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Drawing the Diversity Line: Numerical Thresholds of Diversity Vary by Group Status

Felix Danbold New York University Miguel M. Unzueta University of California, Los Angeles

This research estimates the points of relative group representation at which members of dominant and nondominant groups declare an organization to be diverse. Across 7 studies, members of dominant groups, relative to members of nondominant groups, reported that diversity was achieved at lower representations of the nondominant group within an organization. This was explained by the dominant group members' relative opposition to using the equal representation of groups as a standard against which to judge diversity. This mediation was also replicated with the antiegalitarian dimension of social dominance orientation, suggesting that the setting of diversity thresholds serves a hierarchy relevant function. Group differences in thresholds of diversity were strongest when people were evaluating whether an organization was sufficiently (vs. descriptively) diverse, when group status was perceived to be threatened, and when the nondominant group was also a numerical minority in the relevant context.

Keywords: diversity, intergroup relations, social dominance theory

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When trying to determine whether an organization is diverse, people often look to "the numbers"—that is, statistics about the relative representation of different groups. For example, in 2014, Facebook first publicly shared their diversity statistics (e.g., 57% White employees, 34% Asian, 6% Hispanic and Black, 85% men, 15% women, etc.) prompting many other companies to follow suit (Isaac, 2015). The common interpretation of these statistics was that they indicated an insufficient degree of diversity. This was a viewpoint Facebook shared as they released an accompanying pledge to increase the representation of women and ethnic minorities within their ranks. Implicit in this interpretation is the possibility that alternate statistics could signify sufficient diversity, a point at which efforts to increase diversity could be considered no longer necessary. Army Vice Chief of Staff James C. McConville alluded to such a point when, in 2018, after describing recent increases in women's representation in U.S. Army, he concluded

probably hit the right point." (Defense Visual Information Distribution Service, 2018). If there are numbers that represent *insufficient* diversity, and numbers that represent *sufficient* diversity, then somewhere in-between there must exist a threshold of relative group representation at which an organization crosses over from not being diverse to being diverse. This research seeks to determine where members of different social groups draw this threshold—a concept we refer to as "the diversity line."

Although many Americans speak in vaguely positive terms

"when we've stopped keeping track of percentages, then we've

Although many Americans speak in vaguely positive terms about the concept of diversity (Bell & Hartmann, 2007), whether increasing diversity is a strength or a threat remains a polarizing topic (Neal, 2017). Despite this tension in the general population, among corporations and institutions of higher education, organizations have overwhelmingly moved toward an explicit embrace of diversity (Herring, 2009; Kaley, Dobbin, & Kelly, 2006). In 2019, one would be hard pressed to find a major corporation or university that does not feature an official prodiversity statement in their promotional materials (Bartels, Nadler, Kufahl, & Pyatt, 2013; Edelman, Fuller, & Mara-Drita, 2001; Jayne & Dipboye, 2004). Despite proliferating in number, most of the prodiversity initiatives in schools and business today still fail to produce meaningful changes (Dobbin & Kaley, 2016; Kaley et al., 2006). As investments in diversity increase and new strategies emerge, the need for a clear metric of success becomes all the more apparent. In fact, prominent legislation in support of diversity initiatives often hinges on the premise that these efforts should expire upon the attainment of an undefined "critical mass" of underrepresented group members (e.g., Grutter v. Bollinger, 2003). But what is critical mass and who gets to define it? If there are numerical thresholds of diversity (i.e., a percentage of women's representation at which an organization could be considered

Felix Danbold, Department of Management & Organizations, NYU Stern School of Business, New York University; Miguel M. Unzueta, Department of Management & Organizations, Anderson School of Management, University of California, Los Angeles.

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Correspondence concerning this article should be addressed to Felix Danbold, Department of Management & Organizations, NYU Stern School of Business, New York University, 701A Tisch Hall, 44 West 4th Street, New York, NY 10012. E-mail: fdanbold@stern.nyu.edu

diverse in terms of gender, or a percentage of ethnic minority representation at which an organization was considered ethnically diverse), it is unlikely that everyone agrees where they lie. We argue that the groups people belong to, and the relative standing of these groups, plays an influential role in where this diversity line is drawn.

Group Status and Strategic Definitions of Diversity

Although numerical demographics may seem to provide an objective measure of diversity, what matters is the subjective interpretation of these numbers. A growing body of research shows that people's perceptions of diversity generally align with groupserving biases (Unzueta & Binning, 2012; Unzueta, Knowles, & Ho, 2012). We similarly predict that people's thresholds of diversity will vary systematically by group membership, focusing specifically on the role of group status. Because the social categories typically invoked in discussions of diversity (e.g., ethnicity, gender, etc.; Unzueta & Binning, 2010) are also marked by status hierarchies within them (Pratto, Sidanius, & Levin, 2006; Sidanius & Pratto, 2001), we argue that group standing in the social hierarchy, and accompanying motivations to enhance that status, will predict where people draw the diversity line. To test this, we contrast dominant (groups with the greatest access to power, resources, and opportunity) and nondominant groups along two dimensions, ethnicity and gender. Along ethnic lines in the United States, Whites are dominant and ethnic minorities (e.g., Black Americans, Latino Americans) are nondominant (Axt, Ebersole, & Nosek, 2014; Kim, 1999; Zou & Cheryan, 2017). In terms of gender, men are dominant and women are nondominant (Ridgeway & Correll, 2004).

In line with social dominance theory (Sidanius & Pratto, 2001) we argue that members of dominant and nondominant groups generally have competing motivations when it comes to the existing hierarchy. Although both dominant and nondominant groups may be broadly motivated by self-interest to enhance the standing of their group (Tajfel & Turner, 1979), dominant groups are typically motivated to preserve or enhance the hierarchical social order, whereas nondominant groups are more likely to be driven to attenuate the hierarchy, pushing toward a more egalitarian outcome (Ho et al., 2012, 2015). We predict that dominant and nondominant groups will set thresholds of diversity that help them to achieve their generally preferred goals in regards to the hierarchy.

One way for dominant and nondominant groups to achieve their hierarchy-relevant goals is via the pursuit of greater relative representation. Many people view relative group size and relative group status as intrinsically linked (Blalock, 1967; Quillian, 1995; Schlueter & Scheepers, 2010). The larger one's ingroup is, the more secure one feels in terms of access to power and resources. The larger the outgroup, the more of a threat they pose. Members of dominant and nondominant groups should, therefore, both generally prefer definitions of diversity that give their ingroup an edge in terms of relative representation.

Lending support to this prediction, researchers have shown that dominant groups (e.g., Whites in America, men in high-status professions) report feeling threatened by the increased representation of nondominant groups (e.g., non-Whites, women) in the relevant context (Craig & Richeson, 2014a; Danbold & Huo, 2015, 2017; Kravitz & Platania, 1993; Outten, Schmitt, Miller, & Garcia, 2012). Members of nondominant groups, on the other hand, gen-

erally view the prospect of increased ingroup representation (e.g., the growth of non-White populations in the United States) positively (Lopez, Passel, & Rohal, 2015; Sears, Citrin, Cheleden, & Van Laar, 1999). Although nondominant groups can sometimes feel threatened by the growth of other nondominant groups (e.g., Black Americans report more conservative attitudes when reminded about the growth of Latino Americans, Craig, & Richeson, 2017), they do show much more consistent support for more hierarchy-attenuating policies than members of dominant groups. In organizational settings, where efforts to increase diversity generally connote a decrease in the relative representation of the dominant group (Unzueta & Binning, 2012), opposition to diversity initiatives is greatest among members of dominant groups (Chow, Lowery, & Hogan, 2013; Dover, Major, & Kaiser, 2016; Lowery, Knowles, & Unzueta, 2007; Lowery, Unzueta, Knowles, & Goff, 2006; Plaut, Garnett, Buffardi, & Sanchez-Burks, 2011; Unzueta & Lowery, 2008). Nondominant groups, on the other hand, are generally more supportive of efforts to increase the representation of nondominant minority groups (Bobo, 1998; Harrison, Kravitz, Mayer, Leslie, & Lev-Arey, 2006; Kinder & Sanders, 1996).

Conflicting attitudes about whether diversity should increase also translate into conflicting attitudes about what "diversity" as a term means. For example, whereas Whites tend to feel the presence of racial minorities in low-status positions is enough to declare an organization as being diverse, non-Whites are less willing to do so unless ingroup members are represented in both the lower and upper (i.e., managerial) levels of the organization (Binning & Unzueta, 2013; Unzueta & Binning, 2012). Additionally, while Whites are generally willing to declare work groups diverse so long as they include any member of a non-White group, minority perceivers tend to only see such groups as diverse when they include members of their racial ingroup (Bauman, Trawalter, & Unzueta, 2014). This cumulative evidence leads us to predict that, when trying to determine where people draw the diversity line, members of dominant and nondominant groups may set different thresholds.

Defining Thresholds of Diversity

In order to test where people draw the "diversity line" (i.e., the percentage of dominant vs. nondominant group representation at which an organization can be considered diverse), it is important first to discuss the metrics upon which judgments of diversity are likely made. Existing mathematical indices of diversity, the most prevalent of which are the Simpson index (from ecology; Simpson, 1949) and its theoretical cousin the Herfindahl-Hirschman index (from economics; Rhoades, 1993), use both the number of groups represented within a context, and the degree to which members of each group are represented evenly to calculate a score of relative diversity. For example, an environment containing three groups is more diverse than one containing two, especially if the relative representation of each group is more or less equal. Although people's judgments of diversity likely take both the number of groups present and their relative size into account, in this paper we focus exclusively on this latter factor, the relative representation of groups within an organization. As this research represents a first step toward understanding where people draw the line between the presence and absence of diversity, we benefit conceptually and methodologically from beginning with this simplest configuration of diversity—two groups varying in zero-sum representation along a single dimension of diversity. This approach allows us to calculate a numerical value for the relative representation of these groups representing the threshold at which sufficient diversity has been attained. For example, in an organization of men and women, we can determine the points of relative representation of women versus men at which members of each group think the organization has attained sufficient gender diversity.

In order to estimate these thresholds of diversity, however, we need to draw predictions based on the relationship between relative group representation and degree of perceived diversity. One possibility is that degree of diversity is positively and linearly related with the representation of members of the nondominant and generally underrepresented groups most associated with diversity efforts (e.g., as the number of Black Americans increases in an organization, so does its diversity; Unzueta & Binning, 2010). Alternatively, taking a purely motivational perspective, members of dominant and nondominant groups, in order to maximize their relative representation, may say that diversity increases positively and linearly with the representation of their ingroup (e.g., Black Americans may say that peak diversity when an organization is 100% Black, but White Americans would say that peak diversity is when an organization is 100% White). However, all of these models predicting a linear relationship between the diversity and the representation of any one group contradict the fact that diversity is (consistent with the Simpson index) defined by heterogeneity.

Figure 1 represents our prediction that in most people's minds the relationship between relative group representation and perceived diversity is curvilinear. Consider a context in which a dominant group and nondominant group are represented in zero-sum (e.g., men and women within an organization). We predict that members of both groups would agree that diversity was present when both groups were represented roughly equally within the organization (i.e., the apex of the curve at 50%/50% representation). We also predict that members of both groups would disagree that diversity was present when either group was not represented at all (the two low points of the curve at either extreme). However, even if these three points are shared by members of dominant and nondominant groups, the points that lie in between them may differ. For example, some people may only agree with the presence of diversity between 30% representation of the nondominant group and 30% representation of the dominant group. Others may say that an organization that is 20% nondominant group is diverse, but may at the same time say that the same organization isn't diverse unless it has at least 40% representation of the dominant group. Establishing such a pair of thresholds would clearly benefit the dominant group (assuring them greater relative representation), and so should find more support among members of that group. Members of nondominant groups, on the other hand, should prefer thresholds of diversity that benefit them (e.g., saying the definition of diversity is satisfied with a minimum dominant group representation of 20%, but requires a minimum nondominant group representation of 40%). In other

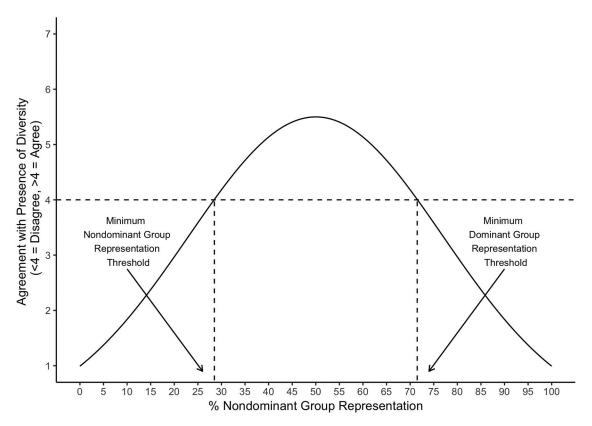


Figure 1. Predicted model of diversity thresholds.

words, even working from a shared premise of diversity being rooted in heterogeneity, people may vary in terms of how they define the boundaries of what is and is not diverse. This is the general model and mechanism through which we expect members of dominant and nondominant groups to draw the diversity line, doing so in ways serve their motivations regarding their group's place in the hierarchy.

Moderators of Diversity Thresholds

We predict that, given the link between group size and dominance, members of both dominant and nondominant groups will be motivated to draw thresholds of diversity in ways that would enhance their demographic representation. Despite this shared motivation, we predict that both members of dominant and nondominant groups are constrained in a variety of ways from setting thresholds of diversity that would maximally serve their group interests.

Descriptive Versus Sufficient Diversity

One potential factor that may moderate the thresholds of diversity set by members of dominant and nondominant groups is whether they are thinking about diversity in descriptive (e.g., "this company is diverse") versus prescriptive (e.g., "this company is diverse enough") terms. A declaration of sufficient diversity, contrasted to a declaration of descriptive diversity, is accompanied by a normative component, that the company is as diverse as it *should* be. If an organization is not sufficiently diverse, there is an implication that direct effort is necessary to increase the representation of the underrepresented group. Members of dominant and nondominant groups should, therefore, both be more motivated to set thresholds of diversity in ways that benefit their group when the definition of diversity is framed in terms of sufficient, versus descriptive, diversity.

Status Threat

Another context in which both dominant and nondominant groups should be especially motivated to draw diversity thresholds in ways that ensure their group greater representation is when they perceive their group to be under threat. Under conditions where members of dominant and nondominant groups feel secure in their group's place in the hierarchy, the urgency of increasing relative group representation should not be so urgent. Supporting research has already linked group status threat to dominant groups' opposition to increasing nondominant group representation (Craig & Richeson, 2014b; Major, Blodorn, & Major Blascovich, 2018). Here we predict that group status threat will be associated with more ingroup-serving bias in their thresholds of diversity for both members of dominant and nondominant groups.

Baseline Representation

Another contextual factor that may moderate both members of dominant and nondominant groups' drawing of diversity thresholds in biased ways is the relative representation of groups in the baseline. A common defense companies invoke when they are criticized for their lack of diversity is that there aren't enough members of the underrepresented group in the applicant pool or "pipeline." Therefore, in contexts where people would like to

justify an extreme underrepresentation of the outgroup (e.g., men saying that a company with 15% women is sufficiently diverse), people may feel justified to do so when the baseline representation of the underrepresented group is low (e.g., in an industry where the overall representation of women is only 10%). In a context where the underrepresented group is highly represented (e.g., in an industry where the baseline representation of women is 50% or higher), then such a biased diversity threshold may seem less justifiable. We predict that information about the relative representation of groups in a relevant baseline may serve as another constraint in determining where people draw the diversity line. In instances of low outgroup representation in the baseline, this can be seen as justifying the drawing of the diversity line in ways that ensure especially low outgroup representation. When outgroup representation in the baseline is higher, such biased diversity thresholds lack justification, and are thus less likely to be expressed.

Mediators of Diversity Thresholds

We predict that members of dominant and nondominant groups will be motivated to set thresholds of diversity that benefit their ingroup and enhance or attenuate the existing hierarchy, respectively. Additionally, we predict that these biased thresholds will be justified by support for contrasting beliefs about how best to define diversity. We compare two common frameworks for thinking about how judgments of diversity should be made: proportional representation (the idea that groups should be represented in a way that mirrors their representation in the relevant baseline context) and equal representation (the idea that all groups should always be represented in equal proportion; Abram, 1986; Lippert-Rasmussen, 2008; Robinson, Reithel, & Franklin, 2001). We predict that members of dominant groups will generally support a principle of proportional representation but will show greater relative opposition to a principle of equal representation. Nondominant groups, who are typically in the minority, may see utility in supporting both principles as both could potentially be employed to increase their representation. As such, support for a principle of equal representation should be the differentiating factor between these two groups.

Attitudes about equal versus proportional representation also resonate with the broader prediction that people's thresholds of diversity are shaped by their group status concerns. A principle of equal representation generally aligns with a more egalitarian worldview. Because embracing egalitarian attitudes functions to attenuate existing hierarchies, we predict that a principle of equal representation may not only have practical utility for nondominant groups, but may also function as part a broader set of strategies to reduce status disparities between groups. For members of dominant groups, on the other hand, a rejection of equal representation and broader egalitarian principles can facilitate them drawing the diversity line in a hierarchy-enhancing way.

Between-Groups Differences in the Susceptibility to Moderators of Diversity Thresholds

An interesting prediction derived from our theorizing about the mediators and moderators of diversity threshold is that members of dominant and nondominant groups will bias their thresholds of diversity to different degrees because of their underlying beliefs about the hierarchy. That is, members of nondominant groups, relative to members of dominant groups, are more likely to support principles of equal representation and egalitarianism (e.g., low social dominance orientation, Ho et al., 2012). By binding members of nondominant groups to a concept of equality, these principles may also limit the extent to which they can draw thresholds of diversity in ways that benefit their group. Members of dominant groups, on the other hand, less committed to egalitarian principles, are relatively freer to set biased thresholds of diversity. For example, we predict that both members of dominant and nondominant groups could use information about the relative representation of groups in the baseline (e.g., the representation of groups in the state where the organizations being evaluated are based) to justify declaring sufficient diversity at a relatively low representation of the outgroup. However, members of nondominant groups should be less likely to employ this baseline justification to their advantage because of their relative commitment to egalitarianism and equal representation. Members of dominant groups, less committed to equal representation, should feel more leeway to use baseline information to their advantage and set lower thresholds of nondominant group representation in the appropriate contexts because they are not constrained by the competing principle of equal representation.

For example, if a woman adheres to a principle of equal representation and she wants to argue that a company needs to be at least 40% women to be considered gender diverse, to be consistent, she may feel the need to say that the same company needs to be at least 40% men. Conversely, members of dominant groups, who do not as strongly endorse the principle of equal representation should be freer to report asymmetrical thresholds of diversity that serve their group interests. A man who disagrees with a principle of equal representation is freer to draw thresholds of diversity in ways that benefit his group, for example saying that a company needs only 20% women to be considered diverse, but would not be diverse without a minimum representation of 40% men.

Present Research

Although past research has demonstrated that diversity is a nebulous construct subject to biased interpretations along group lines, no research that we are aware of has examined biased definitions of diversity in terms of numerical representation. Across seven studies we estimate the thresholds of relative group representation at which members of dominant and nondominant groups perceive organizations to be diverse. Using novel methods and large samples of participants from a variety of groups (including women and Latino Americans who are previously unexamined in work on subjective definitions of diversity), this research tests the following seven predictions:

 Members of dominant and nondominant groups both have a basic model, rooted in heterogeneity, of what is and is not diverse when considering the zero-sum representation of two groups. Using this model (where diversity is at its maximum near equal representation and its minimum when either group isn't represented at all), we can estimate people's "diversity thresholds," or the range of relative group representations of groups under which an organization can be considered diverse.

- Members of dominant and nondominant groups are both motivated to skew their definitions of diversity in ways that ensure greater relative ingroup representation, thus enhancing their ingroup's standing and either enhancing (for dominant groups) or attenuating (for nondominant groups) the broader hierarchy.
- 3. Members of dominant and nondominant groups are both more likely to draw thresholds of diversity that benefit their group when making assessments of *sufficient* diversity (which prescriptively imply the need of deliberate efforts to increase representation of the minority group) versus *descriptive* diversity (simply saying whether the context being evaluated is diverse).
- 4. Members of dominant and nondominant groups are both more likely to bias thresholds of diversity in favor of the ingroup when they perceive their group status is threatened versus when they feel their group status is secure.
- 5. Members of dominant and nondominant groups will both adjust their thresholds of diversity in response to contextual baseline information. Members of both groups will draw especially low thresholds of diversity for minimum outgroup representation when this can be justified by a similarly low representation of the outgroup in the relevant contextual baseline.
- Between-groups differences in thresholds of diversity can be explained by members of dominant groups reporting less support for a principle of equal representation (and broader hierarchy-attenuating, egalitarian attitudes) than members of nondominant groups.
- 7. As members of nondominant groups are relatively more likely to support principles of equal representation than members of dominant groups, their thresholds of diversity will be less affected by the moderating effects described in Predictions 2 through 5 above. Members of dominant groups, less committed to egalitarian principles, will show more variance in their thresholds of diversity.

Common Method

The studies in this article employ a number of shared approaches for data collection and analysis. To reduce redundancy, we detail this common method below, noting only relevant exceptions in the descriptions of each study.

Common Participant Recruitment Procedures

Across all seven studies, participants were recruited online via Amazon Mechanical Turk (MTurk) to participate in a short survey titled "Is it Diverse?" Payment for participation was \$0.25 for between-subjects studies (Studies 1 and 2) and \$0.50 for within-subjects studies (Studies 3 through 7). Before being allowed to participate, workers had to complete an eligibility questionnaire in which they were asked to report their age, gender, ethnicity, and other demographics. Only participants who self-identified according to our eligibility criteria (e.g., identifying as Black American or

White American in Study 1) were allowed to participate, but were never informed what the eligibility criteria were.

Sample sizes and data collection cut-off points were predetermined by the researchers. As is common for studies utilizing online data collection our total number of responses typically exceeded our cut-off point by a small amount. No formal power analyses were conducted prior to data collection. Instead, sample sizes were determined based on informal analyses of effect sizes from prior studies (studies are presented in roughly chronological order). We report effect sizes throughout and discuss the potential limitations of this approach in the General Discussion section.

Common Experimental Procedures

In each study, participants were asked to evaluate one, or a series of, organizations that ranged in the relative representation of members of dominant and nondominant groups (i.e., from 0% nondominant/100% dominant to 100% nondominant/0% dominant). Relative group representation was conveyed with a text box explicitly indicating the percentage of employees from both groups. This was supplemented by a graphical representation of the organization, a 10×10 matrix of stick figures (as commonly displayed on bathroom signs) that were shaded either gray or black in color (see Appendix A in the online supplementary materials for examples). Because the number of organizations being evaluated and whether they were prefaced by baseline information varied by study, these details are presented with each study description.

Across all studies, participants were asked to indicate the extent to which they agreed or disagreed with three statements regarding the diversity of the organization they saw ($1 = strongly \ disagree$ to $7 = strongly \ agree$): "This is a diverse company," "This company is diverse enough," and "This company has a diversity problem." The first statement was categorized as representing descriptive diversity, whereas the second two were categorized as representing sufficient diversity. Across studies, correlations between these two sufficient diversity statements were all significant (all ps < .010) within each condition, ranging from .34 to .95. Within each condition, these two sufficient diversity statements were collapsed onto a single index of sufficient diversity ratings.\(^1\)

Common Analytical Procedures

In addition to showing the general relationship between group representation and perceived diversity that we believed would underlie people's definitions of diversity, Figure 1 also illustrates important elements of the methods used to test this article's primary predictions. In each study, we measure or generate estimates for participants' evaluations of diversity for the full range of organizations from 0% nondominant/100% dominant to 100% nondominant/0% dominant. The x-axis in our predicted model represents this full range. On the y-axis are ratings of perceived diversity. We measure these perceptions on a scale such that a score of 1 indicates a strong disagreement that diversity is present in the organization, and a score of 7 indicates a strong agreement that diversity is present in the evaluated organization. Scores below the midpoint (4 on the y-axis), then, indicate varying degrees of disagreement with the notion that the organization being evaluated is diverse. Likewise, scores above the midpoint indicate agreement with the presence of diversity. Given enough responses,

we predicted that we could extrapolate a curvilinear relationship between relative group representation and use this to estimate participants' thresholds definitions of diversity.

To test these predictions, the data collected in all seven of our

Testing Our Predicted Model Through Estimated Curves

studies asked participants to effectively (but not literally) mark a set of coordinates on the axes shown in Figure 1 and described in the paragraph above. Given multiple such points, we fit a normal (Gaussian)² curve to our data (an example of this curve is also shown in Figure 1). This approach of finding the best-fitting Gaussian curve to represent our data, adapted from techniques in the social vision literature (Freeman & Ambady, 2011; Freeman, Ma, Han, & Ambady, 2013), involves using the MatLab Curve Fitting toolbox to fit our data to the equation $y = ae^{-\frac{(x-b)^2}{2c^2}}$ equation, y (scores on the y-axis) is the estimated level of agreement with a statement about the diversity of the evaluated organization. The value x in this equation is the relative percentage of employees in the company being evaluated that belong to one of two groups. The e parameter is the mathematical constant e (approximately 2.718), the base of the natural logarithm. The a-coefficient in our equation is the amplitude of the estimated function, the highest value of y on the fitted curve. Note that Figure 1 does not predict the amplitude of our predicted curve to reach the maximum on our y-axis. We draw this prediction from the fact that in this context we are only evaluating two groups, and similar to the Simpson index, individuals are likely to reserve the highest possible evaluations of diversity for instances in which more than two groups are represented. The b-coefficient in our equation functions as the central tendency of the function, the value of x that produces the highest value of y on the function. Finally, our c-coefficient represents the spread of the function, the degree to which data points are clustered or dispersed around the

Calculating Thresholds of Diversity

central tendency.

Given a fitted Gaussian curve, we can determine individuals' thresholds of diversity by calculating the two points on the *x*-axis where the curve crosses from a range of disagreement with the

¹ Unsurprising given their closely related content and measurement, descriptive and prescriptive measures of diversity were also correlated across studies (correlations range from .24 to .94). Despite this, we argue that our decision to approach these variables as distinct is legitimate based on face validity and the observation of frequently distinct patterns of results across studies (e.g., Figure 4, Appendix C of the online supplementary materials). Post hoc analyses confirm that disagreement between dominant and nondominant groups about minimum nondominant group representation thresholds is higher when looking at sufficient diversity than descriptive diversity.

² In model testing, Gaussian curves fit our data better than first, second, or third degree polynomial curves, as well as an exponentially modified Gaussian distribution and Pearson Type I and Type II distributions. Although a second-degree polynomial curve would have allowed us to run a quadratic regression analyses, this approach did not fit our data well as changes in perceived diversity were minimized rather than exaggerated around the extremes (i.e., organizations with 0% to 5% representation of each group).

presence of diversity to a range of agreement with the presence of diversity (i.e., the midpoint of the *y*-axis). To do this, we simply set y equal to 4 and solve for x. Because of the symmetry of the Gaussian curve, this always generates two values. To distinguish between these two points, we label them as the minimum non-dominant group representation threshold (the threshold on the left side of Figure 1) and minimum dominant group representation threshold (on the right side). These thresholds serve as our primary dependent measures throughout this article. Organizations that fall within the range of relative representation (values on the *x*-axis) bounded by these two thresholds would, therefore, be considered diverse. Organizations beyond these thresholds in either extreme would be considered not diverse.

Fit Statistics and Outliers

Our curve fitting procedure provided us not only with the parameters of the best-fitting Gaussian curve to fit our data, but also a number of fit statistics. These included adjusted- R^2 values (explanatory power of the fit, accounting for the number of predictors in the model), sum of squared error (SSE), and root mean squared error values (RMSE). For Study 1 and Study 2, when we estimated curves at the level of the group, we observed high adjusted- R^2 values (around .90) and relatively low SSE and RMSE values (around 3.5 and .40, respectively). In the subsequent studies, when we estimated curves for each individual participant, we were able to observe that some participants' responses fit a Gaussian curve better than others. Individuals whose responses did not match a relatively normal distribution (e.g., participants who responded seemingly randomly, or those who rated every organization a 4) had data that either could be not be fitted to our equation, or resulted in low fit statistics. To reduce the influence of these anomalous responses, we excluded all participants with an adjusted R² of less than 0.20 from our subsequent analyses.³ Average fit statistics for the remaining participants were similarly strong as in our initial studies (e.g., mean adjusted- R^2 values around .70).

Another issue which arose with our curve fitting approach was a small number of participants who expressed that they did not agree that any of the organizations they evaluated were diverse (i.e., their scores on their *y*-axis and their estimated a-coefficient were less than 4). Because there was no range of organizations where they agreed with the presence of diversity (i.e., no values of x, given the curve equation fitted to them, would produce values greater than or equal to 4), we were unable to calculate thresholds of diversity for these participants.

Finally, we observed a few individual cases where calculated thresholds of diversity fell outside the range of our fitted model. For example, some participant responses resulted in curves that would estimate their strong agreement with the presence of diversity for a company that was 0% nondominant group. In other words, if in their fitted equation, a value of x=0 would produce a value of y=5, one of their thresholds of diversity (x where y=4) would be less than 0. Given that such a threshold is impossible, we identified individuals whose thresholds were less than 0 or greater than 100, and rounded those responses to 0 or 100, respectively. Fit statistics and a summary of participants whose responses were excluded or adjusted for lack-of-fit are presented for each study in Appendix B of the online supplementary materials and final sample sizes are reported for each study below.

Why Fitted Curves?

Generating curves that fit our data provides us with a number of methodological advantages. We believed that asking people to self-report thresholds of diversity would be subject to social desirability bias and would be less realistic to the way people typically evaluate diversity (i.e., making an evaluation based on existing demographics). A curve fitting approach thus provides an indirect measure of thresholds of diversity that is difficult for participants to game. Another clear advantage is that it allows us to estimate how people's perceptions of diversity change across the full range of possible representation for two groups within an organization. From this, we are able to efficiently calculate thresholds of diversity without having to develop a priori predictions about where those thresholds might lie and testing around these guesses. Additionally, fitted curves allow us to run parallel analyses at the level of both the group (as we do in Study 1 and Study 2) and the individual. Getting multiple evaluations of diversity for a series of randomly varying sets of demographics (as we do in Studies 3 through 7), allows us to estimate curves and calculate thresholds of diversity for each participant. With distributions of individual-level thresholds, we can run significance tests comparing mean thresholds between groups, as well as correlational analyses examining predictors of threshold placement.

Study 1: Do Black and White Americans Set Different Thresholds of Diversity?

Study 1 tested the prediction that members of dominant and nondominant racial groups draw different thresholds of diversity. We predicted that White participants (the dominant ethnic group in America) would, relative to Black participants (a nondominant ethnic group), declare diversity as having been achieved at a lower percentage of Black employees within an organization. We also predicted that these effects would be stronger when participants were evaluating sufficient diversity (i.e., "This company is diverse enough") relative to descriptive diversity (i.e., "This is a diverse company"). A between-subjects design was employed to test these predictions in which each participant spontaneously rated only one organization in isolation. This allowed us to measure perceptions of relative diversity in the absence of potentially influential contextual information (e.g., baselines).

Method

Participants. One-thousand and 74 White and Black MTurk workers completed our survey. Participants were 44% men, and 59% self-identified as White Americans. The average age was 34.03 with a standard deviation (SD) of 11.55 years. When asked to define their political ideology on a 7-point Likert-type scale ($1 = extremely\ liberal\ to\ 7 = extremely\ conservative\ with\ 4 = neither\ liberal\ nor\ conservative$), 54.3% self-identified in the liberal range of the scale, and 20.1% self-identified in the conservative range of the scale.

³ In post hoc analyses, we looked for between-group differences in the proportion of participants excluded from our analyses for poor fit. We observed no consistent patterns across studies, suggesting that these unusable responses are most attributable to the noise inherent in online data collection (e.g., inattentive participants).

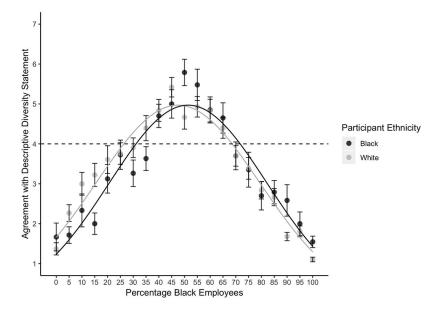
Procedures. Participants were randomly assigned to evaluate one of 21 organizations as described above in the common experimental procedure. Organizations ranged in intervals of 5% from 0% Black/100% White to 100% Black/0% White.

Results

General pattern of results. Immediately apparent from examining the overall results (see Figure 2) is support for the prediction that members of dominant and nondominant groups both generally adhere to a model of diversity based on heterogeneity (i.e., similar to the pattern of results predicted by the Simpson index). That is, rather than evaluating diversity as linearly related to the representation of the nondominant group,

or linearly related to each group's ingroup, both groups agreed that diversity peaked around the equal representation of both groups, and was lowest when either group was not represented at all.

Between-groups mean differences. Despite sharing this overall general pattern of results, there were notable differences between groups. Independent-sample *t* tests were run comparing Black and White participants for each presented organization on both descriptive and sufficient diversity dependent measures (means and standard error bars are shown in Figure 2). The majority of disagreement between Black and White participants occurred for organizations at or below 40% Black employees within the organization. This was particularly true and most reli-



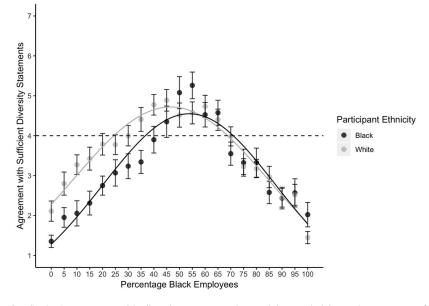


Figure 2. Study 1 agreement with diversity statements by participant ethnicity and percentage of Black employees within an organization. Standard error bars and estimated Gaussian curves are shown.

ably significant for our measures of sufficient, rather than descriptive diversity.

Estimated curves and diversity thresholds. These grouplevel data provided early support for our prediction that dominant and nondominant groups would differ in terms of their perceptions of diversity. However, because our stimuli only measured these perceptions in 5% intervals of group representation, they were not ideal for estimating each group's thresholds of diversity. Following the curve-fitting procedures detailed previously in the common analytical procedures, we fit a continuous Gaussian curve to the mean responses of both groups (see Figure 2) and calculated the points of relative group representation which bounded overall agreement with the presence of diversity. Table 1 lists the minimum Black representation thresholds and minimum White representation thresholds for both Black and White participants, responding to both our descriptive and sufficient diversity measures. Although we were only able to calculate one threshold per group (thus preempting significance testing of differences), results suggest that when looking at minimum Black representation, White participants set a consistently lower threshold than Black participants, especially when asked about sufficient diversity.

Discussion

Study 1 provides evidence in support for several of our key predictions. When looking at the aggregated responses of evaluations to single organizations, both members of dominant (White) and nondominant (Black) groups adhered to a general model of diversity in which peak diversity emerges around equal representation, and the lowest level of diversity emerges around 0% representation of either group. These patterns followed a relatively curvilinear trend, allowing us to fit a Gaussian curve to them, and use the equation generated from this to calculate thresholds of diversity. From this, we observed that, consistent with our predictions, both White participants and Black participants set thresholds that ensured their greater relative representation within an organization. Imagining these results playing out in the real world, if an organization had developed a diversity initiative and raised the representation of Black participants from single digits to around 25%, White evaluators of that organization would likely to declare that diversity initiative to be successful, whereas Black evaluators would need to see Black employee representation rise to around 30% to 35% before reaching the same conclusion. Interestingly no clear between-groups difference emerged when looking at mini-

Table 1
Study 1 Estimated Minimum Black Representation and Minimum White Representation Thresholds

Participant ethnicity	Minimum Black representation	Minimum White representation	
Descriptive di	versity (i.e., This is a diver-	se company.)	
White participants	26.38	31.48	
Black participants	31.13	28.33	
Sufficient divers	ity (e.g., This company is d	liverse enough.)	
White participants	24.42	31.26	
Black participants	36.66	29.04	

mum White representation threshold, with both groups setting this around 30% White representation.

Study 2a: Do Men and Women Also Set Different Thresholds of Diversity?

Study 2a aimed to replicate the findings of Study 1 while shifting from evaluations of ethnic diversity to gender diversity. Although gender is not actually a binary identity (e.g., Lorber, 1996), many people continue to view it as such. Therefore, it is less likely for people to wonder about the absence of entire groups in a gender context than when comparing an organization of varying percentages of only two ethnic groups. Additionally, because in contrast to ethnicity, gender is relatively evenly distributed in the population, one would expect (in the absence of more specific baseline information) that people would be operating off baselines for these groups where proportional representation and equal representation are the same. (i.e., 50% per group). Consistent with Study 1, we predicted that, the evaluations provided by men (the dominant gender group in society) and women (the nondominant gender group) would produce estimated thresholds of diversity that would ensure greater representation of their ingroup.

Method

Participants. Eight-hundred and 58 MTurk workers participated (52% men; 75% White, $M_{\rm age} = 37.93$, SD = 12.37); 57% self-identified as liberal, and 25% self-identified as conservative.

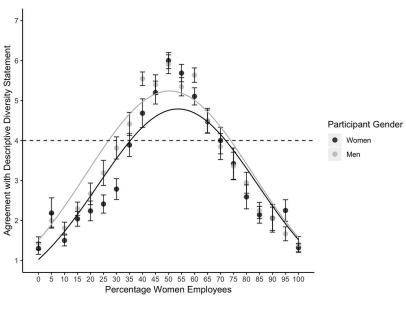
Procedures. Paralleling Study 1, participants were randomly assigned to evaluate one of 21 organizations ranging in intervals of 5% from 0% women/100% men to 100% women/0% men.

Results

Using identical procedures to Study 1, separate Gaussian curves were estimated for men and women participants (see Figure 3), producing comparable fit statistics to those observed in Study 1 (see Appendix B in the online supplemental materials). Estimated diversity thresholds are shown in Table 2. Consistent with Study 1 and our predictions, men and women participants disagreed about the minimum representation of the nondominant group (women) necessary to achieve diversity. Men participants had an estimated minimum threshold of women's representation (between 25% and 29%) that was consistently lower than women participants' (between 33% and 36%). Between-groups differences were again largest when participants were evaluating sufficient, rather than descriptive, diversity. Also paralleling Study 1, we observed no between-groups difference for the minimum threshold for men's representation (both groups had estimated thresholds around 28%).

Discussion

Study 2a replicated the finding from Study 1 that members of dominant groups and nondominant groups, although both adhering to a general model of diversity based on heterogeneity, bias their thresholds of diversity to afford their group greater relative representation. Even when participants were rating a single, nondescript, and purely hypothetical organization, systematic between-groups differences emerged. Shifting the di-



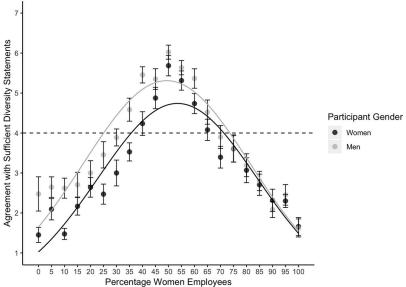


Figure 3. Study 2a agreement with diversity statements by participant gender and percentage of women employees within an organization. Standard error bars and estimated Gaussian curves are shown.

mension of diversity from two select groups in a wider set of ethnic groups, to the stereotypically binary dimension of gender, supported the notion that these group-differences are based in relative group status, and not any specific aspects of Black or White identity.

Study 2b: Do Estimated Thresholds of Diversity Translate to Explicit Agreement?

Study 2b aimed to validate our approach for calculating thresholds of diversity based on the point at which participants crossed over from a range of disagreement to a range of agreement on a continuous bipolar scale. To do this, we replicated the procedures from Study 2a (men and women participants evaluating companies varying in gender demographics) but substituted our continuous measure of agreement with a dichotomous yes/no measure.

Method

Participants. Eight-hundred and 63 MTurk workers participated (49% men, 75% White, $M_{\rm age}=26.52$, SD=16.37); 54% self-identified as liberal, and 26% self-identified as conservative.

Procedures. Following identical procedure to Study 2a, participants were randomly assigned to evaluate one of 21 organizations ranging in intervals of 5% from 0% women/100% men to

Table 2
Study 2 Estimated Minimum Women Representation and
Minimum Men Representation Thresholds

Participant gender	Minimum women representation	Minimum men representation
Descriptive diver	sity (i.e., This is a diverse	company.)
Men participants	28.68	28.04
Women participants	33.35	27.85
Sufficient diversity	(e.g., This company is div	erse enough.)
Men participants	25.04	26.40
Women participants	35.63	28.67

100% women/0% men, using a dichotomous yes/no measure to answer our descriptive and sufficient diversity questions.

Results

Figure 4 shows the percent of who responded "yes" to our diversity statements in each condition. The overall patterns seen in this study closely mirror those seen in Studies 1 and 2a. The overwhelming majority of participants of both groups agreed that diversity was present when both men and women were represented in roughly equal proportion, and that diversity was absent when either group was not represented at all. However, also paralleling the previous studies, there were systematic differences between men and women, such that men were more likely to agree with the presence of diversity in organizations with a low representation of women than women. Interestingly, if we look at the point of women's representation at which a majority (>50%) of participants from either group starts to agree with the presence of diversity, these roughly align with the thresholds of diversity seen in the prior studies (i.e., most men agree with the presence of sufficient diversity at around 25% women's representation, but most women do not agree until around 35%). Also consistent with the prior studies was the lack of consistent group differences for men's minimum representation, with the majority of both groups agreeing with sufficient diversity around 30% men.

Discussion

These findings support our decision to use the midpoint on bipolar scales (where responses shift from disagreement to agreement or vice versa) as an indicator of where people's thresholds of diversity lie. Given that the results from previous studies indicated that people's definitions of diversity can be assessed on a more continuous measure, we returned to this original approach for the remainder of the studies.

Study 3a: Do Group Differences Between Black and White Participants Replicate at the Level of the Individual?

One limitation of the prior studies was that participants only evaluated organizations at 5% intervals of the relative representation of different groups. It is rare that groups in the real world are regularly found in such intervals, perhaps creating a layer of artificiality for participants. To address this external validity concern, in Study 3a participants were asked to evaluate a series of randomly ordered organizations varying in diversity by 1% inter-

vals. This also addressed a second limitation of Studies 1 and 2, which relied on group averages on which to estimate curves of best fit. By asking each participant to evaluate multiple organizations (i.e., by using a within-subjects design), Study 3a allowed for curves to be fit to each individual, allowing us to generate distributions of diversity thresholds.

Method

Participants. Two-hundred and 16 White and Black American MTurk workers participated (43% men, 52% White, $M_{\rm age} = 37.40$, SD = 13.22); 60% self-identified as liberal, and 20% self-identified as conservative.

Procedures. Participants rated a series of organizations ranging in 1% intervals from 0% Black/100% White to 100% Black/0% White. Of the 101 possible organizations, each participant evaluated 21 organizations, selected at random and without replacement. The number of organizations evaluated by each participant was predicted to be sufficient to fit a curve without overexposing participants to the point of fatigue.

Additionally, although we measured agreement with both descriptive and sufficient diversity statements, and patterns of effects hold regardless of which measures we look at, we focus only on perceptions of sufficient diversity for the remainder of this article. This is driven by a desire to streamline results and to draw attention to this more novel and consequential way of measuring perceptions of diversity.

Results

Following the curve fitting, outlier removal, and recoding procedures described in our Common Analytical Procedures section above, we were able to calculate thresholds of diversity for a final sample of 163 participants.

Between-groups differences in diversity thresholds. Table 3 displays means and between-subjects t test significance values for White and Black participants' minimum Black representation and minimum White representation diversity thresholds. As seen in previous studies, there was no between-groups differences in terms of minimum White representation (around 28% White employees), t(160) = -.06, p = .955, Cohen's d = .01, 95% confidence interval of the difference between the means, CI [-3.54, 3.34]. Also replicating prior findings, White participants had a significantly lower diversity minimum Black representation threshold (25.40% Black employees) than did Black participants (31.19%), t(160) = 3.68, p < .001, Cohen's d = .58, 95% CI [2.68, 8.91].

Discussion

Study 3a replicated the general findings from Studies 1 and 2 using a revised study design in which we estimated thresholds of diversity at the level of the individual. By generating a distribution of thresholds for both Black and White participants, we were able to show that the difference we observed between where White and Black respondents draw minimum Black representation thresholds was statistically significant.

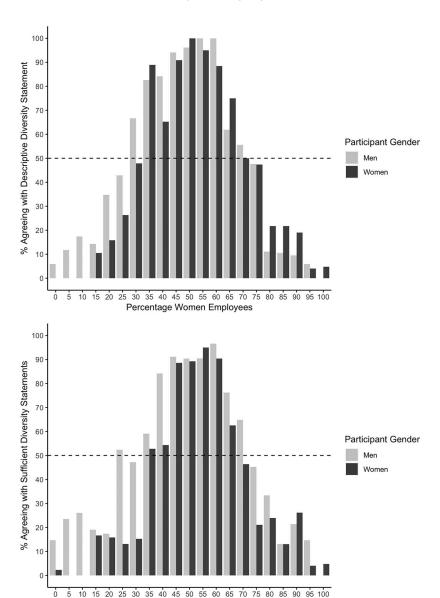


Figure 4. Study 2b percent of yes/no agreement with diversity statements by participant gender and percentage of women employees within an organization.

Percentage Women Employees

Study 3b: How Do Latinos Set Thresholds of Diversity for Black/White Organizations?

The results so far are consistent with our overall prediction that members of dominant and nondominant groups will both set thresholds of diversity that afford their group greater representation. However, this original prediction rested on the assumption that these differences were rooted not just in benefitting the ingroup, but doing so in a way that addresses each group's general concerns about the hierarchy. In other words, we predicted that nondominant groups would draw thresholds of diversity in relatively similar ways, whether their specific group is represented in the organizations they are evaluating. To test this, we asked members of a nondominant group (Latino Americans) to evaluate perceptions of diversity for organizations varying only in Black/White representation.

Method

Participants. One-hundred and 48 Latino American MTurk workers participated (41% men, $M_{\rm age}=31.60,~SD=9.30$); 58% self-identified as liberal, and 24% self-identified as conservative.

Procedures. Participants completed identical procedures and measures as Study 3a.

Results

Following the curve fitting, outlier removal, and recoding procedures described in our Common Analytical Procedures section above, we were able to calculate thresholds of diversity for a final sample of 95 participants.

Table 3
Study 3 Estimated Minimum Black Representation and Minimum White Representation Thresholds

Participant ethnicity	Minimum Black representation	Minimum White representation			
Sufficient diversity (e.g., This company is diverse enough.)					
Study 3a - White participants	25.40	27.96			
Study 3a - Black participants	31.19	28.06			
Study 3b - Latino participants	32.83	29.05			
White vs. Black - p	<.001**	.955			
White vs. Latino - p	<.001**	.543			
Black vs. Latino - p	.326	.565			

^{**} p < .01.

Between-groups differences in diversity thresholds. As shown in Table 3, Latino participants evaluating companies of varying degrees of Black and White zero-sum representation had a minimum Black representation threshold of 32.83% and a minimum White representation of 29.05%. Although this data is drawn from a separate sample, when we compare these results against the minimum Black representation threshold calculated in Study 3a, we observe a significant difference between White and Latino participants, t(176) = 4.32, p < .001, Cohen's d = .65, 95% CI [4.03, 10.82], but no significant difference between Black and Latino participants, t(172) = .99, p = .326, Cohen's d = .15, 95% CI [-4.91, 1.64]. Also consistent with prior studies, we observed no significant difference between White and Latino participants, t(176) = .61, p = .543, Cohen's d = .09, 95% CI [-4.61, 2.44] or between Black and Latino participants, t(172) = .58, p = .565, Cohen's d = .09, 95% CI [-4.38, 2.40] for the minimum White representation threshold.

Discussion

Study 3b used the same methods as Study 3a and found that Latino participants, evaluating companies varying in zero-sum proportion of Black and White representation, looked more like the Black participants in the prior study than the White participants. Even though their group was not represented in any of the companies they evaluated, they generated similar diversity thresholds as Black Americans. This supports our prediction that setting diversity thresholds in subtly biased ways are not simply driven by a concern for one's ingroup, they also serve broader hierarchyenhancing or attenuating purposes.

Study 4: Thresholds of Diversity and Group Status Threat

Another way to demonstrate that the setting of diversity thresholds is rooted in hierarchical concerns would be to show a moderating effect of threat to group status. As securing higher group status is central to both dominant and nondominant groups' desires to enhance and attenuate the existing hierarchy, respectively, we predicted that greater group status threat would be associated with greater biasing of diversity thresholds to ensure greater ingroup representation.

Method

Participants and procedures. Five-hundred and 45 White and Black American MTurk workers participated (38% men, 61%

White, $M_{\rm age} = 37.93$, SD = 12.37); 52% self-identified as liberal, and 25% self-identified as conservative. Participants completed identical procedures and measures as Study 3a.

Group status threat. Following the ratings of perceived diversity, we measured perceived group status threat by asking participants to indicate the extent to which they agreed with the following four statements: "I am worried that in the future, my ethnic group's standing in society will be lower than it is today," "I am concerned that in the future, members of my ethnic group will be treated like second class citizens," "It troubles me to think that in the future my ethnic group may occupy a low rank in society," and "I am confident that in the future, my ethnic group will enjoy high standing in society" (reverse-coded; 1 = strongly disagree to 7 = strongly agree). These four items were collapsed into a single index of perceived group status threat ($\alpha = .86$).

Results

Following the curve fitting, outlier removal, and recoding procedures described in our Common Analytical Procedures section above, we were able to calculate thresholds of diversity for a final sample of 424 participants.

Between-groups differences in diversity thresholds. We first examined overall between-groups differences on thresholds of sufficient diversity. Consistent with the prior studies, White participants' minimum Black representation diversity threshold (27.93% Black employees) was significantly lower than Black participants' (33.31% Black employees), t(422) = 4.71, p < .001, Cohen's d = .48, 95% CI [3.14, 7.64]. Also consistent with past studies, White participants' minimum White representation diversity threshold (28.38% White employees) was not significantly different than Black participants' (28.16% White employees), t(422) = -.18, p = .854, Cohen's d = .02, 95% CI [-2.55, 2.12].

Moderation by status threat. We next used multiple linear regression to test whether perceived group status threat moderated these between-groups differences in participant's minimum Black representation diversity threshold, F(3, 420) = 11.80, p < .001. In addition to main effects of group status participant ethnicity (b = -5.28, t(420) = -4.18, p < .001), and perceived group status threat (b = 1.81, t(420) = 1.99, p = .048), we observed a significant interaction between participant ethnicity and status threat on the minimum Black representation threshold (b = -4.14, t(420) = -3.44, p = .001; see Appendix D of the online supplementary materials for visualization). A simple slopes analysis revealed that the effect of threat on the minimum Black representation threshold for Black participants was significant (slope = 1.09, SE = .55, p = .048), but weaker than the effect for White participants (slope = -1.41, SE = .48, p = .003). There was no significant interaction between participant ethnicity and group status threat on the minimum White representation threshold ($b \le$ 23.1.703, t(420) = -1.35, p = .176.

As seen in Table 4, we next estimated both minimum Black and White representation diversity thresholds for White and Black participants high $(+1\ SD)$ from the mean), at the mean, and low $(-1\ SD)$ in perceived group status threat. When looking at the minimum Black representation threshold, Black and White participants low in threat had very similar threshold values (around 30% Black representation). As threat increased, for White participants, this threshold dropped, such that White participants high $(+1\ SD)$

Table 4
Study 4 Estimated Minimum Black Representation and Minimum White Representation Thresholds at Levels of Group Status Threat

Participant ethnicity	Minimum Black representation	Minimum White representation		
−1 <i>SD</i> pe	rceived group status threat	(1.91)		
White participants	29.40 26.7			
Black participants	30.54	27.51		
Mean per	ceived group status threat	(3.26)		
White participants 27.07		28.99		
Black participants	32.35	28.07		
+1 SD pe	rceived group status threat	(4.62)		
White participants	24.73	31.26		
Black participants	34.16	28.64		

Note. Numbers in parentheses indicate level of threat on a 1 to 7 scale.

in threat drew lower thresholds (around 25% Black representation). Black participants high in threat drew higher thresholds (around 35% Black representation).

Discussion

By showing that group status threat was associated with where members of dominant and nondominant groups set thresholds of diversity, Study 4 provided further support to the prediction that these thresholds serve a hierarchical function. One possible interpretation of our findings is to imagine an organization where the representation of Black employees was steadily increasing from single digits toward equal representation. White observers highly concerned about their status would be the first to say that sufficient diversity has been achieved, at around 25% Black representation. White and Black observers low in group status concerns would not declare the achievement of sufficient diversity until closer to 30% Black representation. Finally, Black observers high in group status threat would only think the organization has become sufficiently diverse at around 35% Black employees.

Study 5: How Do Baseline Demographics Impact Thresholds of Diversity for White and Latino Americans?

In addition to the main effect of group status, we also wanted to test whether thresholds of diversity would be moderated by baseline information (i.e., the relative representation of groups in the broader context surrounding the organizations being evaluated). We predicted this baseline information would influence where both members of dominant and nondominant groups drew their thresholds of diversity. A low representation of the outgroup in the baseline should, for those motivated to ensure their group greater representation, serve as an opportunity to draw particularly biased thresholds. However, we predicted that this effect would be greater for dominant groups than nondominant groups. This was based in our prediction that nondominant groups are constrained somewhat by their preference for egalitarian, hierarchy-attenuating outcomes (i.e., they could not simultaneously favor equal representation as the fairest way to define

diversity and also set thresholds that afford them extremely high levels of relative representation). Members of dominant groups, on the other hand, with no strong commitment to egalitarian principles, should be freer to set thresholds of diversity that benefit their ingroup, and should feel freest to do so when there is a relatively low representation of the nondominant group in the baseline.

Method

Participants and procedures. Five-hundred and 82 White and Latino American MTurk workers participated (42% men, 57% White, $M_{\rm age} = 33.64$, SD = 11.08); 54% self-identified as liberal, and 22% self-identified as conservative. Participants completed identical procedures and measures as Study 3a, except that here the organizations they evaluated varied in the relative representation of White and Latino (not Black) employees.

Baseline manipulation. Prior to making any evaluations, participants were randomly assigned to one of three experimental baseline conditions. Participants were told that the companies they would be evaluating were in an industry where "the pool of qualified applicants for careers in that industry" was either 10%, 50%, or 90% Latino. In a debriefing at the end of the study, participants were asked whether they were thinking about a particular industry when evaluating the companies they saw. Ninety percent of respondents within each condition reported that no specific industries came to mind. Of those who indicated that a specific industry did come to mind, no single industry was consistently referenced by more than three participants. Although we cannot rule out the alternative, this suggests that our participants were thinking through this exercise at the intended level of abstraction, without specific industry characteristics confounding the effects of our manipulation.

Attention check. Participants also completed a recall attention check at the end of the survey in which they were asked to indicate from three choices whether the "industry in which the companies you evaluated was based had a pool of qualified applicants" that was 10%, 50%, or 90% Latino.

Results

Following the curve fitting, outlier removal, and recoding procedures described in our Common Analytical Procedures section above, we were able to calculate thresholds of diversity for 449 participants. An additional 75 participants failed our attention check and were also excluded from analyses, leaving us with a final sample of 374 participants.

Between-groups differences and condition effects on diversity thresholds. Table 5 displays estimated diversity thresholds for White and Latino participants' sufficient diversity evaluations within each of our three baseline conditions. Focusing on the minimum Latino representation threshold, we observed a nonsignificant main effect of group status, F(1, 368) = 2.03, p = .155, partial $\eta^2 = .01$; a significant main effect of condition, F(2, 368) = 16.35, p < .001, partial $\eta^2 = .08$; and a significant interaction between these two predictors, F(2, 368) = 4.02, p = .019, partial $\eta^2 = .02$. The main effect of condition on minimum Latino representation threshold was such that both groups drew slightly higher or lower thresholds of diversity when Latinos were represented as a majority or minority in the baseline, respectively. However, the observed interaction was such that, consistent with

Table 5
Study 5 Estimated Minimum Latino Representation and
Minimum White Representation Thresholds at Levels of
Baseline Manipulation

Participant ethnicity		
	10% Latino baseline condition	
White participants	21.24	30.07
Latino participants	27.83	31.34
p	.003**	.598
	50% Latino baseline condition	
White participants	30.87	27.94
Latino participants	30.66	26.38
p	.900	.417
	90% Latino baseline condition	
White participants	33.28	24.89
Latino participants	32.13	25.10
p	.639	.933

^{**} p < .01.

predictions, White participants were more sensitive to baseline information than Latinos. More specifically, White participants adjusted their thresholds of diversity according to baseline information the most when Latinos were the least represented in the baseline. Planned contrasts of between-groups differences within condition showed that White participants drew their minimum Latino representation thresholds (21.24%) significantly lower than Latino participants (27.83%) only in the 10% Latino baseline condition, t(132) = 2.98, p = .003, Cohen's d = .55, 95% CI [2.21, 10.97]. There were no significant differences between White and Latino participants in either the 50% or 90% Latino baseline conditions. There was no significant interaction between group status and condition, F(2, 368) = .40, p = .670, partial $\eta^2 = .00$, nor any significant within-condition planned contrasts on the minimum White representation threshold.

Discussion

Prior studies demonstrated how members of dominant and nondominant groups draw thresholds of diversity in ways that benefit their group's hierarchy concerns, and that these differences were strongest (a) when considering sufficient versus descriptive diversity, and (b) when participants were high in status threat. Study 5 demonstrated how baseline information can also play a moderating role in where members of dominant and nondominant groups draw the diversity line. Both groups showed some sensitivity to baseline information, but as predicted, this was strongest among White participants. White participants, presumably less constrained by a commitment to egalitarian principles than Latino participants, set especially low minimum Latino representation thresholds when Latinos were a small minority in the baseline. However, they did not make a consistent adjustment by setting an especially low minimum White representation threshold when they were the small minority. This underscores the strategic, hierarchy-enhancing motivations of members of dominant groups in setting thresholds of diversity.

Study 6: Do Principles About How to Fairly Evaluate Diversity Explain Group-Based Differences in Thresholds of Diversity?

Study 6 aimed to replicate the moderating effects of baseline statistics from Study 5. In addition, it explicitly tested whether between-groups differences in thresholds of diversity could be explained by between-groups differences in beliefs about how to most fairly evaluate diversity. Because dominant groups are often also the majority group, employing a principle of proportional representation aligns well with their hierarchy-enhancing goals. Nondominant groups may also see advantage in employing a principle of proportional representation when they are particularly underrepresented. Because of this, looking at attitudes toward proportional representation may do little to explain between-groups differences (especially considering that Study 5 showed that members of dominant groups only appear to use proportional representation when they are the majority, not the minority). We predicted that between-groups differences would be better explained by contrasting attitudes toward the notion that diversity is best evaluated against the standard of equal representation. Nondominant groups, often the minority group, may see an advantage in endorsing a principle of equal representation as the fairest way to define diversity in that it not only affords them greater relative representation, but also aligns well with their broader hierarchy-attenuating goals. Member of dominant groups, however, should see a principle of equal representation as at odds with their hierarchy-enhancing goals. We predicted that differing levels of endorsement of a principle of equal representation would not only explain between-groups differences in thresholds of diversity, but also support the general prediction and observation that members of dominant groups appear relatively less constrained in their drawing of the diversity line than members of nondominant groups.

Method

Participants and procedures. Six-hundred and five men and women MTurk workers participated (50% men, 78% White, $M_{\rm age}=36.10$, SD=12.31); 49% self-identified as liberal, and 29% self-identified as conservative. Participants completed identical procedures and measures as Study 4, except that here the organizations they evaluated varied in the relative representation of men and women employees and the baseline information manipulation told participants they were evaluating organizations in an industry where the pool of qualified applicants for careers in that industry was either 10%, 50%, or 90% women.

Support for equal representation. After evaluating their randomly assigned series of companies, participants responded to two items measuring support for equal representation included in the survey to function as potential explanatory variables for our observed effects. Two items were included to assess the extent to which participants agreed that equal representation is a fair way to determine diversity: "What is fair when considering the diversity of organizations is whether or not each gender group is represented equally" and "When considering whether an organization is diverse, one should only consider whether the gender groups in the organization are represented equally (e.g. in a state that is 30% Group X and 70% Group Y, a diverse organization would be 50% Group X)." These two items were significantly correlated (r = .59,

p < .001), so both items were collapsed into a single index of support for equal representation.⁴ There was no effect of our baseline manipulation on support for equal representation, F(2, 406) = 1.62, p = .199.

Attention check. Participants also completed a recall attention check at the end of the survey in which they were asked to indicate from three choices whether the industry in which the companies they evaluated was 10%, 50%, or 90% women, or if they didn't remember. Participants who indicated they didn't remember were excluded from analyses, although results are consistent when they are included as well.

Results

Following the curve fitting, outlier removal, and recoding procedures described in our Common Analytical Procedures section above, we were able to calculate thresholds of diversity for 508 participants. An additional 136 participants failed our attention check and were also excluded from analyses, leaving us with a final sample of 372 participants.

Between-groups differences and condition effects on diversity thresholds. Table 6 displays estimated diversity thresholds for men and women participants' sufficient diversity evaluations within each of our three baseline conditions. Focusing again on the minimum women representation threshold, we observed a significant main effect of group status, F(1, 366) = 4.53, p = .034, partial $\eta^2 = .01$; a significant main effect of condition, $F(2, \frac{1}{2})$ 366) = 7.64, p = .001, partial eta-squared = .04; and a significant interaction between these two predictors, F(2, 366) = 3.53, p =.030, partial $\eta^2 = .02$. Consistent with Study 5, the main effect of condition on minimum women representation threshold was such that both men and women drew slightly higher or lower thresholds of diversity when women were represented as a majority or minority in the baseline, respectively. Also consistent with Study 5, men participants (the dominant group) adjusted their thresholds of diversity according to baseline information more than women, and did so the most when women were the least represented in the

Table 6
Study 6 Estimated Minimum Women Representation and
Minimum Men Representation Thresholds at Levels of
Baseline Manipulation

Participant gender	Minimum women representation	Minimum men representation	
	10% Women baseline condition		
Men participants	26.50 31.58	34.01 32.36	
Women participants <i>p</i>	.006**	.387	
	50% Women baseline condition		
Men participants	31.11	32.31	
Women participants	34.89	33.06	
p	.010*	.530	
	90% Women baseline condition		
Men participants	34.26	25.94	
Women participants	33.26	28.73	
<u>p</u>	.479	.183	

^{*} p < .05. ** p < .01.

baseline. Planned contrasts of between-groups differences within condition showed that men participants drew their minimum women representation thresholds (26.50%) significantly lower than women participants (31.58%) in the 10% women baseline condition, t(114) = 2.79, p = .006, Cohen's d = .52, 95% CI [1.47, 8.69]. In contrast to Study 5, there was also a significant effect in the 50% women baseline condition, where men participants drew their minimum women representation thresholds (31.11) significantly lower than women participants (34.60%), t(123) = 2.63, p = .010, Cohen's d = .47, 95% CI [.86, 6.11].There were no significant differences between men and women participants on minimum women representation thresholds in the 90% women baseline conditions. There was also no significant interaction between group status and condition, F(2, 368) = .40, p = .670, partial $\eta^2 = .00$, nor any significant within-condition planned contrasts on the minimum men representation threshold.

Support for equal representation as an explanatory variable. We predicted that dominant versus nondominant group differences in thresholds of diversity could be partially explained by conflicting beliefs about whether equal representation is a fair way to evaluate diversity. Specifically, we predicted that dominant groups would show less support for a principle of equal representation than nondominant groups. Indeed, we observed a strong main effect of participant gender on support for equal representation, F(1, 403) = 11.36, p = .001, partial $\eta^2 = .03$; with no significant main effect of baseline condition, F(2, 403) = 1.77, p = .172, partial $\eta^2 = .01$; or interaction, F(2, 403) = 2.06, p = .129, partial $\eta^2 = .01$. Looking across experimental conditions, men were lower in support for equal representation (M = 4.18, SD = 1.61) than women (M = 4.67, SD = 1.36), t(407) = 3.36, p = .001, Cohen's d = .33, 95% CI [.20, .78].

We next tested the moderated mediation model depicted in Figure 5, in which group status predicts support for equal representation, which in turn interacts with baseline condition to predict minimum women representation thresholds. An alternative way of thinking about this model is an attempt to replicate our primary findings, using support for equal representation as a stand-in for group status. Results of the regression analyses used to test this model are shown in Table 7. Consistent with predictions, there was a significant indirect effect of group status (gender) on the minimum women representation threshold through support for equal representation, but only in the 10% women baseline condition. This indirect effect was marginal in the 50% women baseline condition and nonsignificant in the 90% women baseline condition.

Discussion

Study 6 replicated Study 5 by showing that dominant and nondominant group members' thresholds of diversity are subtly shaped

 $^{^4}$ We also examined measures of support for proportional representation (e.g., "What is fair when considering the diversity of organizations is whether or not each ethnic group is represented in proportion to their size in their local population") but found no consistent differences in support between groups (p=.207). Women expressed support for both principles of proportional and equal representation, but men only expressed support for a principle of proportional representation. These patterns were replicated in Study 7 and suggest that, in seeking to understand why dominant and nondominant groups draw different thresholds of diversity, attitudes toward principles of equal representation are most informative.

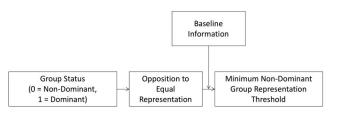


Figure 5. Studies 6 and 7 moderated mediation model.

by baseline information, but that this moderating effect only appears when it aligns with the groups' status motivations. Men (the dominant group) set consistently lower thresholds of minimum women representation than women (the nondominant group), but only when the baseline information worked to their advantage (i.e., in the 10% women baseline condition but not in the 90% women baseline condition). Women's thresholds of diversity were less influenced by baseline information, a pattern we attribute to their greater preference for using a principle equal representation in evaluating diversity. In addition to possibly explaining why nondominant groups were less likely than dominant groups to use baseline information to their advantage, support for equal representation (a generally egalitarian principle thought to align better with nondominant groups' hierarchy concerns than dominant groups') also helps to explain betweengroups differences in diversity thresholds. In our moderated mediation model (Figure 5), our general pattern of results was effectively replicated using support for equal representation as a stand-in for group status, suggesting a mediating role.

Study 7: Do Thresholds of Sufficient Diversity Translate Into Thresholds at Which Diversity Initiatives Are No Longer Needed?

Study 7 builds upon the previous studies in several ways. Returning to a Black/White pairing, it was predicted that the moderating effects of baseline information of Studies 4 and 5 would be replicated, such that White participants would set lower minimum Black representation thresholds than Black participants

especially when Black people were sparsely represented in the local context. In addition to testing this with a more fine-grained approach by examining two contexts in which Black people were varying degrees of a minority, here the baseline context was shifted from industry to state as a test of the generalizability of our predictions.

Dependent variables were also added to validate the thinking that declarations of sufficient diversity being achieved effectively translate into declarations that concerted efforts to increase diversity in that organization are no longer needed. We predicted that sufficient diversity thresholds would map on closely to when individuals thought that diversity initiatives were no longer necessary. Additionally, we aimed to replicate the finding that opposition to equal representation functions as an explanatory variable for why members of dominant groups draw lower diversity thresholds than nondominant groups in low baseline contexts. To validate that attitudes about equal representation were channeling broader attitudes about the social hierarchy and the overall premise that diversity thresholds can be drawn in ways that address grouprelevant status concerns, we aimed to replicate our moderated mediation model using the antiegalitarianism subscale of the social dominance orientation scale (SDO; Ho et al., 2015) as an alternate mediator.

Method

Participants and procedures. Two-hundred and 99 White and Black American MTurk workers participated (42% men, 54% White, $M_{\rm age} = 35.39$, SD = 11.93); 50% self-identified as liberal, and 26% self-identified as conservative. Participants completed identical procedures and measures as Studies 4 and 5, except that here the organizations they evaluated varied in the relative representation of Black and White employees and the baseline information manipulation told participants they were evaluating organizations in an industry where the pool of qualified applicants for careers in that industry was either 1% Black or 37% Black in the state. These percentages were chosen to approximate the American states with the lowest and highest representation of Black citizens

Table 7
Study 6 Moderated Mediation

	DV = Support for equal representation	DV = Minimum women representation threshold
Group status $(0 = \text{woman}, 1 = \text{man})$	49 **	-1.97^{\dagger}
Support for equal representation	_	3.31**
50% Women baseline condition	_	14.14**
90% Women baseline condition	_	23.98**
Support for Equal Representation × 50% Women Baseline Condition	_	-2.13 *
Support for Equal Representation × 90% Women Baseline Condition	_	-4.16 **
Constant	4.67**	3.21**
R^2	.03***	.13**

Bootstrapped bias-corrected 95% confidence intervals of indirect effect at level of condition

10% Women baseline condition: [-3.07, -.48] 50% Women baseline condition: [-1.47, .00] 90% Women baseline condition: [-.29, 1.42]

Note. Key path coefficients are bolded. For dummy coded condition variables, 10% women condition is the excluded baseline; significant indirect effects are those whose bias-corrected confidence intervals do not contain zero. p < 0.10. p < 0.10. p < 0.10.

in them (Montana and Mississippi, respectively) but were not explicitly labeled as such.

Diversity initiative opposition. When evaluating each organization, in addition to expressing agreement with our sufficient diversity statements, participants also indicated their agreement with two statements aimed to measure opposition to diversity initiatives: "This company doesn't need to make any special efforts to increase the diversity of its employees" and "This company should invest in increasing the diversity of its employees" (reverse-coded).

Support for equal representation and SDO-E galitarianism. After evaluating their randomly assigned organizations, participants completed identical measures of support for equal representation from Study 6. Participants also expressed their agreement with eight items from the antiegalitarianism subscale of the social dominance orientation inventory (Ho et al., 2012). We measured agreement with eight statements such as "Group equality should be our ideal" and "Increased social equality is beneficial to society" ($\alpha = .94$).⁵ Although these items are typically reverse-coded, here we kept their original coding such that higher scores represent more egalitarian attitudes. There was no effect of our baseline manipulation on either support for equal representation, F(1, 182) = 1.86, p = .174 or SDO-E, F(1, 182) = 1.43, p = .233.

Attention check. Participants also completed a recall attention check at the end of the survey in which they were asked to select from three choices whether the state in which the companies they evaluated was 1% or 37% African American, or if they didn't remember.

Results

Following the curve fitting, outlier removal, and recoding procedures described in our Common Analytical Procedures section above, we were able to calculate thresholds of diversity for 206 participants. An additional 34 participants failed our attention check and were also excluded from analyses, leaving us with a final sample of 172 participants.

Between-groups differences and condition effects on diversity thresholds. Table 8 displays estimated diversity thresholds for Black and White participants' sufficient diversity and diversity initiative opposition evaluations within each of our two baseline conditions. We observed that the thresholds of diversity calculated for our diversity initiative measures were highly correlated with the thresholds of diversity for our sufficient diversity measures $(r = .91^{**})$ for the minimum Black representation threshold and $r = .91^{**}$.94** for our minimum White representation threshold). This supported our prediction that the point of relative group representation at which people thought sufficient diversity had been achieved signaled the same point at which they thought diversity initiatives were no longer needed. Given this very high correlation between these measures and that we see a nearly identical pattern of results depending on whether we focus on sufficient diversity, diversity initiative opposition, or the combination of the two, we streamline the following analyses below to parallel prior analyses and focus only on the sufficient diversity outcomes. The outcomes for our moderated mediation model using diversity initiative opposition thresholds as our dependent variable can be found in the online supplementary materials (see Appendix E).

Table 8
Study 7 Estimated Minimum Black Representation and Minimum White Representation Thresholds at Levels of Baseline Manipulation

Participant ethnicity	Minimum Black representation	Minimum White representation	
Sufficient divers	ity (e.g., This company is d	iverse enough.)	
1	% Black baseline condition		
White participants	22.07	68.13	
Black participants	31.02	71.61	
p	<.01**	.28	
3′	7% Black baseline condition	1	
White participants 26.48		69.07	
Black participants	31.25	67.73	
p	.02*		
	opposition (e.g., This compa diversity of its employees.		
1	% Black baseline condition		
White participants	24.04	69.85	
Black participants	31.95	72.80	

.02

37% Black baseline condition

27.01

32.24

.01

41

69 95

69.35

.80

White participants

Black participants

Focusing on the sufficient diversity minimum Black representation threshold, we observed a significant main effect of group status, F(1, 167) = 15.40, p < .001, partial eta-squared = .08; but no significant main effect of baseline condition, F(1, 167) = 1.76, p = .187, partial $\eta^2 = .01$; and no significant interaction between these two predictors, F(1, 167) = 1.43, p = .234, partial $\eta^2 = .01$. Despite not observing a significant interaction, we observed in planned contrasts that White participants drew their minimum Black representation thresholds (22.07%) significantly lower than Black participants (31.02%) in the 1% Black baseline condition, t(78) = 3.06, p = .003, Cohen's d = .69, 95% CI [3.13, 14.77]. White participants also drew their minimum Black representation thresholds (26.48%) significantly lower than Black participants in the 37% Black baseline condition (31.25%), but this betweengroups difference is slightly attenuated, t(89) = 2.36, p = .021, Cohen's d = .52, 95% CI [.75, 8.80]. If we look at these results a slightly different way, by comparing condition within ethnic group, we see that the effect of the baseline condition on White participants' minimum Black representation thresholds was marginally significant, t(96) = -1.74, p = .085, Cohen's d = .35, 95% CI [-9.44, .62]. This suggests that White participants were

^{*} p < .05. ** p < .01.

⁵ We also measured SDO-D, the dominance subscale of social dominance orientation. However, as this subscale is more about explicitly oppressing outgroups, and not about opposition to egalitarianism, we predicted it would be less of a parallel to opposition to equal representation. Indeed, SDO-D did not contribute much clarity to our models and was excluded from our analyses for parsimony.

marginally responsive to baseline information in the predicted ways, and that the failure to replicate the interaction between group status and baseline manipulation was due to the fact that both conditions in this study were ones in which Black people were the clear minority. Consistent with prior studies, there was also no significant interaction between group status and condition, F(1, 167) = 1.64, p = .202, partial $\eta^2 = .01$, nor any significant within-condition planned contrasts on the minimum White representation threshold.

Support for equal representation and SDO-E as explanatory variables. Mirroring Study 6, we predicted that dominant versus nondominant group differences in diversity thresholds could be partially explained by conflicting beliefs about whether equal representation is a fair way to evaluate diversity, and that this would be replicated using SDO-E as an alternate mediator. Consistent with Study 6, group status (participant ethnicity) was a significant predictor of both support for equal representation, F(1, 180) = 6.98, p = .009, partial $\eta^2 = .04$; and SDO-E, F(1, 180) = 9.93, p = .002, partial $\eta^2 = .05$, with White participants scoring lower than Black participants on both variables.

We next tested two separate versions of the moderated mediation model depicted in Figure 5. These models differed depending on whether we used support for equal representation or SDO-E as the mediator, although both still produced significant indirect effects when entered simultaneously in the model. Results of the regression analyses used to test this model are shown in Table 9 (results for diversity initiative opposition thresholds can be found in Appendix E of the online supplementary materials). For both mediators (and both outcome variables), there was a significant indirect effect of group status (ethnicity) on the minimum Black representation threshold through support for equal representation, but only in the 1% Black baseline condition. This indirect effect was nonsignificant in the 37% Black baseline condition.

Discussion

Consistent with previous studies, Study 7 showed that members of the dominant group, in contrast to those in nondominant groups, are more likely to declare sufficient diversity as being achieved at a lower percentage of members of the nondominant group, and that this difference is strongest when the nondominant group is scarcely represented in the baseline. In addition, this study added clarity to a few issues raised in prior studies. Participants' perceptions of when sufficient diversity had been achieved were highly correlated with perceptions of when diversity initiatives were no longer needed (r > .90). This finding suggests how the findings in previous studies about perceptions of sufficient diversity may translate into policy attitudes and behaviors. Study 7 also showed additional support for the prediction that relevant baseline information moderates where people set thresholds of diversity, such that members of dominant groups especially are likely to use that information to set thresholds of diversity that benefit them. Finally, Study 7 parallels Study 6 in showing that differences between dominant and nondominant groups could be explained by their differing commitment to a principle of equal representation. This was replicated again using a broader measure of egalitarian values (SDO-E). These results lend further evidence to our prediction that the setting of thresholds of diversity function to serve the hierarchy-enhancing desires of dominant groups and the hierarchy attenuating desires of nondominant groups.

Post Hoc Analyses

Studies 1 through 7 provided consistent evidence in support of our first six predictions described in the Present Research section of our introduction. Our seventh prediction, however, that members of nondominant groups, committed to egalitarian principles, would be more consistent in their drawing of the thresholds of

Table 9
Study 7 Moderated Mediation for Sufficient Diversity Thresholds

	Model 1		Model 2	
	DV = Support for equal representation	DV = Minimum Black representation threshold	DV = SDO-E	DV = Minimum Black representation threshold
Group status	70**	-5.69**	55**	-5.52**
(0 = Black, 1 = White)				
Support for equal representation	_	3.52**	_	_
SDO-E	_	_	_	4.93**
37% Black baseline condition	_	13.89**	_	23.73**
Support for Equal Representation × 37% Black	_	-2.46*	_	_
Baseline Condition				
SDO-E × 37% Black Baseline Condition	_	_	_	-3.43 *
Constant	4.63**	13.65**	6.27**	78
R^2	.05**	.21**	.05**	.21**

Bootstrapped bias-corrected 95% confidence intervals of indirect effect at level of condition—mediator = support for equal representation 1% Black baseline condition: [-4.86, -.64] 37% Black baseline condition: [-1.94, .29]

Bootstrapped bias-corrected 95% confidence intervals of indirect effect at level of condition—mediator = SDO-E 1% Black baseline condition: [-6.14, -.77] 37% Black baseline condition: [-2.28, .36]

Note. SDO-E = Social dominance orientation-Egalitarianism. Key path coefficients are bolded. For dummy coded condition variables, 1% Black condition is the excluded baseline.

Significant indirect effects are those whose bias-corrected confidence intervals do not contain zero.

 $p^{\dagger} = 0.10.$ p < .05. p < .01.

diversity, is best examined in the aggregate. In support of this prediction, we saw in Studies 5 through 7, that members of nondominant groups were less likely to employ baseline information to adjust their diversity thresholds in ways that benefit their group. Furthermore, members of nondominant groups were more likely than members of dominant groups to express support for to a principle of equal representation and more general egalitarian attitudes. However, when we look at our estimated thresholds of diversity for all of our studies (see tables or Appendix F of the online supplementary materials for a summary graphic), it is clear that no group is totally consistent across studies and contexts. Although instances of dominant groups drawing biased thresholds of diversity stand out the most, there are multiple instances where members of nondominant groups drew thresholds of diversity that would also benefit them (i.e., setting minimum thresholds of nondominant group representation higher than minimum thresholds of dominant group representation).

Given this ambiguity, we can best assess the validity of our prediction through descriptive statistics of these aggregated results. For example, if we take the absolute value of the difference between the minimum nondominant group representation threshold and the minimum dominant group representation threshold, we can get a sense of how symmetrical around 50%/50% representation each group's thresholds are. The more thresholds are set to one's ingroup advantage, and the more they move around in response to baseline information, the higher this value would be. Although we do not have enough data points for significance testing, this index of consistency produces a mean of 5.23 for dominant groups and 4.00 for nondominant groups. Another method of assessing consistency is calculating the range of agreement with sufficient diversity (i.e., [100 - minimum dominant group representation] - minimum nondominant group representation) and then calculating the variance of these ranges of agreement. Here, again, the higher the variance, the more people's responses are changing study to study based on our moderators and general group-interest. This variance score was 11.95 for dominant groups and 10.37 for nondominant groups.

Looking at these two metrics for consistency, we see partial, but not overwhelming support for our seventh prediction. Certainly, members of nondominant groups are more in favor of egalitarian principles and equal representation than members of dominant groups, but these principles do not completely restrain them from setting thresholds of diversity to their advantage. Indeed, these seemingly contradictory forces (enhancing ingroup status while endorsing egalitarianism) both serve the broader purpose of attenuating the broader hierarchy. The story for members of dominant groups is more straightforward. With less commitment to egalitarian principles, dominant groups are freer to set thresholds of diversity that worked to serve their hierarchy-enhancing goals.

General Discussion

Testing a variety of groups and using novel methods, seven studies substantiated the prediction that members of dominant groups and nondominant groups can look at identical demographic data and come to different conclusions about the degree to which an organization is diverse. Where there was disagreement, thresholds of diversity were drawn by members of both groups in ways that ensure themselves greater representation. This was shown to

be especially the case when thresholds were set in terms of sufficient (vs. descriptive) diversity, when group status threat was high, and when the nondominant group was a small minority in the local context. These patterns were explained by differences in support for equal representation as the standard against which evaluations of diversity should be made, an idea that mirrored broader beliefs expressed in the egalitarianism subscale of social dominance orientation. Together, these findings suggest that the setting of numerical thresholds of diversity can address groups' concerns about their standing in the social hierarchy.

Theoretical and Methodological Contributions

Although novel in its method and findings, the conclusions from this work are generally consistent with a growing literature on the subjective nature of diversity showing that members of dominant and nondominant groups define diversity in ways that benefit themselves (Bauman et al., 2014; Unzueta & Binning, 2012). We find that, even when examining numerical representation, the ambiguity around diversity allows for a strategic interpretation of these numbers. This finding is interesting in the context of popular mathematical indices of diversity such as the Simpson index (Simpson, 1949). Although people's numerical definitions of diversity do appear to follow the general pattern of this index (i.e., following a premise of heterogeneity in which peak diversity in a two-group context is around 50%/50% representation, and the lowest levels of diversity when either group is completely unrepresented), people modulate this model to their advantage. This suggests that people may hold general heuristics or mental algorithms for determining whether an organization is diverse, but that these can be biased by group-based motivations and the context they are in.

Our research also indicates a process by which group differences in thresholds of diversity may emerge and be enforced. Beliefs about whether diversity should be evaluated against a principle of equal representation appear to function as the legitimizing ideology that distinguishes members of dominant and nondominant groups. This is interesting in that it is generally proportional representation that is invoked in policy and legal contexts as a practical principle of evaluating diversity (Abram, 1986; Lippert-Rasmussen, 2008; Robinson et al., 2001). Examining support for a principle of proportional representation, however, did little to explain between-groups differences in thresholds of diversity. Instead, relative support for equal representation (and broader egalitarian attitudes) provide the most insight into why members of dominant and nondominant groups set thresholds of diversity that are biased in their favor. Clearly, more research exploring these principles, where they come from, and who supports them, will be fruitful in better understanding how people form their definitions of diversity.

Another theoretical contribution of this work is highlighting the potential distinction between sufficient and descriptive diversity. In our early studies, we observed greater between-groups differences when organizations were evaluated as being sufficiently versus descriptively diverse. We also observed that, consistent with predictions about the prescriptive implications of evaluations of sufficient diversity, that the point of relative group representation at which an organization was declared to be sufficiently diverse also indicated the point at which diversity initiatives were

said to be no longer needed. As a result, past research assessing descriptive definitions of diversity (e.g., Unzueta & Binning, 2012) may, in fact, be underestimating the size of group-based differences in diversity perceptions. Moreover, by not specifically assessing prescriptive perceptions of diversity, past research may be missing the definitions of diversity that are most likely to impact real-world attitudes and behavior.

Another major contribution of this work is its novel methods. The empirical and analytical strategy described in this article allows researchers to calculate thresholds of diversity in an accurate but indirect way, drawing upon a simple series of questions, the responses to which are much harder for participants to game than if they were explicitly asked to define their thresholds of diversity. In addition to further exploring peoples' thresholds of diversity, this approach could be used to address a wide range of research questions. For example, using identical stimuli, one could test at which points of relative group representation would people view an organization as a successful business or as an attractive place to work. Outside of the context of diversity, researchers could use this approach to determine thresholds of approval for the distribution of a wide range of zero-sum resources. For example, given a fixed budget to allocate to members of two groups, the methods presented here could be used to estimate the points of relative funding at which members of each group would begin to see that allocation as fair. We expect that scholars from a diverse range of disciplines will find ways to refine the methods detailed here and apply them to a wide range of research questions.

Limitations and Future Directions

As a theoretically and empirically novel first step into the psychology of numerical definitions of diversity, this research still faces several limitations. One such concern may regard the sample sizes in some of our later studies and the possibility that we are underpowered. We acknowledge this as a potential limitation of this work, but we have taken care to detail effect sizes across our studies and share our raw group-level responses in the online supplementary materials (see Appendix C). This limitation is driven in part by our exclusion criteria (Appendix B) and the fact that in each study where we fit curves to individual participants (Studies 3a through 7) we consistently had to exclude those whose responses either fit our model poorly or produced no calculable thresholds. Although our models fit the responses of the clear majority of our participants well, this finding naturally raises questions about generalizability and the possibility that there are some people whose thresholds of diversity cannot be represented by even our best-fitting model. However, because we did not notice any systematic demographic differences between those excluded by these criteria and those included, we cannot rule out that this may also be a consequence of noise in our data. Participants clicking randomly or invariantly throughout studies is an inherent risk to online data collection and would generate poor fitting results like the ones we observed. Given this concern, in Studies 5 through 7, we also opted to exclude participants who failed our attention checks. Although reinstating these individuals in our samples had a minimal, and sometimes even favorable, impact on our effect sizes, excluding inattentive participants allowed us to run the most faithful and conservative tests of our predictions. By

ensuring larger sample sizes and recruiting from more attentive subject pools, future research replicating these methods should be able to minimize these concerns.

A more theoretical question can be raised about the consistent pattern of results in which we found, across all of our studies, no significant between-groups differences in thresholds of minimum dominant group representation. In every reported study and every context, participants from both the dominant and nondominant group thought that sufficient diversity had been achieved at roughly 30% representation of the dominant group. This is in contrast to the question of sufficient diversity for nondominant group representation, where dominant groups typically set the bar lower than 30%, and nondominant groups often set it higher. If members of dominant and nondominant groups wanted to maximize the extent to which their diversity thresholds served their hierarchy concerns, they would adjust both thresholds accordingly. Exactly why we did not see group-differences emerge in regards to minimum dominant group representation remains one of the unresolved questions of this research and potentially one of the most exciting avenues for future exploration. One tempting explanation is that this is an artifact of our curve-fitting procedures, but this is quickly ruled out by an examination of the raw mean group-level responses (Appendix C). An alternative explanation is that this is just the result of dominant groups being biased (setting higher minimum representation thresholds for themselves than for nondominant groups) and nondominant groups not reciprocating. However, our post hoc analyses showed that differences in groupserving bias were not categorical, rather they were a matter of degree. The most plausible working explanation we have is that dealing with minimum nondominant group representation is more of a real-world issue than minimum dominant group representation. Most workplaces in the United States focus on diversity demographics when the nondominant group is rising in representation from a very low amount toward parity. It is rarely the case that people are concerned with the underrepresentation of dominant groups, likely because this primarily occurs in lower status contexts. Therefore, in the conflict between dominant and nondominant groups in defining diversity the minimum nondominant group representation threshold may simply be where the "battlefield" lies. Unfortunately, despite this finding being extremely consistent, we have no way of testing its origins with the current data. We hope other researchers to explore this question as well.

Another question not entirely resolved by this research is the extent to which the drawing of diversity thresholds is deliberate. Recent research has argued that in some instances, certain thresholds of diversity (e.g., having exactly two women on corporate boards) may be shaped by pressure to conform to descriptive norms (Chang, Milkman, Chugh, & Akinola, 2018). Given our methods in Studies 3 through 7 (evaluating 21 companies of randomly varying relative group representation), we think it would have been challenging for participants to game their responses in order to produce a specific threshold, and unlikely that they were dwelling on normative pressures when making their judgments. One possible way to reconcile these findings is that the evaluation of company demographics as tested here, tapped into more automatic (and thus susceptible to bias) processes than a more deliberative process like deciding how to staff a board.

Another set of reasonable critiques can be made regarding external validity. For example, our studies were devoid of much of the information that normally accompanies numerical representations of diversity (e.g., the industry of the organization, or how it fares on other dimensions of diversity, etc.). Although our stimuli were based on commonly used representations of diversity statistics, they were kept free of additional information to assess their effects without extraneous confounds or distractors. Examining the effect of supplementary information, however, remains an interesting opportunity for future research. For example, stereotypes about certain industries or groups (e.g., evaluating the diversity of a majority White hockey teams vs. a majority Black basketball team) may moderate results in similar ways to the baseline information used in this research. Additionally, future research could examine what happens when individuals are given multiple baseline statistics (e.g., differing state and industry-specific demographics), to see whether one is seen as more relevant or whether participants choose the one that best suits their group-based motivations.

Our decision to focus, for four of our studies, on the relative representation of only two ethnic groups may also pose issues of external validity in the American context. Unfortunately, the methodological and analytical complexity of adding a third or fourth group to the present experiments far exceeds the scope of this article. Although this will be important to test, concerns about generalizability were largely assuaged when we tested our basic design on the dimension of gender (typically perceived to be a binary identity). Future research will benefit from examining groups of more ambiguous status (e.g., Asian Americans; Kim, 1999; Zou & Cheryan, 2017) or how diversity is determined in organizations consisting of two nondominant groups.

A related limitation is that we only ever compared individuals on a single dimension of identity. This raises the following question about the interaction between participant ethnicity and gender across our studies. For example, when examining the racial makeup of an organization, do White men and White women respond in the same way? In post hoc analyses of our results, we found no moderating effects of the identities that were not made salient (i.e., gender in studies where diversity was evaluated in terms of ethnicity, or ethnicity in studies where diversity was evaluated in terms of gender; all ps > .200). Future research should test whether making multiple identities salient influences where people draw their thresholds of diversity.

Finally, although we demonstrated that the points of relative group representation at which people declare sufficient diversity as having been achieved map on closely to the points at which they declare diversity initiatives no longer necessary, we did not explore attitudes about the full range of such initiatives (e.g., targeted hiring vs. diversity trainings vs. mentorship programs, etc.). It would be interesting to see if support for these different policies would vary in their relationship with beliefs about sufficient diversity. There are some policies (e.g., mandatory quotas, historically a "third rail" policy issue; Kravitz & Platania, 1993; Unzueta, Lowery, & Knowles, 2008) that some people may be hesitant to embrace even if they do not think sufficient diversity has been achieved, or that people will only support in order to increase the representation of their ingroup, but not the outgroup. Additionally, other efforts which fall under the broad umbrella of diversity initiatives but aren't linked so directly with changing the representation of groups (e.g., mentorship programs for members of underrepresented groups) may find support regardless of whether sufficient numerical diversity has been achieved. These remain important questions to explore both within and outside this research paradigm.

Implications

Given the utility a single concrete numerical definition of diversity would have for organizations and policymakers, how then should we grapple with the finding that such a definition would be inevitably subject to group-based biases? Although this research does provide estimated values of relative representation at which people began to perceive diversity, we strongly caution readers against using these estimates literally. That is, the general thresholds of diversity provided in this paper (e.g., approximately 30%– 70% of a group) should *not* be interpreted as objective diversity targets. Given the abstract context in which these estimates were generated, and that these thresholds varied significantly among people based on their group membership and context, we reject the notion of any "true" diversity threshold. Additionally, this research does not suggest the widespread adoption of either proportional representation or equal representation as guiding principles for determining diversity. Although equal representation is more likely to lead to greater equality across groups, there are practical constraints that may limit its applicability in all situations and may stir up discontent among members of dominant groups if introduced as formal policy.

Despite these important caveats, we also caution against leaving diversity goals wholly undefined. The pursuit of an ambiguous "critical mass" of diversity may lead to both confusion and inaction. At one point in the Supreme Court's deliberations of Fisher v. Texas, Justice Scalia, frustrated by either sides' inability to provide an explicit numerical value for the critical mass upon which the case was being argued, joked "we should probably stop calling it critical mass then, because mass, you know, assumes numbers . . . call it a cloud or something like that" (Fisher v. Texas, 2013). Although this case is now resolved, part of its drawn-out deliberation was attributed to the absence of a defined numerical definition of diversity. Additionally, past research has found that we cannot rely on organizations to diversify by themselves (Edelman et al., 2001), as reaching organizational diversity goals typically requires the setting of specific diversity goals and the allocation of resources to monitor progress toward these goals. Therefore, when the need to set concrete diversity goals arises, organizations should not shy away from adopting specific goals where they are helpful. However, in doing so, they should be mindful of who is setting those goals, and how group membership and motivations, as well as the baseline statistics they are drawing from, may shape the targets they might initially prefer. Furthermore, in the context of broader structural biases and inequality, the achievement of a minimal level of sufficient diversity in one context should not be interpreted as a total and permanent achievement of that goal. Rather, sustained effort is likely necessary to maintain sufficient levels of diversity and prevent a reversion to prior insufficient levels.

Conclusion

As this research highlights the limitations of demographics in diagnosing an organization's diversity, it adds to a growing call for a more comprehensive approach to diversity (Roberson, 2006; van Knippenberg & Schippers, 2007). Although more time consuming, measures of inclusion and belonging reveal more about which employees feel marginalized and isolated in their organizations than simple demographics. That being said, we do not expect or encourage organizations to stop tracking "the numbers." Rather, we encourage all organizations to be mindful of the fact that, whenever dealing with issues of diversity, the groups we belong to inevitably shape how we see things.

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