overhearing the conversation, further condemned stereotype use by mentioning a company evaluation policy where employees are evaluated based on self-initiated goals (thus avoiding comparisons between employees and their colleagues). The content used in the intervention vignette was directly informed by previous research (Hildebrand et al., 2020).

In the two conditions without the intervention, participants read a second vignette where their colleagues were discussing a news article about someone who was fired for poor management (e.g., failing to pay employees) and explicitly condemned irresponsible management. Next, their supervisor mentioned that the company uses an evaluation policy where employees are evaluated multiple times throughout the year to ensure responsible behavior. Complete wording for these vignettes is reported in the Supplemental Materials.

### Measures

Following the vignette, participants completed survey items measuring their (a) social comparison perceptions ($\alpha = .93$; $M = 3.58$, $SD = 1.60$), (b) identity-safety ($\alpha = .94$; $M = 4.99$, $SD = 1.10$), and (c) intentions to remain in the organization ($\alpha = .89$; $M = 3.30$, $SD = 1.03$).

To evaluate whether our intervention manipulation effectively conveyed stereotype condemnation, participants also completed a manipulation check measure. Higher scores for this measure indicate more of the construct.

**Manipulation Check.** We measured participants' beliefs that their colleagues and GRT Market Management condemn stereotype use with six items on a Likert scale ranging from 1, *strongly disagree*, to 5, *strongly agree*, for example, "Most likely, GRT Market Management implements company policies that will discourage racial (gender) stereotyping of employees"; $\alpha = .90$; $M = 3.73$, $SD = 0.83$.

### Analytic Strategy

Analyses were conducted in SPSS V.29.0 using univariate analysis of covariance. We examined the effects of demographic composition, target, and their two-way interaction on the primary study outcomes. Because our sample of Black women was recruited from two survey platforms (MTurk and Prolific Academic), we controlled for recruitment method across the reported analyses. Whether this covariate is included in analyses does not change the reported results (see the Supplemental Materials).

Statistical means and standard deviations for significant main effects are presented below, and all means and standard deviations for the two-way interaction are reported in Table 3.

## Results

### Manipulation Check

Analyses demonstrated that our intervention manipulation was effective. There was a significant main effect of demographic composition, $F(2, 540) = 41.82$, $p < .001$, $d = -0.56$, showing that participants were more likely to believe the organization condemned stereotypes in the duo + intervention condition ($M = 4.12$, $SD = 0.75$) compared to the duo condition ($p < .001$; $M = 3.40$, $SD = 0.87$) and the nonduo condition ($p < .001$; $M = 3.65$, $SD = 0.71$). In addition, participants in the duo condition were significantly less likely to believe that the organization condemned stereotypes than participants in the nonduo condition ($p = .001$). The main effect of target was not significant, $F(1, 540) = 0.00$, $p = .950$, $d = 0.00$. Thus, participants who read about Desmond were equally likely to believe the organization condemned stereotypes ($M = 3.74$, $SD = 0.81$) as participants who read about Danielle ($M = 3.72$, $SD = 0.85$). The Demographic Composition × Target interaction was not significant, $F(2, 540) = 0.91$, $p = .402$, $\eta_p^2 = .003$. Therefore, all results were consistent with our hypotheses.

### Social Comparison Perceptions

As in the previous studies, there was a significant main effect of demographic composition on social comparison perceptions, $F(2, 540) = 19.18$, $p < .001$, $d = -0.38$. Means showed that participants reported stronger social comparison perceptions in the duo condition ($p < .001$; $M = 4.12$, $SD = 1.63$) and the duo + intervention condition ($p = .030$; $M = 3.48$, $SD = 1.58$) than in the nonduo condition ($M = 3.13$, $SD = 1.43$). As such, this pattern supported our hypotheses for the duo condition, but not the duo + intervention condition. However, in line with our hypotheses, participants in the duo + intervention condition reported significantly weaker social comparison perceptions than participants in the duo condition ($p < .001$). In contrast to Study 2, the main effect of target

[4] As in the previous study, several participants mentioned that they identified the wrong race and/or gender for the target because they were reporting demographics for themselves (as opposed to the comparison target). The reported results do not change when we include participants who failed the attention check questions.

**Table 3**
*Study Means and Standard Deviations (Study 3)*

| Outcome | Desmond, nonduo condition M (SD) | Desmond, duo condition M (SD) | Desmond, duo + intervention condition M (SD) | Danielle, nonduo condition M (SD) | Danielle, duo condition M (SD) | Danielle, duo + intervention condition M (SD) |
|---|---|---|---|---|---|---|
| Social comparison perceptions | 3.13 (1.50) | 4.20 (1.62) | 3.60 (1.53) | 3.12 (1.37) | 4.03 (1.64) | 3.35 (1.64) |
| Identity-safety | 5.05 (1.01) | 4.70 (1.27) | 5.17 (0.95) | 5.05 (0.95) | 4.64 (1.25) | 5.31 (0.98) |
| Intentions to remain in organization | 3.32 (1.05) | 3.10 (1.05) | 3.44 (0.99) | 3.24 (0.94) | 3.07 (1.10) | 3.63 (0.97) |

was not significant, $F(1, 540) = 1.27$, $p = .260$, $d = -0.10$. Thus, contrary to our predictions, participants who saw Desmond were equally likely to report social comparison perceptions ($M = 3.65$, $SD = 1.61$) as participants who saw Danielle ($M = 3.50$, $SD = 1.60$). The Demographic Composition × Target interaction was not significant, $F(2, 540) = 0.27$, $p = .763$, $\eta_p^2 = .001$.

### *Identity-Safety*

Replicating the previous studies, findings showed a significant main effect of demographic composition on identity-safety, $F(2, 538) = 14.65$, $p < .001$, $d = 0.33$. Thus, as hypothesized, participants reported lower identity-safety in the duo condition ($M = 4.67$, $SD = 1.25$) compared to the nonduo condition ($p < .001$; $M = 5.05$, $SD = 0.97$). Further supporting our hypotheses, participants in the duo + intervention condition ($M = 5.24$, $SD = 0.96$) reported significantly higher levels of identity-safety than participants in the duo condition ($p < .001$) and showed statistically similar levels of identity-safety as participants in the nonduo condition ($p = .101$). As in Study 2, the main effect of target was not significant, $F(1, 538) = 0.15$, $p = .695$, $d = 0.03$; participants reported equal levels of identity-safety regardless of whether they read about Desmond ($M = 4.98$, $SD = 1.10$) or Danielle ($M = 5.00$, $SD = 1.10$). Moreover, the Demographic Composition × Target interaction was not significant, $F(2, 538) = 0.45$, $p = .638$, $\eta_p^2 = .002$.

### *Intentions to Remain in the Organization*

There was a significant main effect of demographic composition on intentions to remain in the organization, $F(2, 540) = 9.49$, $p < .001$, $d = 0.27$. Contrary to our hypotheses, participants in the duo condition no longer showed reduced intentions to remain at the organization ($p = .053$; $M = 3.09$, $SD = 1.07$) relative to participants in the nonduo condition ($M = 3.28$, $SD = 0.99$). However, in line with our predictions, participants in the duo + intervention condition ($M = 3.53$, $SD = 0.99$) reported stronger intentions to remain in the organization than participants in the nonduo condition ($p = .019$) and participants in the duo condition ($p < .001$). Replicating Study 2, the main effect of target was not significant, $F(1, 540) = 0.12$, $p = .732$, $d = 0.03$. Thus, participants reported equal intentions to remain in the organization regardless of whether they read about Desmond ($M = 3.29$, $SD = 1.04$) or Danielle ($M = 3.31$, $SD = 1.03$). The Demographic Composition × Target interaction was not significant, $F(2, 540) = 0.89$, $p = .411$, $\eta_p^2 = .003$.

### *Testing the Proposed Mechanism*

Next, we sought to replicate the model tested in the previous studies. As such, we examined the extent to which social comparison perceptions underlie the relationship between the demographic composition of the organization and the study outcomes. Because analysis of covariance only showed a significant main effect of demographic composition, we conducted mediation analyses using Model 4 in PROCESS with 5,000 bootstrap samples (see Figure 4). The target manipulation and recruitment method variables were included as covariates. All statistical parameters and test statistics not reported below are presented in Table 4.

Analyses showed that participants in the duo condition, $b = 1.01$, $SE = 0.16$, $p < .001$, 95% CI [0.69, 1.33], and the duo + intervention condition, $b = 0.36$, $SE = 0.16$, $p = .029$, 95% CI [0.04, 0.68], reported stronger social comparison perceptions than participants in the nonduo condition.

**Identity-Safety.** Increased social comparison perceptions were associated with lower levels of identity-safety, $b = -0.39$, $SE = 0.02$, $p < .001$, 95% CI [−0.44, −0.34]. The direct effect of demographic composition on identity-safety was no longer significant for the duo condition, $b = -0.01$, $SE = 0.10$, $p = .944$, 95% CI [−0.19, 0.18], but remained significant for the duo + intervention condition, $b = 0.32$, $SE = 0.09$, $p < .001$, 95% CI [0.14, 0.50]. The indirect effect was significant for both the duo condition, $b = -0.39$, $SE = 0.07$, 95% CI [−0.53, −0.27], and the duo + intervention condition, $b = -0.14$, $SE = 0.06$, 95% CI [−0.26, −0.02].

**Figure 4**
*Mediation Analysis (Study 3)*

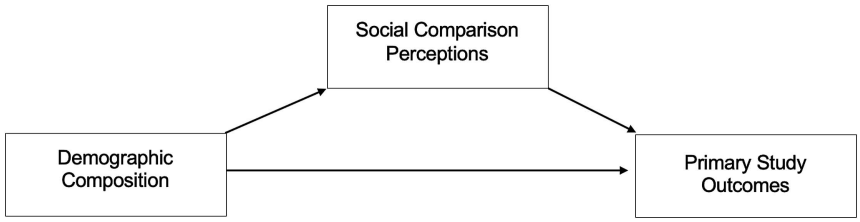


**Table 4**
*Statistical Parameters for Mediation Analyses*

| Pathway | *b* | *SE* | *p* | 95% CI |
|---|---|---|---|---|
| Nonduo versus duo → social comparison perceptions | 1.01 | .16 | <.001 | [0.69, 1.33] |
| Nonduo versus duo + intervention → social comparison perceptions | 0.36 | .16 | .029 | [0.04, 0.68] |
| Target → social comparison perceptions | 0.16 | .13 | .234 | [−0.10, 0.42] |
| Recruitment method → social comparison perceptions | −0.23 | .13 | .088 | [−0.49, 0.03] |
| Identity-safety | | | | |
| Social comparison perceptions → identity-safety | −0.39 | .02 | <.001 | [−0.44, −0.34] |
| Nonduo versus duo → identity-safety | −0.01 | .10 | .944 | [−0.19, 0.18] |
| Nonduo versus duo + intervention → identity-safety | 0.32 | .09 | <.001 | [0.14, 0.50] |
| Target → identity-safety | 0.02 | .07 | .742 | [−0.12, 0.17] |
| Recruitment method → identity-safety | 0.26 | .08 | <.001 | [0.11, 0.41] |
| Indirect effect (duo) | −0.39 | .07 | | [−0.53, −0.27] |
| Indirect effect (duo + intervention) | −0.14 | .06 | | [−0.26, −0.02] |
| Intentions to remain in organization | | | | |
| Social comparison perceptions → intentions to remain in organization | −0.30 | .02 | <.001 | [−0.35, −0.25] |
| Nonduo versus duo → intentions to remain in organization | 0.10 | .10 | .323 | [−0.10, 0.29] |
| Nonduo versus duo + intervention → intentions to remain in organization | 0.35 | .09 | <.001 | [0.17, 0.54] |
| Target → intentions to remain in organization | 0.01 | .08 | .858 | [−0.14, 0.16] |
| Recruitment method → intentions to remain in organization | 0.19 | .08 | .013 | [0.04, 0.34] |
| Indirect effect (duo) | −0.30 | .05 | | [−0.42, −0.20] |
| Indirect effect (duo + intervention) | −0.11 | .05 | | [−0.21, −0.01] |

*Note*. *SE* = standard error; CI = confidence interval.

**Intentions to Remain in the Organization.** Stronger social comparison perceptions were related to lower intentions to remain in the organization, $b = -0.30$, $SE = 0.02$, $p < .001$, 95% CI [−0.35, −0.25]. The direct effect of demographic composition on intentions to remain in the organization was no longer significant for the duo condition, $b = 0.10$, $SE = 0.10$, $p = .323$, 95% CI [−0.10, 0.29], but remained significant for the duo + intervention condition, $b = 0.35$, $SE = 0.09$, $p < .001$, 95% CI [0.17, 0.54]. Moreover, the indirect effect was significant for both the duo condition, $b = -0.30$, $SE = 0.05$, 95% CI [−0.42, −0.20], and the duo + intervention condition, $b = -0.11$, $SE = 0.05$, 95% CI [−0.21, −0.01].

## Discussion

Study 3 replicated and extended the previous studies in important ways. As in the earlier studies, Black women who had duo (vs. nonduo) status in the organization reported increased social comparison perceptions, decreased identity-safety, and reduced intentions to remain in the organization. In contrast to Study 2, we no longer found evidence that Black women reported stronger social comparison perceptions in response to a Black male target (relative to a White female target). Extending the previous studies, findings also showed that when Black women encountered an organizational cue which signaled stereotype condemnation, they reported (a) reduced social comparison perceptions (relative to the duo condition) and (b) statistically similar or stronger levels of identity-safety and intentions to remain in the organization (relative to the duo and nonduo conditions). Therefore, the presence of this organizational cue significantly reduced social comparison perceptions compared to settings where this cue was absent, but did not fully eliminate these perceived comparisons.

Further replicating and extending the previous studies, we found additional evidence for the role of social comparison perceptions as a mechanism underlying our primary study outcomes. Modeling the indirect effect indicated that being in the duo or duo + intervention conditions (relative to the nonduo condition) produced stronger social comparison perceptions, which was associated with lower identity-safety and intentions to remain at the organization. Thus, to the extent that Black women perceive they are being directly compared to someone who shares one of their marginalized identities, they will report a reduced sense of inclusion and decreased intentions to remain in the setting. Importantly, these perceived comparisons are less severe when organizational environments condemn stereotype use.

## General Discussion

Although institutions are becoming more cognizant about the importance of adequate racial representation for recruitment and retention, there is relatively limited understanding of the mechanisms through which underrepresentation adversely affects Black Americans in these settings. One consequence of this knowledge gap is that there is an incomplete understanding of (a) Black individuals' psychological experiences in these token situations and (b) ways that organizations can alter these environments to better support Black employees.

In this work, we examined how the demographic composition of a fictional organization impacted Black Americans' likelihood of reporting social comparison perceptions in response to a Black male target who performed poorly on a work task (Studies 1–3). Moreover, we assessed the extent to which Black women, who have multiple marginalized identities, perceived social comparison perceptions in response to a comparison target who shared just one of their identities (e.g., a Black man or a White woman; Studies 2 and 3). Finally, we investigated whether exposure to an organizational cue that condemned stereotype use would effectively mitigate Black women's concerns about social comparison perceptions and enhance their organizational outcomes (e.g., identity-safety and intentions to remain in the organization; Study 3).

Across studies, findings showed that when Black individuals (Study 1) and Black women (Studies 2 and 3) imagined having duo

(vs. nonduo) status in the organization, they reported increased social comparison perceptions, a lower sense of identity-safety, and decreased intentions to remain in the organization. Despite our hypothesis that the characteristics of the comparison target would impact the strength of Black women's social comparison perceptions, such that having duo status would be especially likely to increase social comparison perceptions made in response to a Black man, there were nonsignificant Demographic Composition × Target interactions across studies. However, we did find mixed evidence regarding the overall strength of Black women's social comparison perceptions in response to the Black male target; although Black women reported stronger social comparison perceptions in response to the Black man (relative to the White woman) in Study 2, this pattern of means replicated, but was not statistically significant, in Study 3. One reason why Black women may have exhibited social comparison perceptions in response to both the Black man and White woman targets is that Black women may, to some degree, perceive that others are less sensitive to the nature of their distinctive marginalized identities. That is, Black women may believe that external observers are likely to draw these direct comparisons with ingroup targets based on both their racial and gender identities. In support of this notion, recent research shows that racially minoritized women are more likely to make compound attributions to discrimination in situations with "double" outgroup members (e.g., White men who do not share their racial or gender identity; Remedios et al., 2020). The context outlined in this previous research is consistent with the duo condition used in our studies, whereby the colleagues who would ostensibly be making these direct comparisons were almost exclusively White men.

Furthermore, Study 3 identified a possible intervention to mitigate concerns about social comparison perceptions; when Black women encountered an organizational cue that condemned stereotype use (e.g., explicitly condemning racial or gender stereotyping and discouraging use of employee comparisons during evaluation processes), they were significantly less likely to report social comparison perceptions (relative to the duo condition) and showed statistically similar or improved organizational outcomes (relative to the duo and nonduo conditions).

Finally, modeling the indirect effect across studies elucidated the role of social comparison perceptions as a mechanism underlying the relationship between demographic composition and organizational outcomes. Specifically, Black individuals who had duo (vs. nonduo) status in the organization reported increased social comparison perceptions, which was related to worse organizational outcomes (e.g., lower identity-safety and intentions to remain in the organization). Study 3 showed that this indirect effect remained significant when participants were in the duo + intervention condition, though the effect was relatively weaker than for participants in the duo condition.

Taken together, these findings offer several important theoretical implications. To date, research has focused extensively on the broad range of consequences that result from being numerically underrepresented in a setting. The present studies build on existing literature by identifying *why* numerical underrepresentation can produce detrimental outcomes. While prior research has delineated a few routes through which these consequences emerge, such as perceived incongruity of one's identity with environmental norms (Cheryan & Markus, 2020; Cheryan & Plaut, 2010), this work demonstrates that another reason why underrepresentation might diminish inclusion is because Black adults perceive that others are comparing them to another individual who shares at least one of their distinctive marginalized social identities.

Therefore, these results also contribute to burgeoning work on social comparison perceptions. One existing study on this topic found that women who have duo (vs. nonduo) status in STEM settings were more likely to report social comparison perceptions in response to another woman, which subsequently undermined academic outcomes (Derricks & Sekaquaptewa, 2021). The current findings suggest that this mechanism (i.e., social comparison perceptions) generalizes to other marginalized social groups and to other types of settings. Moreover, we extend research in this area by demonstrating that (a) the likelihood of making social comparison perceptions generalizes across comparison targets who share at least one of the perceiver's distinctive marginalized identities and (b) social comparison perceptions can be significantly reduced when minoritized persons encounter an organizational cue that condemns stereotype use (i.e., reduces concerns about being evaluated through the lens of one's marginalized identity).

The current work also relates to existing research on depersonalization—perceptions that external observers view one as interchangeable with other ingroup members (Siy & Cheryan, 2013). Past research demonstrates that depersonalization is a key mechanism underlying harmful effects of group-based stereotyping and can help explain why seemingly benign stereotypes are consequential for minoritized groups (Siy & Cheryan, 2013). While not directly tested in this study, it is possible that social comparison perceptions are a direct consequence of feeling depersonalized and/or may serve as a phenomenon that reinforces feelings of depersonalization. That is, when marginalized individuals perceive that external observers view them as interchangeable with other ingroup members, they may be more likely to believe that others will make direct comparisons between them (e.g., in terms of performance, personality traits, etc.). At the same time, perceiving that others are drawing these direct comparisons may strengthen perceptions that one is seen as interchangeable with other ingroup members. Given these possible relationships, the intervention used in Study 3 may have reduced both social comparison perceptions and depersonalization by signaling that the organization does not essentialize people based on race. Therefore, social comparison perceptions and depersonalization may be closely related constructs, and their relationship should be explored in future research to understand whether these phenomena reinforce each other or have unique antecedents and consequences.

The patterns observed in our studies also have implications for research on duo status and intragroup relations. Building on previous theorizing, our data show that having duo status (vs. more racial and gender parity) can produce negative organizational outcomes for Black individuals. Specifically, when Black adults imagine having duo status in organizations, they report increased concerns about being compared to another ingroup member by external observers, which subsequently harms their feelings of safety and intentions to remain in that setting. Furthermore, we find that this process generalizes across comparison targets who share a marginalized ingroup identity. Therefore, although the presence of another ingroup member should facilitate inclusion among Black adults, heightened concerns about these perceived direct comparisons in duo situations may disrupt these benefits. Collectively, these findings offer additional nuance to existing research regarding the benefits of ingroup representation by documenting how perceived direct

comparisons from outgroup members can cause the presence of another ingroup member to elicit threat.

This work also adds to literature on intersectionality and Black women's psychological experiences in organizations. Both previous theorizing and empirical research suggest that persons who have dual marginalized identities, such as Black women, may negotiate their identities in unique ways. In the context of identity-based threat, Black women's racial identity may be more salient than other marginalized identities (e.g., gender identity; ethnic prominence perspective), or they may perceive mistreatment across their marginalized racial and gender identities due to compounded discrimination (double jeopardy perspective). Our results suggest that Black women may exhibit response patterns in line with these perspectives when they consider how their intersecting identities are perceived by others. Study 2 offered some support for the ethnic prominence perspective; specifically, findings showed that Black women were more likely to perceive that their colleagues were comparing them to the Black man overall (relative to the White woman). However, data from Studies 2 and 3 were also consistent with the double jeopardy perspective; when Black women encountered a stigma cue (e.g., inadequate representation), they were equally likely to perceive that their colleagues were comparing them to the Black man and the White woman. Therefore, when gender and race are equally distinctive in a given context, tokenization across either identity dimension is threatening to Black women. As such, an identity's distinctiveness in a setting can give rise to whether race or gender becomes a salient basis of identity threat (Petsko et al., 2022). To gain further insight into how the psychological processes investigated in this work align with these intersectional perspectives, future research should (a) examine whether Black women are most likely to perceive social comparison perceptions in response to other Black women, (b) identify contexts in which Black women are more likely to report social comparison perceptions in response to their race (vs. gender), and (c) assess individual-level factors, such as stigma consciousness, that may influence the strength of these perceptions.

These experiments also enrich our understanding of intervention strategies that can effectively cultivate feelings of inclusion in organizations, especially in contexts where one's group members are underrepresented. Because strategies that rely on increasing racial representation can take time, developing interventions that can be more quickly implemented is crucial for addressing racial disparities in organizational recruitment and retention. The current work suggests that organizations with inadequate racial representation may be able to attenuate identity-based threat associated with social comparison perceptions by promoting an environment that condemns stereotype use and reduces concerns about being evaluated through the lens of one's identity. For example, organizations can foster a climate in which racial and/or gender stereotypes are directly confronted and implement policies and evaluation systems that discourage employee comparisons.

Importantly, although the organizational cue used in Study 3 condemned the use of marginalized social identities as the basis for evaluation or comparison, racially minoritized persons generally prefer diversity cues that acknowledge their group membership. For example, the psychological benefits associated with encountering diversity cues that recognize cultural differences are well-established (Purdie-Vaughns et al., 2008). Although the intervention used in this work may appear to minimize identities, one way to reconcile these seemingly conflicting findings is that while members of minoritized groups prefer to have their group membership recognized, in contexts marked by threat, making identities salient can activate concerns that inferences about one group member may be used to make inferences about the group as a whole (Taylor et al., 2018, 2021). Therefore, cues which alleviate concerns that one's social group will be stereotyped can yield important psychological benefits.

## Limitations and Future Directions

One limitation of this work is that the intervention successfully reduced social comparison perceptions (relative to the duo condition), but did not eliminate this effect (i.e., did not return participants' responses to baseline). Despite this limitation, these findings remain important because they identify aspects of an organization that can be leveraged to assuage some of the negative consequences that arise from being numerically underrepresented in these settings. An important avenue for future research is to identify and assess additional intervention strategies and practices that can be used to eliminate social comparison perceptions and cultivate safety for minoritized individuals. Additionally, it is unclear whether the intervention mitigated social comparison perceptions by strengthening perceptions that one will be individuated in the organization, increasing beliefs that the organization has positive views of the ingroup, or if both processes are occurring simultaneously. Given the nature of social comparison perceptions and its antecedents (e.g., having duo status), we theorize that individuation may more directly target the relevant psychological process at hand and, as such, may be a stronger mechanism underlying these effects. Indeed, previous research highlights the effectiveness of interventions that promote individuation and reduce concerns about being viewed through the lens of one's identity (relative to interventions that reference positive group attributes) for managing stereotype activation and the consequences of underrepresentation (Ambady et al., 2004; Stangor et al., 1998; Thompson & Sekaquaptewa, 2002). Future research should disentangle these two potential processes to determine which is most effective for attenuating social comparison perceptions.

Furthermore, although these studies offer consistent evidence for social comparison perceptions as a mechanism underlying worse organizational outcomes, the models tested in this work cannot demonstrate causality. However, previous work that directly manipulated this mechanism for women in STEM indicated that social comparison perceptions did, indeed, serve as a key mediator underlying decreased belonging and STEM participation (Derricks & Sekaquaptewa, 2021). Nevertheless, there are many other mechanisms that can undermine inclusion in organizational contexts. Although we found that social comparison perceptions were associated with Black Americans' organizational outcomes even after accounting for other relevant mechanisms (e.g., stereotype threat concerns; see the Supplemental Material), future studies should assess additional mechanisms and evaluate the relative strength of these mechanisms on identity-safety and retention.

Future research should also consider other features of the social environment that can directly influence individuals' likelihood of reporting social comparison perceptions. This work could elucidate important boundary conditions for the findings established in these studies. For instance, in addition to identifying the point at which numerical representation is sufficient to eliminate social comparison

perceptions (e.g., when one's social group has achieved a critical mass), it is also important to investigate whether Black individuals continue to perceive these comparisons in a racially diverse organization that contains few ingroup members (e.g., when the organization has a substantial number of Hispanic, Latine, and Asian employees, but very few Black employees). Furthermore, the context in which the ingroup member's behavior is observed may also moderate these results; in particular, Black adults may be less likely to report social comparison perceptions when ingroup behavior is conducted privately (as opposed to publicly) or when they do not observe ingroup behavior (e.g., simply observing an image of company employees).

## Constraints on Generality

An important consideration for this work is that it focused on one social group in a particular context. However, we studied Black Americans in organizational settings given statistics showing that Black Americans are largely underrepresented in the White-collar workforce (Gee, 2018). Moreover, our focus on Black Americans is theoretically important; given a dearth of psychological research focusing on the unique experiences of Black individuals (and especially Black women, whose experiences are assumed to be represented by research using samples of White women), it is important to understand the psychological processes through which certain environmental cues (e.g., numerical representation) may harm Black Americans' sense of safety (Roberts et al., 2020). Additional work is needed to assess whether other minoritized social groups also report social comparison perceptions when they are numerically underrepresented (e.g., individuals with concealable identities) and if these perceived comparisons are specific to minoritized groups. For instance, it is possible that members of majority groups may also report social comparison perceptions in contexts where identity-based concerns are relevant (e.g., when White adults with duo status witness a racial ingroup member make a racist remark).

## Conclusion

The underrepresentation of Black Americans in organizations remains a pervasive problem. To address this gap, it is imperative to identify and intervene on psychological processes that contribute to these disparities. The current experiments provide a greater understanding of this problem by identifying a mechanism, social comparison perceptions, that helps explain why inadequate representation can harm feelings of inclusion and retention for Black adults. Taken together, this work has important implications for understanding psychological processes that can impede recruitment and/or retention in organizations, how these processes unfold for individuals with multiply marginalized identities, and strategies that organizations can use to alleviate these concerns for Black adults. To effectively address these organizational disparities, future research should identify additional contexts in which social comparison perceptions are more (vs. less) likely to emerge, as well as novel strategies that can be employed to signal inclusion for minoritized groups.

## References

Ambady, N., Paik, S. K., Steele, J., Owen-Smith, A., & Mitchell, J. P. (2004). Deflecting negative self-relevant stereotype activation: The effects of individuation. *Journal of Experimental Social Psychology*, *40*(3), 401–408. https://doi.org/10.1016/j.jesp.2003.08.003

Appelbaum, M., Cooper, H., Kline, R. B., Mayo-Wilson, E., Nezu, A. M., & Rao, S. M. (2018). Journal article reporting standards for quantitative research in psychology: The APA Publications and Communications Board task force report. *American Psychologist*, *73*(1), 3–25. https://doi.org/10.1037/amp0000191

Avery, D. R., Hernandez, M., & Hebl, M. R. (2004). Who's watching the race? Racial salience in recruitment advertising. *Journal of Applied Social Psychology*, *34*(1), 146–161. https://doi.org/10.1111/j.1559-1816.2004.tb02541.x

Beal, F. (1970). Double jeopardy: To be Black and female. In T. Cade (Ed.), *The Black woman: An anthology* (pp. 90–100). New American Library.

Berdahl, J. L., & Moore, C. (2006). Workplace harassment: Double jeopardy for minority women. *Journal of Applied Psychology*, *91*(2), 426–436. https://doi.org/10.1037/0021-9010.91.2.426

Brewer, M. B., & Miller, N. (1984). Beyond the contact hypothesis: Theoretical. In N. Miller & M. B. Brewer (Eds.), *Groups in contact: The psychology of desegregation* (pp. 281–302). Academic Press.

Casad, B. J., Franks, J. E., Garasky, C. E., Kittleman, M. M., Roesler, A. C., Hall, D. Y., & Petzel, Z. W. (2021). Gender inequality in academia: Problems and solutions for women faculty in STEM. *Journal of Neuroscience Research*, *99*(1), 13–23. https://doi.org/10.1002/jnr.24631

Charleston, L. J., George, P. L., Jackson, J. F. L., Berhanu, J., & Amechi, M. H. (2014). Navigating underrepresented STEM spaces: Experiences of Black women in U.S. computing science higher education programs who actualize success. *Journal of Diversity in Higher Education*, *7*(3), 166–176. https://doi.org/10.1037/a0036632

Cheryan, S., & Markus, H. R. (2020). Masculine defaults: Identifying and mitigating hidden cultural biases. *Psychological Review*, *127*(6), 1022–1052. https://doi.org/10.1037/rev0000209

Cheryan, S., & Plaut, V. C. (2010). Explaining underrepresentation: A theory of precluded interest. *Sex Roles: A Journal of Research*, *63*(7–8), 475–488. https://doi.org/10.1007/s11199-010-9835-x

Cheryan, S., Plaut, V. C., Davies, P. G., & Steele, C. M. (2009). Ambient belonging: How stereotypical cues impact gender participation in computer science. *Journal of Personality and Social Psychology*, *97*(6), 1045–1060. https://doi.org/10.1037/a0016239

Cohen, G. L., & Garcia, J. (2005). "I am us": Negative stereotypes as collective threats. *Journal of Personality and Social Psychology*, *89*(4), 566–582. https://doi.org/10.1037/0022-3514.89.4.566

Cohen, L. L., & Swim, J. K. (1995). The differential impact of gender ratios on women and men: Tokenism, self-confidence, and expectations. *Personality and Social Psychology Bulletin*, *21*(9), 876–884. https://doi.org/10.1177/0146167295219001

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A Black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum*, *140*, 139–167.

Crosby, J. R., King, M., & Savitsky, K. (2014). The minority spotlight effect. *Social Psychological and Personality Science*, *5*(7), 743–750. https://doi.org/10.1177/1948550614527625

Dasgupta, N., Scircle, M. M., & Hunsinger, M. (2015). Female peers in small work groups enhance women's motivation, verbal participation, and career aspirations in engineering. *Proceedings of the National Academy of Sciences of the United States of America*, *112*(16), 4988–4993. https://doi.org/10.1073/pnas.1422822112

Derks, B., Ellemers, N., van Laar, C., & de Groot, K. (2011). Do sexist organizational cultures create the Queen Bee? *British Journal of Social Psychology*, *50*(3), 519–535. https://doi.org/10.1348/014466610X525280

Derks, B., van Laar, C., & Ellemers, N. (2016). The queen bee phenomenon: Why women leaders distance themselves from junior women. *The Leadership Quarterly*, *27*(3), 456–469. https://doi.org/10.1016/j.leaqua.2015.12.007

Derricks, V., Johnson, I. R., & Pietri, E. S. (2023). Black (patients') lives matter: Exploring the role of identity-safety cues in healthcare settings among Black Americans. *Journal of Health Psychology*, *28*(1), 30–47. https://doi.org/10.1177/13591053221090850

Derricks, V., & Sekaquaptewa, D. (2021). They're comparing me to her: Social comparison perceptions reduce belonging and STEM engagement among women with token status. *Psychology of Women Quarterly*, *45*(3), 325–350. https://doi.org/10.1177/03616843211005447

Duguid, M. M., Loyd, D. L., & Tolbert, P. S. (2012). The impact of categorical status, numeric representation, and work group prestige on preference for demographically similar others: A value threat approach. *Organization Science*, *23*(2), 386–401. https://doi.org/10.1287/orsc.1100.0565

Ellemers, N., van den Heuvel, H., de Gilder, D., Maass, A., & Bonvini, A. (2004). The underrepresentation of women in science: Differential commitment or the queen bee syndrome? *British Journal of Social Psychology*, *43*(3), 315–338. https://doi.org/10.1348/0144666042037999

Ferguson, M. W., Jr., & Dougherty, D. S. (2022). The paradox of the Black professional: Whitewashing blackness through professionalism. *Management Communication Quarterly*, *36*(1), 3–29. https://doi.org/10.1177/08933189211019751

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*(2), 117–140. https://doi.org/10.1177/001872675400700202

Gee, M. (2018, February). Why aren't Black employees getting more white-collar jobs? *Harvard Business Review*. https://hbr.org/2018/02/why-arent-black-employees-getting-more-white-collar-jobs

Hagedorn, L. S., Chi, W. Y., Cepeda, R. M., & McLain, M. (2007). An investigation of critical mass: The role of Latino representation in the success of urban community college students. *Research in Higher Education*, *48*(1), 73–91. https://doi.org/10.1007/s11162-006-9024-5

Hall, W., Schmader, T., Aday, A., Inness, M., & Croft, E. (2018). Climate control: The relationship between social identity threat and cues to an identity-safe culture. *Journal of Personality and Social Psychology*, *115*(3), 446–467. https://doi.org/10.1037/pspi0000137

Harper, S. R. (2015). Black male college achievers and resistant responses to racist stereotypes at predominantly White colleges and universities. *Harvard Educational Review*, *85*(4), 646–674. https://doi.org/10.17763/0017-8055.85.4.646

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.

Henderson-King, E. I., & Nisbett, R. E. (1996). Anti-black prejudice as a function of exposure to the negative behavior of a single black person. *Journal of Personality and Social Psychology*, *71*(4), 654–664. https://doi.org/10.1037/0022-3514.71.4.654

Highhouse, S., Lievens, F., & Sinar, E. F. (2003). Measuring attraction to organizations. *Educational and Psychological Measurement*, *63*(6), 986–1001. https://doi.org/10.1177/0013164403258403

Hildebrand, L. K., Jusuf, C. C., & Monteith, M. J. (2020). Ally confrontations as identity-safety cues for marginalized individuals. *European Journal of Social Psychology*, *50*(6), 1318–1333. https://doi.org/10.1002/ejsp.2692

Inzlicht, M., & Ben-Zeev, T. (2000). A threatening intellectual environment: Why females are susceptible to experiencing problem-solving deficits in the presence of males. *Psychological Science*, *11*(5), 365–371. https://doi.org/10.1111/1467-9280.00272

Jackson, P. B., Thoits, P. A., & Taylor, H. F. (1995). Composition of the workplace and psychological well-being: The effects of tokenism on America's Black elite. *Social Forces*, *74*(2), 543–557. https://doi.org/10.2307/2580491

Johnson, I. R., Pietri, E. S., Buck, D. M., & Daas, R. (2021). What's in a pronoun: Exploring gender pronouns as an organizational identity-safety cue among sexual and gender minorities. *Journal of Experimental Social Psychology*, *97*, Article 104194. https://doi.org/10.1016/j.jesp.2021.104194

Johnson, I. R., Pietri, E. S., Fullilove, F., & Mowrer, S. (2019). Exploring identity-safety cues and allyship among Black women students in STEM environments. *Psychology of Women Quarterly*, *43*(2), 131–150. https://doi.org/10.1177/0361684319830926

Kanter, R. M. (1977a). *Men and women of the corporation*. Basic Books.

Kanter, R. M. (1977b). Some effects of proportions on group life: Skewed sex ratios and responses to token women. *American Journal of Sociology*, *82*(5), 965–990. https://doi.org/10.1086/226425

Kiefer, A., Sekaquaptewa, D., & Barczyk, A. (2006). When appearance concerns make women look bad: Solo status and body image concerns diminish women's academic performance. *Journal of Experimental Social Psychology*, *42*(1), 78–86. https://doi.org/10.1016/j.jesp.2004.12.004

King, D. K. (1988). Multiple jeopardy, multiple consciousness: The context of a Black feminist ideology. *Signs: Journal of Women in Culture and Society*, *14*(1), 42–72. https://doi.org/10.1086/494491

King, E. B., Hebl, M. R., George, J. M., & Matusik, S. F. (2010). Understanding tokenism: Antecedents and consequences of a psychological climate of gender inequity. *Journal of Management*, *36*(2), 482–510. https://doi.org/10.1177/0149206308328508

King, K. R. (2003). Racism or sexism? Attributional ambiguity and simultaneous memberships in multiple oppressed groups. *Journal of Applied Social Psychology*, *33*(2), 223–247. https://doi.org/10.1111/j.1559-1816.2003.tb01894.x

Levin, S., Sinclair, S., Veniegas, R. C., & Taylor, P. L. (2002). Perceived discrimination in the context of multiple group memberships. *Psychological Science*, *13*(6), 557–560. https://doi.org/10.1111/1467-9280.00498

Lewis, J. A., Mendenhall, R., Harwood, S. A., & Browne Huntt, M. (2016). "Ain't I a woman?": Perceived gendered racial microaggressions experienced by Black women. *The Counseling Psychologist*, *44*(5), 758–780. https://doi.org/10.1177/0011000016641193

Lewis, N. A., Jr., Sekaquaptewa, D., & Meadows, L. A. (2019). Modeling gender counter-stereotypic group behavior: A brief video intervention reduces participation gender gaps on STEM teams. *Social Psychology of Education: An International Journal*, *22*(3), 557–577. https://doi.org/10.1007/s11218-019-09489-3

Liao, H., Joshi, A., & Chuang, A. (2004). Sticking out like a sore thumb: Employee dissimilarity and deviance at work. *Personnel Psychology*, *57*(4), 969–1000. https://doi.org/10.1111/j.1744-6570.2004.00012.x

Loyd, D. L., White, J. B., & Kern, M. (2008). Duo status: Disentangling the complex interactions within a minority of two. In K. W. Phillips (Ed.), *Diversity and groups. Research on managing groups and teams* (Vol. 11, pp. 75–92). Emerald Group. https://doi.org/10.1016/S1534-0856(08)11004-0

Marques, J. M., Yzerbyt, V. Y., & Leyens, J. (1988). The "black sheep effect": Extremity of judgments towards ingroup members as a function of group identification. *European Journal of Social Psychology*, *18*(1), 1–16. https://doi.org/10.1002/ejsp.2420180102

McCluney, C. L., & Rabelo, V. C. (2019). Conditions of visibility: An intersectional examination of black women's belongingness and distinctiveness at work. *Journal of Vocational Behavior*, *113*, 143–152. https://doi.org/10.1016/j.jvb.2018.09.008

Miles, M. L., Brockman, A. J., & Naphan-Kingery, D. E. (2020). Invalidated identities: The disconfirming effects of racial microaggressions on Black doctoral students in STEM. *Journal of Research in Science Teaching*, *57*(10), 1608–1631. https://doi.org/10.1002/tea.21646

Moser, C. E., & Branscombe, N. R. (2022). Male allies at work: Gender-equality supportive men reduce negative underrepresentation effects among women. *Social Psychological and Personality Science*, *13*(2), 372–381. https://doi.org/10.1177/19485506211033748

Murphy, M. C., Steele, C. M., & Gross, J. J. (2007). Signaling threat: How situational cues affect women in math, science, and engineering settings. *Psychological Science*, *18*(10), 879–885. https://doi.org/10.1111/j.1467-9280.2007.01995.x

O'Brien, L. T., Bart, H. L., & Garcia, D. M. (2020). Why are there so few ethnic minorities in ecology and evolutionary biology? Challenges to inclusion and the role of sense of belonging. *Social Psychology of*

*Education: An International Journal*, *23*(2), 449–477. https://doi.org/10.1007/s11218-019-09538-x

Petsko, C. D., Rosette, A. S., & Bodenhausen, G. V. (2022). Through the looking glass: A lens-based account of intersectional stereotyping. *Journal of Personality and Social Psychology*, *123*(4), 763–787. https://doi.org/10.1037/pspi0000382

Pietri, E. S., Johnson, I. R., & Ozgumus, E. (2018). One size may not fit all: Exploring how the intersection of race and gender and stigma consciousness predict effective identity-safe cues for Black women. *Journal of Experimental Social Psychology*, *74*, 291–306. https://doi.org/10.1016/j.jesp.2017.06.021

Pinto, I. R., Marques, J. M., Levine, J. M., & Abrams, D. (2010). Membership status and subjective group dynamics: Who triggers the black sheep effect? *Journal of Personality and Social Psychology*, *99*(1), 107–119. https://doi.org/10.1037/a0018187

Pollak, K. I., & Niemann, Y. F. (1998). Black and White tokens in academia: A difference of chronic versus acute distinctiveness. *Journal of Applied Social Psychology*, *28*(11), 954–972. https://doi.org/10.1111/j.1559-1816.1998.tb01662.x

Purdie-Vaughns, V., Steele, C. M., Davies, P. G., Ditlmann, R., & Crosby, J. R. (2008). Social identity contingencies: How diversity cues signal threat or safety for African Americans in mainstream institutions. *Journal of Personality and Social Psychology*, *94*(4), 615–630. https://doi.org/10.1037/0022-3514.94.4.615

Rabelo, V. C., Robotham, K. J., & McCluney, C. L. (2021). "Against a sharp white background": How Black women experience the white gaze at work. *Gender, Work and Organization*, *28*(5), 1840–1858. https://doi.org/10.1111/gwao.12564

Remedios, J. D., Chasteen, A. L., & Paek, J. D. (2012). Not all prejudices are experienced equally: Comparing experiences of racism and sexism in female minorities. *Group Processes & Intergroup Relations*, *15*(2), 273–287. https://doi.org/10.1177/1368430211411594

Remedios, J. D., Reiff, J. S., & Hinzman, L. (2020). An identity-threat perspective on discrimination attributions by women of color. *Social Psychological and Personality Science*, *11*(7), 889–898. https://doi.org/10.1177/1948550620908175

Roberts, S. O., Bareket-Shavit, C., Dollins, F. A., Goldie, P. D., & Mortenson, E. (2020). Racial inequality in psychological research: Trends of the past and recommendations for the future. *Perspectives on Psychological Science*, *15*(6), 1295–1309. https://doi.org/10.1177/1745691620927709

Sackett, P. R., DuBois, C. L., & Noe, A. W. (1991). Tokenism in performance evaluation: The effects of work group representation on male–female and White-Black differences in performance ratings. *Journal of Applied Psychology*, *76*(2), 263–267. https://doi.org/10.1037/0021-9010.76.2.263

Sekaquaptewa, D., & Thompson, M. (2002). The differential effects of solo status on members of high- and low-status groups. *Personality and Social Psychology Bulletin*, *28*(5), 694–707. https://doi.org/10.1177/0146167202288013

Sekaquaptewa, D., & Thompson, M. (2003). Solo status, stereotype threat, and performance expectancies: Their effects on women's performance. *Journal of Experimental Social Psychology*, *39*(1), 68–74. https://doi.org/10.1016/S0022-1031(02)00508-5

Settles, I. H. (2006). Use of an intersectional framework to understand Black women's racial and gender identities. *Sex Roles: A Journal of Research*, *54*(9–10), 589–601. https://doi.org/10.1007/s11199-006-9029-8

Siy, J. O., & Cheryan, S. (2013). When compliments fail to flatter: American individualism and responses to positive stereotypes. *Journal of Personality and Social Psychology*, *104*(1), 87–102. https://doi.org/10.1037/a0030183

Smith, A. N., Watkins, M. B., Ladge, J. J., & Carlton, P. (2019). Making the invisible visible: Paradoxical effects of intersectional invisibility on the career experiences of executive Black women. *Academy of Management Journal*, *62*(6), 1705–1734. https://doi.org/10.5465/amj.2017.1513

Spencer, S. J., Logel, C., & Davies, P. G. (2016). Stereotype threat. *Annual Review of Psychology*, *67*(1), 415–437. https://doi.org/10.1146/annurev-psych-073115-103235

Stangor, C., Carr, C., & Kiang, L. (1998). Activating stereotypes undermines task performance expectations. *Journal of Personality and Social Psychology*, *75*(5), 1191–1197. https://doi.org/10.1037/0022-3514.75.5.1191

Suls, J., & Wheeler, L. (Eds.). (2013). *Handbook of social comparison: Theory and research*. Springer Science & Business Media.

Swann, W. B., Jr., Kwan, V. S. Y., Polzer, J. T., & Milton, L. P. (2003). Fostering group identification and creativity in diverse groups: The role of individuation and self-verification. *Personality and Social Psychology Bulletin*, *29*(11), 1396–1406. https://doi.org/10.1177/0146167203256868

Tajfel, H., & Turner, J. C. (1986). Social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Nelson-Hall.

Taylor, V. J., Garcia, R. L., Shelton, J. N., & Yantis, C. (2018). "A threat on the ground": The consequences of witnessing stereotype-confirming ingroup members in interracial interactions. *Cultural Diversity & Ethnic Minority Psychology*, *24*(3), 319–333. https://doi.org/10.1037/cdp0000190

Taylor, V. J., Yantis, C., Bonam, C., & Hart, A. (2021). What to do? Predicting coping strategies following ingroup members' stereotypical behaviors in interracial interactions. *Personality and Social Psychology Bulletin*, *47*(7), 1084–1100. https://doi.org/10.1177/0146167220960269

Thompson, M., & Sekaquaptewa, D. (2002). When being different is detrimental: Solo status and the performance of women and racial minorities. *Analyses of Social Issues and Public Policy*, *2*(1), 183–203. https://doi.org/10.1111/j.1530-2415.2002.00037.x

Veldman, J., Meeussen, L., Van Laar, C., & Phalet, K. (2017). Women (do not) belong here: Gender-work identity conflict among female police officers. *Frontiers in Psychology*, *8*, Article 130. https://doi.org/10.3389/fpsyg.2017.00130

Watkins, M. B., Simmons, A., & Umphress, E. (2019). It's not black and white: Toward a contingency perspective on the consequences of being a token. *The Academy of Management Perspectives*, *33*(3), 334–365. https://doi.org/10.5465/amp.2015.0154

Received January 2, 2024
Revision received October 31, 2024
Accepted November 19, 2024 ■