

5-2024

## Mental Representations of Surface- and Deep-Level Diversity

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### Recommended Citation

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# MENTAL REPRESENTATIONS OF SURFACE AND DEEP-LEVEL DIVERSITY

## **Mental Representations of Surface- and Deep-Level Diversity**

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PSYC 4990: Senior Thesis

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May 8, 2024

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

**Abstract**

Conservatives exhibit backlash to surface-level diversity initiatives (e.g., race-based initiatives), but view deep-level diversity (e.g., ideological diversity) positively. I examined whether conservative preferences for deep- (vs. surface-level) diversity reflects preferences for different forms of diversity, or preferences for forms of diversity that may advantage White people. In one pre-registered two wave study (Total  $N = 600$ ) I examined liberals' and conservatives' perceptions and mental representations of surface- (vs. deep-level) diversity using a reverse correlation task. Images were then rated with respect to perceived race and stereotype-relevant attributes. As expected, participants perceived organizations that emphasized surface- vs. deep-level diversity to be similarly diverse. Both diversity conditions cued mental representations of people who appeared more Black than White; however, that was more true of surface- (vs. deep-level) diversity and unexpectedly was more pronounced among images generated by liberals (vs. conservatives). Hypotheses regarding stereotypic attributes were not supported. My study suggests that people associate diversity—even forms of diversity that ostensibly have little to do with race—with Blackness. As such, highlighting deep-level diversity may not make diversity efforts more palatable to groups who traditionally oppose racial equality.

*Keywords: reverse correlation, political ideology, organizational diversity initiatives, race*

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

### **Mental Representations of Surface- and Deep-Level Diversity**

Racial discrimination in the workplace is ubiquitous. In 2021, the U.S. Equal Employment Opportunity Commission received approximately 21,000 claims relating to racial discrimination. However, the true number of incidents is likely higher, as people are often reluctant to report discrimination (King et al., 2023), and many instances of racism (e.g., microaggressions; Pitcan et al., 2018) are not considered actionable complaints (King et al., 2023). Racial discrimination is correlated with higher rates of job dissatisfaction (Avery et al., 2008) and poorer health, including hypertension (Pieterse et al., 2012), increased risk of cancer (Rowlands et al., 2023), and psychological distress (Avery et al., 2008; Pieterse et al., 2012). Organizations may combat racial discrimination through diversity initiatives (e.g., diversity training), which originally targeted groups defined as protected classes under Title VII in the Civil Rights Act of 1964 (e.g., race, class, ethnicity; Henson, 2019).

However, diversity initiatives have grown from addressing demographic diversity—sometimes referred to as surface-level diversity—to include almost any type of individual difference, such as differences in personality and work styles, often referred to as deep-level diversity (Unzueta et al., 2012). Organizations often highlight the benefits of deep-level diversity because greater deep-level diversity is associated with heightened creativity, greater problem-solving skills, and better utilization of talent (Robinson & Dechant, 1997). Including deep-level characteristics in diversity initiatives may also make diversity initiatives more attractive to groups that often exhibit backlash to diversity initiatives. For example, conservatives, who strongly oppose traditional diversity initiatives that focus on demographic characteristics (Federico & Sidanius, 2002; Folberg et al., 2024), view ideological diversity (i.e., differences in beliefs and thought processes) more positively (Howard et al., 2021). As such, perhaps framing diversity through deep-level characteristics may help groups that traditionally oppose diversity

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

initiatives to support them more. However, defining diversity through deep-level characteristics may also be problematic, as deep-level diversity initiatives may allow companies to be *perceived* as diverse while having little demographic diversity (Unzueta et al., 2012). Thus, conservative preferences for ideological diversity may reflect a preference for types of diversity that might allow White people to credential themselves as diverse.

The purpose of this study was to examine potential differences in liberal and conservative individuals' mental representations of surface- and deep-level diversity. In one pre-registered two-wave study, I recruited approximately equal numbers of liberal and conservative participants and examined their perceptions of surface- and deep-level diversity by manipulating the type of diversity that an organization emphasized in its mission statement. Participants then indicated how diverse they perceived the organization to be and completed a reverse correlation task, which was used to create mental representations of surface- and deep-level diversity among liberal and conservative participants. A separate group of participants then rated those images with respect to perceived race and stereotype-relevant attributes. My work is guided by social dominance theory (Sidanius & Pratto, 1999), which suggests that individuals who are from subjectively higher-status social groups (e.g., White people) or individuals who endorse hierarchy-enhancing ideologies (e.g., conservatives) are more motivated to preserve inequality among social groups, including racial/ethnic groups. As such, potential conservative preferences for deep- (vs. surface-level) diversity may reflect a preference for initiatives that maintain little racial diversity in organizations.

### **The Role of Surface- vs. Deep-Level Diversity in Diversity Initiatives**

Each year, over two million employees leave their jobs due to racial discrimination (Level Playing Field Institute, 2006), with 41% of Black Americans reporting instances of racial bias in the workplace in 2023 (Pew Research Center, 2023). To help to combat prejudice

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

and to create a more equitable environment, organizations often support various diversity initiatives (e.g., educational programs, hiring practices, intentional policymaking; Madera, 2013). However, what constitutes “diversity” and who is viewed as “diverse” may vary. Research on diversity in organizations often differentiates between surface-level and deep-level diversity. Surface-level characteristics are easily observable, usually physical qualities (e.g., race, gender), whereas deep-level attributes are less visible, such as personality traits (Jansen & Searle, 2021). Although organizational diversity policies were originally designed to address surface-level characteristics, such as racial/ethnic inequalities and gender differences (Portocarrero & Carter, 2022), they have come to increasingly embrace deep-level characteristics, such as extraversion (Mohammed & Angell, 2004), effective conflict management (Jansen & Searle, 2021), and individual opinions (Phillips & Loyd, 2006).

Embracing deep-level diversity in diversity initiatives may seem beneficial. For example, White people are often threatened by diversity initiatives that specifically invoke surface-level characteristics, such as race (Kaiser et al., 2021), and White people may more positively respond to organizational diversity initiatives when they feel that they are included in those efforts (Dover et al., 2020). Additionally, conservative individuals tend to oppose diversity policies that focus on surface-level characteristics (Federico & Sidanius, 2002; Folberg et al., 2024) but view deep-level diversity, such as ideological diversity, more positively (Howard et al., 2021). As such, conservatives may view diversity messaging that emphasizes deep-level characteristics more positively than those that emphasize surface-level characteristics.

However, diversity initiatives that emphasize deep-level characteristics may also be problematic because they dilute the intended effects of many diversity initiatives. For example, Unzueta and colleagues (2012) studied whether people who broaden (vs. narrow) their

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

conception of diversity legitimize support (vs. opposition) for policies that promote hierarchies within the workplace. Participants were presented with differing descriptions of a fictitious organization that manipulated the degree of racial and nonracial organizational heterogeneity. Unzueta and colleagues found that people shifted their perceptions of the organization, such that when organizational racial diversity was low but there was considerable deep-level diversity, participants perceived the organization as diverse. Moreover, these effects were stronger among people who scored high on social dominance orientation—a measure that assesses individuals' preferences for group hierarchy, including hierarchies among racial/ethnic groups (Sidanius & Pratto, 1999). As such, preferences for deep-level diversity may be a way for people—particularly those who support group hierarchy—to indicate a preference for initiatives that fail to increase racial diversity.

### **The Role of Conservatism in Mental Representations of Diversity**

Social dominance theory (Sidanius & Pratto, 1999) suggests that people are often motivated to maintain group differences, either because they are members of dominant groups (e.g., White people) or because they endorse hierarchy-enhancing ideologies (e.g., conservatism). I focus here on the role of conservatism in people's mental representations of diversity. People who score high on measures of political conservatism tend to value tradition, hierarchy, and individual agency (Graham et al., 2009; Jost et al., 2008), resist social change (Yogeeswaran & Dasgupta, 2014), and express higher levels of prejudice toward marginalized groups (Folberg et al., 2024; Sears & Henry, 2003).

Research on conservatism and reactions to diversity suggest that conservatives tend to respond negatively to diversity programs that highlight surface-level diversity. For example, Federico and Sidanius (2002) randomly sampled participants in Los Angeles and interviewed them about their political and racial values as well as self-reported levels of political

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

conservatism. They found that opposition to affirmative action—even seemingly race-neutral criticisms (e.g., "Although there was discrimination in the past, today members of all groups have an equal opportunity to succeed")—were not independent from anti-Black racism.

Similarly, Folberg and colleagues (2024) examined conservative backlash against the practice of soliciting a diversity statement from job applicants. Across three studies and an intermetal meta-analysis, they found that more conservative participants selectively negatively evaluated requests for DEI (vs. neutral) statements, even when a job-related rationale was provided.

Conservative participants also positively evaluated a request for statements that are consistent with conservative values, which is inconsistent with claims that diversity statements are inappropriate because they reflect political values. Moreover, a meta-analysis of all three studies suggested that conservatives' negative reactions to DEI statements were not independent of anti-Black racism. Altogether these findings suggest that racism may underlie conservative backlash against diversity initiatives.

Although conservatives may respond negatively to diversity initiatives that highlight surface-level characteristics, such as race, conservatives may not respond negatively to all forms of diversity. For example, Howard and colleagues (2021) proposed that diversity-related attitudes are multidimensional and change depending on the type of diversity assessed. In a three-wave study, they found that conservatives reported positive attitudes toward viewpoint (i.e., ideological) diversity, whereas liberals expressed positive attitudes toward demographic diversity. Additionally, participants differentiated between viewpoint, demographic, and consumer diversity, with each subtype having different sets of prototypical features that aided participants in their understanding of diversity. Howard and colleagues interpreted their results as suggesting that conservatives and liberals may simply have different definitions of diversity and, therefore, prefer definitions that better align with their worldviews. However, social



## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

dominance theory and other work (Federico & Sidanius, 2002; Folberg et al., 2024; Unzueta et al., 2012) suggests that conservative preferences for deep-level diversity may instead reflect a preference for types of diversity that maintain group hierarchies.

I, therefore, expect that although surface- and deep-level diversity may be perceived as promoting diversity, particularly in the absence of any information about organizational racial/ethnic diversity (Unzueta et al., 2012), they may cue different racialized mental representations of who is diverse. As diversity initiatives are often associated with Black people (Unzueta et al., 2010), I expect that highlighting surface-level diversity may cue mental representations of someone who appears more Black than White. In contrast, as deep-level diversity may allow White people to be credentialed as diverse (Unzueta et al., 2012), I expect that mental representations of deep-level diversity may cue mental representations that appear more White than Black.

I, thus, expect that:

*Hypothesis 1: (a) Organizations that emphasize surface- (i.e., demographic) vs. deep- (i.e., ideological) level diversity will be perceived as similarly diverse; (b) however, I expect that mental representations of surface-level diversity will be perceived as more Black and less White than deep-level diversity.*

I further expect these effects to be stronger among conservative people. Conservative backlash against diversity initiatives that highlight surface-level characteristics, such as affirmative action (Federico & Sidanius, 2002) and diversity statements (Folberg et al., 2024), is motivated by anti-Black racism. Their apparent preference for ideological diversity (Howard et al., 2021), may, therefore, reflect a preference for forms of diversity that may favor White people. As such, I expect racialized differences in mental representations of surface- and deep-level diversity to be more evident in images generated by conservatives (vs. liberals),

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

*Hypothesis 2: I expect that differences in racialized mental representations of surface- and deep-level diversity will be stronger among conservatives (vs. liberals).*

Further, I expect participants to ascribe Black and White images stereotype-consistent attributes. Stereotypes are cognitive schemas that allow people to make quick judgments using attributes associated with a particular group (Amodio, 2014; Bodenhausen et al., 1988). White perceivers often perceive Black people as hostile, lazy, and unintelligent and White people as friendly, hardworking, and intelligent (Ashley, 2014; Oliver, 2004). The application of racial stereotypes is harmful because stereotypes may inform racist attitudes (Roberts & Rizzo, 2021) and help to maintain racial inequality and promote White supremacy (Embrick & Henricks, 2013).

Racial stereotypes are often stronger among people who are high in racism (Roberts & Rizzo, 2021). As greater conservatism tends to be associated with higher scores on measures of racism (Sidanius et al., 1996; Jost et al., 2008; Hunt et al., 2021; Folberg et al., 2024), I, therefore, expect that they may also ascribe more positive descriptors to images perceived as White and more negative descriptors to images perceived as Black.

*Hypothesis 3: Mental representations of employees in the deep- (vs. surface-) level conditions will be appraised more positively: (a) less lazy, (b) more competent, (c) more industrious, (d) less hostile, (e) more friendly, (f) more intelligent, (g) more human, particularly among conservatives (vs. liberals).*

### **The Present Research**

I tested my hypotheses using a reverse correlation paradigm. Reverse correlation studies are conducted in two phases: an image generation phase and an image rating phase. Reverse correlation studies start with a base image, which is usually a morph of several faces, for example, all the faces in the Karolinska faces database (Dotsch, 2019) or morphs of different

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

racial/ethnic groups (Brown-Iannuzzi et al., 2023). Several hundred trials of pairs of images are then created by superimposing visual noise over the base image (See Brinkman et al., 2017 for a detailed explanation of how these images are created). In the image generation phase, participants are asked to judge each pair of images and select the image that aligns with their mental representation of a particular attribute of interest. Researchers then create classification images, which compile the images that participants select to create a single image that approximates their mental representation of a specific group (Brinkman et al., 2017). Researchers can create individual classification images (i.e., a composite image for each participant) and group classification images (i.e., a composite image for each condition in an experimental or quasi-experimental design). A separate group of participants then rate those classification images with respect to attributes of interest (e.g., race, gender, stereotypic attributes).

For example, Brown-Iannuzzi and colleagues (2023) conducted a reverse correlation study to examine mental representations of voters. They used a morph of faces from one Black woman, one White woman, one Black man, and one White man as their base image and used the R package *rcicr* (Dotsch, 2019) to super-impose random variation greyscale noise over the images to create several hundred trials of images. They then purposively recruited liberal and conservative participants for the image generation phase and asked participants to select the image that looked most like someone who should be allowed to vote. Using a tertiary split, they then selected classification images from liberal and conservative participants, and a separate group of participants rated these images with respect to perceived race. Brown-Iannuzzi found that conservatives' (vs. liberals') mental representations of voters were much more White than Black, suggesting that support for voter ID laws may be motivated, in part, by racialized mental representations of who should (and should not) vote.

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

In the present study, I used a morph of pictures of Black and White women and men drawn from Brown-Iannuzzi and colleagues (2021, 2023) to create images used in the image generation phase (See Figure 1). I asked participants to select the image that they believed would be successful at a company that emphasizes either surface- or deep-level diversity in an organizational mission statement. I chose to provide this information in the form of a mission statement because mission statements play a major role in how employees perceive organizations (Panda & Gupta, 2003). Mission statements are used to communicate an organization's purpose, direction, and values (Davis et al., 2007; Graham & Havlick, 1994) while addressing multiple audiences (i.e., employees, clients, community members; Abrahams, 1995; Collins & Porras, 1991, Klemm et al., 1991). I then used the R package *rcicr* (Dotsch, 2019) to create a classification image for liberals and conservatives in the surface- and deep-level diversity conditions. In the image rating phase, a separate group of participants rated those images with respect to demographic characteristics (e.g., racial/ethnic, gender) and stereotype-relevant attributes (e.g., laziness, competence).

I expected that although the two organizations would be perceived as similarly diverse, they may cue racialized mental representations of diversity, particularly among conservative (vs. liberal) participants. I also expected that participants would ascribe stereotype-consistent attributes to images, such that they would ascribe more positive attributes to White images and less positive attributes to Black images.

### **Image Generation Study**

#### **Method**

##### **Participants**

Approximately equal numbers of liberal and conservative participants ( $N = 299$ ) were recruited from Prolific Academic for an online pre-registered study

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

([https://osf.io/dpuqw/?view\\_only=b216f1f5486d4f6b9e80f721ab104fb4](https://osf.io/dpuqw/?view_only=b216f1f5486d4f6b9e80f721ab104fb4)) about perceptions of organizational initiatives. To be included, participants needed to be at least 19 years of age or older, residing in the United States, and correctly answer at least one of two attention checks (e.g., “I am selecting the number 3 to indicate that I am reading the survey carefully.”). No participants failed attention checks. Participants received \$2.70USD for completing the study.

Participants ranged between 21 to 80 years of age ( $M = 48.34$ ,  $SD = 14.52$ ); 153 (51.2%) identified as women, 143 (47.8%) men, two (0.7%) identified as non-binary, and one (0.3%) used different terms to describe their gender identity. Of the 299 participants, 198 (66.2%) identified as White, 42 identified as Black (14.0%), 26 identified as multiracial/multiethnic (8.7%), 16 identified as Asian/Pacific Islander (8.7%), 14 identified as Latine (4.7%), one identified as Middle Eastern/North African (0.3%), one identified as Native American (0.3%), and one used different terms to describe their ethnic identity (0.3%) (Participants were allowed to select multiple gender and racial/ethnic group options; as such, percentages may not add up to 100%). A plurality of participants reported receiving a four-year degree (39.1%), followed by completing some college (16.7%), receiving a two-year degree (15.4%), receiving a master's degree (14.7%), graduating high school (10.0%), and receiving a doctorate or professional degree (3.7%). Participants self-rated their political ideology on a 1 (*Very Liberal*) to 7 (*Very Conservative*) scale; the mean score was close to the scale midpoint ( $M = 3.88$ ,  $SD = 2.25$ ), consistent with my sampling plan to recruit approximately equal numbers of liberal and conservative participants.

There are no sample size recommendations for the image generation phase of a reverse correlation study; however, our sample size is consistent with other published work (e.g., Brown-Iannuzzi et al., 2023).

**Procedure**

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

Participants enrolled in a study about people's perceptions of organizational initiatives. Participants were randomly assigned to read one of two diversity mission statements from a fictitious company named Smith and Simon that emphasized either surface-level diversity (i.e., race, gender; Unzueta et al., 2012) or deep-level diversity (i.e., viewpoint diversity; Jansen & Searle, 2021). Mission statements were adapted from Kaiser et al. (2021). The surface-level diversity condition mission statement is presented below in italics; the deep-level diversity condition mission statement is in brackets.

Smith and Simon Corporation holds the belief that creativity and innovation result exclusively from cooperation between people with different experiences, *including those from different demographic backgrounds (e.g., employees who are diverse with respect to race/ethnicity, gender, sexual orientation, and cultural/national identity)* [including those who hold different perspectives and viewpoints (e.g., employees who are diverse with respect to political views, educational backgrounds, attitudes, and ideologies)]. Our policies and practices are built on this philosophy.

To better serve our customers and create a united workforce, we strive to:

- Promote trust, mutual respect, and dignity *between our demographically diverse employees* [between our employees with diverse perspectives and viewpoints)]
- Attract, develop, promote, and maintain a talented and *demographically diverse* [ideologically diverse] workforce
- Encourage collaboration among *employees with different experiences from different demographic and cultural backgrounds* [employees with different experiences, values, opinions, and ideas).]

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

In accordance with our philosophy, Smith and Simon Corporation motivates our employees to contribute their best and provide us with a competitive advantage.

Participants were then asked to write 1-3 sentences to summarize the mission statement to ensure they read it and completed a single-item measure assessing how much the fictitious organization values diversity (one item; “Smith and Simon employs diverse employees”), which was embedded among filler items, including, “Smith and Simon is a place where I would like to work, if a position in my field became available” and “Smith and Simon provides a high-quality experience for customers” (See Appendix A for a list of all items). Participants rated all items on a 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) scale.

Participants were then presented with 200 pairs of faces (400 images total) and asked to select the image from each pair that looks like the candidate that would contribute to Smith and Simon’s mission. Images were created using the rcicr 0.3.0 (Dotsch, 2019). The base image was drawn from Brown-Iannuzzi et al. (2021), who created a base face using a morph of a Black woman, a Black man, a White woman, and a White man. Images were distorted with grayscale noise (Mangini & Biederman, 2004).

Participants self-rated their political ideology on a 1 (*Very Liberal*) to 7 (*Very Conservative*) scale.

To generate classification images for liberals and conservatives in each condition, I conducted a tertiary split on conservatism. Participants who scored a two or less on conservatism were classified as liberals, and participants who scored a six or higher on conservatism were classified as conservatives. As such, images from 225 participants were used to create classification images. Data from 68 liberals and 51 conservatives were used to create group classification images of ideological diversity. Data from 52 liberals and 54

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

conservatives were used to create group classification images of demographic diversity using the *rcicr* package (Dotsch, 2019). The resulting four images are displayed in Figure 2.

### Results

To assess whether participants perceived organizations that highlight surface- (vs. deep-level) diversity as similarly diverse, I regressed perceptions of organizational diversity on a contrast-coded predictor coding differences in deep-level and surface-level diversity (surface-level diversity = 1), conservatism (centered) and the Diversity Condition X Conservatism interaction. All participants were used as part of these analyses. None of the effects was significant,  $ps > .166$ . As such, consistent with Unzueta et al. (2012) and expectations (H1a), participants perceived the surface- and deep-level diversity conditions as similarly diverse.

### Image Rating Study

#### Method

##### Participants

Approximately equal numbers of liberal and conservative participants ( $N = 301$ ) were recruited from Prolific Academic for an online pre-registered study ([https://osf.io/dpuqw/?view\\_only=b216f1f5486d4f6b9e80f721ab104fb4](https://osf.io/dpuqw/?view_only=b216f1f5486d4f6b9e80f721ab104fb4)) that examined perceptions of images. To be included, participants needed to be at least 19 years of age or older, reside in the United States, and did not participate in the Image Generation Phase of the study. Participants who completed the study and passed at least one of two attention checks (e.g., "Please select the number '5' to indicate that you are paying attention to the survey") received \$1.00USD. Two participants failed attention checks and were removed from the study. As such, the final sample size was 299 participants.

Participants ranged between 20 to 88 years of age ( $M = 40.89$ ,  $SD = 13.70$ ); 150 (49.8%) identified as women, 142 (47.2%) men, five (1.7%) identified as non-binary, one



## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

identified as transgender (0.3%), one identified as intersex (0.3%), one identified with multiple gender identities (0.3%), and one (0.3%) used different terms to describe their gender identity. Of the 301 participants, 187 (62.1%) identified as White, 48 identified as Black (15.9%), 26 identified as Asian/Pacific Islander (8.6%), 18 identified as Latine (6.0%), 18 identified as multiethnic (6.0%), three used different words to describe their ethnic identity (1.0%), and one identified as Native American (0.3%). As was the case with the image generation phase, participants could select multiple gender and racial/ethnic group categories; percentages may not sum to 100%. Most participants reported receiving a four-year degree (37.5%), followed by completing some college (22.6%), receiving a master's degree (14.3%), graduating high school (12.6%), receiving a two-year degree (8.3%), receiving a doctorate or professional degree (3.3%), and completing some high school (1.3%). Participants self-rated their political ideology on a 1 (*Very Liberal*) to 7 (*Very Conservative*) scale and, overall, exhibited a moderate level of conservatism ( $M = 3.25$ ,  $SD = 1.72$ ).

Assuming power of .80, alpha or .05, a 2 (Diversity Condition: Surface- vs. Deep-Level) X 2 (Political Ideology: Liberal vs. Conservative) repeated measures design, and correlation between repeated measures of .10, power analyses using G\*Power (Faul et al., 2007) indicated that 174 participants would be required to detect a small effect ( $\eta^2 = .02$ ). The sample size was, thus, sufficient to detect effects of interest.

**Procedure**

Participants enrolled in a study examining people's perceptions of images. Participants were then asked to provide ratings of perceived race and judgments of stereotype-relevant attributes for the four classification images generated in the image generation of the study, that is, mental representations of surface- and deep-level diversity that were generated by liberal and conservative participants. Participants then rated the images with respect to demographic

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

characteristics and stereotype-relevant attributes. The order that participants rated demographic characteristics and attributes was counterbalanced across questionnaires, and items within measures of race and perceived stereotypicality were randomized.

### **Dependent Measures**

#### ***Perceived Demographic Characteristics***

For each classification image, participants were asked to rate six demographic characteristics including perceived race and gender (See Appendix B). Embedded within these items were two target questions asking about the extent to which participants perceived the image as Black or White. All characteristics were assessed on a 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) scale.

#### ***Perceived Stereotype-Relevant Attributes***

Participants were asked to make trait judgments of the presented image using stereotype-relevant attributes. Five items were positive attributes (i.e., competent, hardworking, friendly, intelligent, human), and two items were negative attributes (i.e., hostile, lazy) (See Appendix C). All items were assessed on a 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) scale.

### **Results**

Table 1 displays mean ratings of demographic characteristics and stereotype-consistent attributes by condition. Across conditions, images were perceived to be more Black than White and were rated more positively (e.g., competent, human) than negatively (e.g., lazy, hostile).

#### **Perceptions of Race by Diversity Condition and Political Ideology**

Perceptions of perceived race were analyzed using separate 2 (Diversity Condition: Surface- vs. Deep-Level) X 2 (Political Ideology: Liberal vs. Conservative) repeated measures analyses of variance (ANOVA).

#### ***Perceived Whiteness***

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

As expected (H1), there was a main effect of diversity condition,  $F(1, 296) = 5.79, p = .017, \eta^2 = .02$ , such that images generated in the deep-level diversity condition were perceived as Whiter than were images generated in response to the surface-level diversity condition. A main effect of liberal (vs. conservative) ideology also emerged,  $F(1, 296) = 17.02, p < .001, \eta^2 = .05$ , such that images generated by conservatives were perceived as Whiter than were images generated by liberals. A Diversity Condition X Ideology interaction also emerged,  $F(1, 296) = 6.92, p = .009, \eta^2 = .02$ . However, inconsistent with expectations (H2), simple effects tests indicated that the main effect of diversity condition only emerged in response to images generated by liberals,  $p < .001$ . Images generated by conservatives were perceived as similarly White across the deep- and surface-level diversity conditions,  $p = .396$ .

### ***Perceived Blackness***

As expected (H1), there was a main effect of diversity condition,  $F(1, 295) = 8.31, p = .004, \eta^2 = .03$ , such that images generated in the surface-level diversity condition were perceived more Black than images rated in response to the deep-level diversity condition. A main effect of liberal (vs. conservative) ideology also emerged,  $F(1, 295) = 30.80, p < .001, \eta^2 = .10$ , such that images generated by liberals were perceived as more Black than were images generated by conservatives. A Diversity Condition X Ideology interaction also emerged,  $F(1, 295) = 4.56, p = .034, \eta^2 = .02$ . Simple effects tests suggested that although that pattern emerged among both liberals and conservative, it was stronger among liberals,  $ps < .026$ . As such, H2 was not supported.

### **Perceptions of Attributes by Diversity Condition and Political Ideology**

Consistent with the above analysis, I estimated separate 2 X 2 repeated measures ANOVAs for each stereotype-relevant trait.

### ***Perceived Laziness***

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

Neither main effect was significant,  $ps > .165$ , nor was the expected Diversity Condition X Ideology interaction,  $p = .310$ . As such, H3a was not supported.

***Perceived Competence***

Neither main effect was significant,  $ps > .094$ , nor was the expected Diversity Condition X Ideology interaction,  $p = .405$ . As such, H3b was not supported.

***Perceived Industriousness***

Unexpectedly, there was a main effect of liberal (vs. conservative) condition,  $F(1, 297) = 4.80$ ,  $p = .03$ ,  $\eta^2 = .02$ , such that images generated by conservatives were perceived as more industrious than were images generated by liberals. This effect is inconsistent with H3c.

***Perceived Hostility***

Neither main effect was significant,  $ps > .728$ , nor was the expected Diversity Condition X Ideology interaction,  $p = .729$ . As such, H3d was not supported.

***Perceived Friendliness***

Neither main effect was significant,  $ps > .142$ , nor was the expected Diversity Condition X Ideology interaction,  $p = .586$ . As such, H3e was not supported.

***Perceived Intelligence***

Unexpectedly, there was a main effect of diversity condition,  $F(1, 296) = 5.28$ ,  $p = .022$ ,  $\eta^2 = .02$ , such that images generated in the surface-level diversity condition were perceived as more intelligent than images rated in response to the deep-level diversity condition. This is inconsistent with expectations that images that were perceived as White would be rated more positively than those perceived as Black. As such, H3f was not supported.

***Perceived Humanity***

Neither main effect was significant,  $ps > .214$ , nor was the expected Diversity Condition X Ideology interaction,  $p = .242$ . As such, H3g was not supported.

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

### **General Discussion**

In a two-wave study, I examined liberal (vs. conservative) individuals' mental representations of surface- (vs. deep-level) diversity. As expected, I found that organizations that emphasized surface-level and deep-level diversity were perceived as similarly diverse (H1), but images generated in response to the surface- (vs. deep-) level diversity conditions were perceived as more Black and less White. Notably, however, all images were perceived as more Black than White. Further, inconsistent with expectations, the tendency to exhibit racialized mental representations of surface- and deep-level diversity was stronger among liberal (vs. conservative) participants (H2). Inconsistent with the stereotyping literature (Ashley, 2014; Oliver, 2004) and with my expectations, classification images that were perceived as more Black (i.e., those generated in response to the surface- versus deep-level diversity conditions) were also appraised to be more intelligent (H3f). Further, images generated by conservatives, which were also perceived to be more Black, were rated as more industrious (H3c), which was also inconsistent with the stereotyping literature. No other hypotheses regarding perceived stereotype-consistent attributes were supported.

### **Implications**

Like Unzueta and colleagues (2012), I found that mental representations of deep- (vs. surface) level diversity were perceived as slightly more White than Black, lending some support to research suggesting that emphasizing deep-level diversity may dilute diversity efforts. However, unlike Unzueta and colleagues, I found that effect was stronger among liberal (vs. conservative) participants. These findings may reflect liberal individuals' tendency to focus on contextual factors that enable inequality (Graham et al., 2009) and the tendency to support policies that advocate for racial/ethnic diversity in the workplace (Lopez Bunyasi, 2015). It may be that liberals were, therefore, better differentiated between forms of diversity initiatives

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

that might explicitly target racial/ethnic diversity and those that do not. Future research might examine how liberal and conservative people differentiate between different forms of diversity, and whether they associate different forms of diversity with race.

Regardless, despite some evidence that surface- and deep-level diversity may prime racialized mental representations of diversity, all images were perceived as more Black than White. As such, in contrast to Unzueta et al. (2012), my findings potentially suggest that any type of organizational diversity initiative may prime mental representations of Black people. These findings may suggest that organizational efforts to rebrand diversity initiatives in ways that are more palatable to conservatives, such as emphasizing ideological diversity (Howard et al., 2021) may be difficult, as conservative backlash to organizational diversity initiatives may be motivated by anti-Black racism (Federico & Sidanius, 2002; Folberg et al., 2024). Examining how organizations manage diversity messaging in an increasingly divisive political environment (Confessore, 2024) is an important topic for future research.

I predicted that people would ascribe negative attributes to images that were perceived as Black; however, those findings were not generally supported. Perhaps the positive nature of the mission statements that were presented to participants undermined my ability to detect those effects. Positively framed messages require consumers to make decisions based on simple decision rules and surface-level message features (Meyers-Levy & Maheswaran, 2004). Individuals are also less likely to use critical thinking skills with positively framed messages and tend to accept such messages without questioning (Higgins, 1998). As such, perhaps participants selection of classification images was influenced both by racial/ethnic stereotypes and by the positive tone of the message. Findings may also reflect social desirability biases, which are common in psychological research on race (Fisher, 1993; Larsen, 2019), although Brown-Iannuzzi and colleagues (2021, 2023) have successfully used the reverse correlation

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

paradigm to show evidence of racialized mental representations of welfare recipients and voters.

### **Limitations and Future Directions**

One limitation of this study is the potential of survey fatigue (Porter et al., 2004); which may occur due to survey length or question complexity (O'Reilly-Shah, 2017). Survey fatigue occurs when participants become tired or bored with the survey they are completing, leading to lower quality data (de Koning et al., 2021). Reverse correlation tasks require participants to complete hundreds of trials of pairs of images, making such studies especially prone to survey fatigue. Further, the number of participants or trials needed is unclear; recommendations tend to suggest that more participants (and images) will yield more reliable findings (Brinkman et al. 2017). For this reason, survey fatigue may be inevitable when conducting reverse correlation studies and may potentially decrease researchers' ability to detect significant effects. As such, one explanation for null findings may be that our measures were less reliable than they might have been in a shorter survey, although several reverse correlation studies have produced reliable results (Ringach & Shapley, 2004; Brinkman et al., 2017; Brown-Iannuzzi et al., 2023). To better address potential survey fatigue, future studies may consider using the Brief Reverse Correlation method (Schmitz et al., 2021) to reduce the incidence of survey fatigue.

My study is also limited by constraints on generality (Simons et al., 2017). My study primarily focused on U.S. participants' mental representations of White (vs. Black) people through the lens of demographic- and stereotype-relevant attributes. Although anti-Black racism is not unique to the U.S., comparisons among other racial/ethnic groups may be more relevant in other cultural and national contexts (Roberts & Rizzo, 2021). In addition, as I used images of Black and White people to create a base image, they may not generalize to other racial/ethnic groups in the U.S., who also experience racial discrimination. Future work may consider

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

examining mental representations of diversity in other cultures and with a wider variety of base images.

Another limitation of this work is the polarization of opinion. Consistent with Brown-Iannuzzi and colleagues (2023), I conducted a tertiary split to collect mental representations from highly liberal and highly conservative individuals. This strategy may be desirable because it may increase statistical power as highly liberal and highly conservative individuals may be expected to differ considerably in their mental representations of diversity (Maruyama & Ryan, 2014). However, it also confounds ideological extremity with liberal and conservative ideology; how politically moderate individuals appraise diversity is unclear. Future work may consider collecting a wider number of opinions that more accurately reflects the political landscape of the United States.

Finally, liberal and conservative participants may vary in their perceptions of diversity, as there is always within-group variation. As such, findings may not apply to all people who identify as liberal or conservative.

### **Conclusion**

Organizations are continuing to broaden their definition of diversity and often emphasize deep-level (vs. surface-level) characteristics in diversity programming. Although my findings are consistent with other work suggesting that different types of diversity may cue racialized mental representations of diversity initiatives, it also suggests that regardless of type, people tend to associate diversity with Blackness. As such, efforts to make diversity initiatives more palatable to groups who traditionally oppose diversity initiatives (e.g., White and conservative people; Federico & Sidanius, 2002; Folberg et al., 2004; Kaiser et al., 2021) by emphasizing deep level diversity may backfire. Organizations that seek to promote DEI should be thoughtful about how they frame those efforts.





## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

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## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

**Table 1**

*Means and Standard Deviations of Perceived Race and Stereotype-Consistent Attributes in the Image Generation Study*

	Surface-Level Diversity Condition		Deep-Level Diversity Condition	
	Liberal	Conservative	Liberal	Conservative
<b>Perceived Race</b>				
White	1.98 (1.04)	2.29 (1.27)	2.22 (1.20)	2.27 (1.27)
Black	5.54 (1.32)	5.15 (1.36)	5.27 (1.40)	5.11 (1.40)
<b>Perceived Attributes</b>				
Laziness	2.88 (1.23)	2.91 (1.20)	2.97 (1.21)	2.92 (1.26)
Competence	4.83 (1.06)	4.85 (1.01)	4.75 (1.04)	4.84 (1.04)
Industriousness	4.61 (1.24)	4.66 (1.02)	4.52 (1.02)	4.64 (1.05)
Hostility	2.42 (1.24)	2.40 (1.26)	2.41 (1.26)	2.42 (1.26)
Friendliness	5.25 (1.11)	5.22 (1.06)	5.28 (1.06)	5.30 (1.05)
Intelligence	4.83 (1.05)	4.71 (1.01)	4.80 (1.03)	4.74 (1.01)
Humanity	6.31 (0.99)	6.23 (1.09)	6.26 (1.08)	6.25 (1.03)

*Note.*  $N=301$ . Standard deviations are in parentheses.

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

**Figure 1**

*Base Image Used to Create Trials for the Image Generation Study*

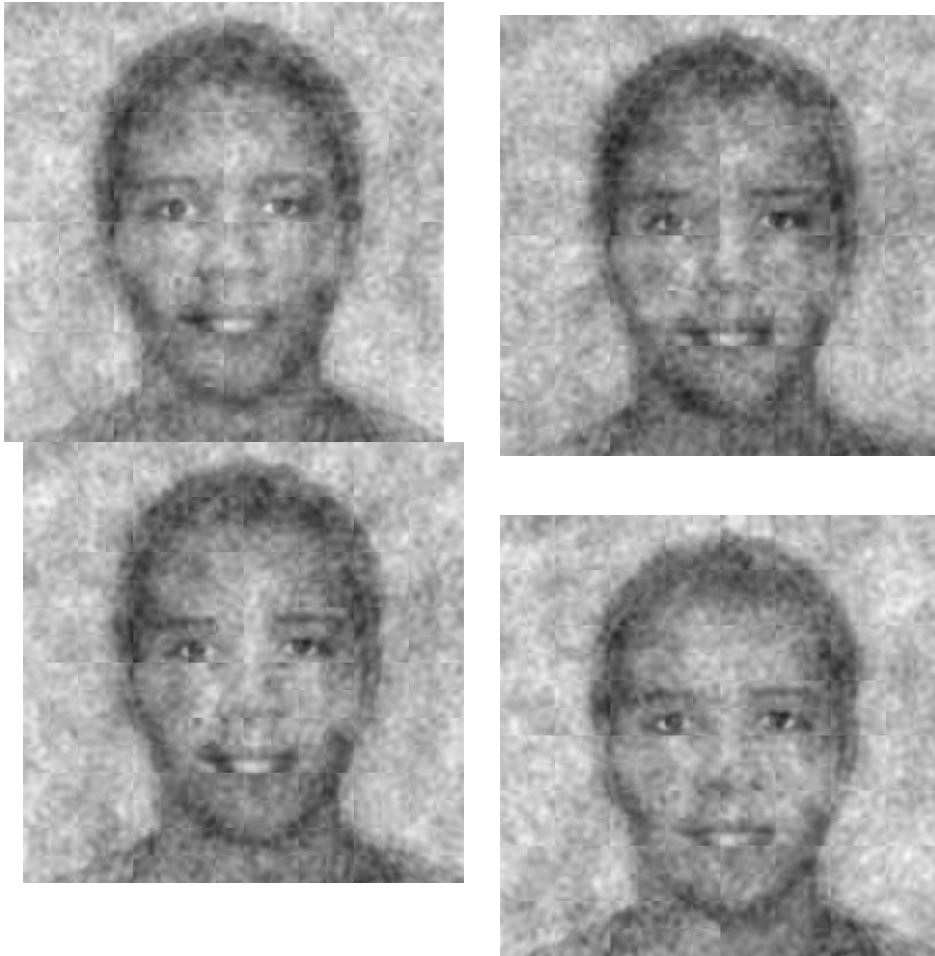


*Note.* This image was drawn from materials developed by Brown-Iannuzzi et al., (2021, 2023)

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

**Figure 2**

*Classification Images Rates by Participants in the Image Generation Phase of the Study in the Conservative Surface-Level Diversity (Top Left), Liberal Surface-Level Diversity (Top Right), Conservative Surface-Level Diversity (Bottom Left), and Conservative Deep-Level Diversity Conditions*



*Note.* These images were generated by participants in the image generation wave of the study using reverse correlation. These four images were presented to participants in the image rating phase of the study for evaluation of demographic- and stereotype-relevant attributes.

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

**Appendix A**

## Image Generation Phase Measures

Smith and Simon....

is a high-performing company.

treats job applicants fairly.

treats employees fairly.

employs diverse employees.

provides a high-quality experience for customers.

is a place where I would like to work if a position in my field became available.

*Note.* Items were measured on a 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) scale.

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

**Appendix B**

## Image Rating Phase Demographic-Relevant Attributes

This person appears to be...

White

Black

Hispanic/Latine

Asian

A man

A woman

*Note.* Items were measured on a 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) scale.

## MENTAL REPRESENTATIONS OF SURFACE- AND DEEP-LEVEL DIVERSITY

**Appendix C**

## Image Rating Phase Stereotype-Relevant Attributes

This person appears to be...

Lazy

Competent

Hardworking

Hostile

Friendly

Intelligent

Human

*Note.* Items were measured on a 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) scale.