

# Is Discrimination Widespread? Testing Assumptions About Bias on a University Campus

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Discrimination has persisted in our society despite steady improvements in explicit attitudes toward marginalized social groups. The most common explanation for this apparent paradox is that due to implicit biases, most individuals behave in slightly discriminatory ways outside of their own awareness (the *dispersed discrimination account*). Another explanation holds that a numerical minority of individuals who are moderately or highly biased are responsible for most observed discriminatory behaviors (the *concentrated discrimination account*). We tested these 2 accounts against each other in a series of studies at a large, public university (total  $N = 16,600$ ). In 4 large-scale surveys, students from marginalized groups reported that they generally felt welcome and respected on campus (albeit less so than nonmarginalized students) and that a numerical minority of their peers (around 20%) engage in subtle or explicit forms of discrimination. In 5 field experiments with 8 different samples, we manipulated the social group membership of trained confederates and measured the behaviors of naïve bystanders. The results showed that between 5% and 20% of the participants treated the confederates belonging to marginalized groups more negatively than nonmarginalized confederates. Our findings are inconsistent with the dispersed discrimination account but support the concentrated discrimination account. The Pareto principle states that, for many events, roughly 80% of the effects come from 20% of the causes. Our results suggest that the Pareto principle also applies to discrimination, at least at the large, public university where the studies were conducted. We discuss implications for prodiversity initiatives.

**Keywords:** discrimination, prejudice, intergroup behavior

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*“I think implicit bias is a problem for everyone”* — Hillary Rodham Clinton, presidential candidate, 2016.

*“Most of us have unconscious biases”* — Rebecca Blank, Chancellor of the University of Wisconsin–Madison, 2017.

Discrimination, or differences in treatment toward individuals based on their membership in a certain social group, remains a

persistent problem in our society. In 2018, police were called to respond to Black individuals engaging in everyday activities including barbecuing at a local park, sitting in Starbucks, shopping at CVS pharmacy, mowing lawns, playing golf, napping on a couch, and more (Molina, 2018). These anecdotes are backed up by relevant scientific data (West & Eaton, 2019). Individuals belonging to marginalized social groups are less likely to receive help (e.g., Gabriel & Banse, 2006), are held at a greater social distance (e.g., Corrigan, Edwards, Green, Diwan, & Penn, 2001), and have their skills and accomplishments rated less positively than their nonmarginalized peers (e.g., Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012; Park, Malachi, Sternin, & Tevit, 2009). Paradoxically, these differences in treatment have persisted despite improvements in self-reported explicit attitudes toward these groups in recent decades (Charlesworth & Banaji, 2019; Fetner, 2016; Schuman, Steeh, Bobo, & Krysan, 1997).

The most prominent explanation of this paradox relies on the construct of implicit bias: the tendency to automatically associate positive or negative concepts with particular social groups (Banaji & Greenwald, 2016). According to this explanation, most individuals have implicit biases and behave in ways consistent with these biases. As a result, they engage in subtle—and sometimes not so subtle—discriminatory behaviors, even if they hold positive explicit attitudes toward a given social group. However, we know little about the proportion of individuals in a given setting who engage in discriminatory behaviors. When examining this issue,

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the question is not whether discrimination is still a serious problem in our society or whether members of marginalized groups are frequently the targets of discrimination, because data clearly show that the answer is affirmative in both cases (e.g., English et al., 2020). The question is whether this discrimination is perpetrated by a numerical majority of individuals who at least occasionally treat others more negatively, or by a numerical minority of individuals who frequently engage in discriminatory behavior. The research reported in this article addresses this question.

### The Dispersed Discrimination Account

The most common explanation for persisting discrimination is that the vast majority of individuals, despite their explicit egalitarian attitudes, engage in subtle forms of discrimination. This explanation relies on two separate claims. The first claim is that most individuals hold implicit biases toward marginalized groups (e.g., racial/ethnic minorities, LGBTQ individuals, religious minorities). This claim is supported by data collected by Project Implicit, a database of Implicit Association Test (IAT) scores from millions of individuals (Xu et al., 2017). About 68% of the population show moderate to strong biases against African Americans, 63% against Asians, and 64% against gay men and lesbians (Greenwald, Poehlman, Uhlmann, & Banaji, 2009).

The second claim is that this implicit bias leads to discriminatory behaviors. It is assumed that individuals' automatic associations influence their information processing in social situations, in turn causing them to treat members of marginalized social groups either more negatively or less positively than those not belonging to these groups. For example, Dovidio, Kawakami, and Gaertner (2002) showed that implicit bias scores were predictive of non-verbal behaviors, but not verbal behaviors, toward cross-race interaction partners, which suggested that implicit bias might be particularly predictive of behaviors that are difficult to control. These findings are consistent with another study by Ziegert and Hanges (2005), where participants higher in implicit bias evaluated Black job applicants more negatively when provided information about the company having a culture of racism.

Together, these two claims lead to what we refer to as the *dispersed discrimination account*, according to which a large proportion of individuals engage in discriminatory behavior at least occasionally (Greenwald et al., 2009; Handelsman & Sakraney, 2015; Mullainathan, 2015; Payne, Niemi, & Doris, 2018). We use the term "discriminatory behavior" to refer to all forms of differential treatment based on an individual's membership in a given social group, including unequal allocation of resources, offensive remarks, nonverbal behaviors, social distancing and exclusion, less extensive helping, lack of interest, microaggressions, lower warmth, and so forth (Dasgupta, 2004). The dispersed discrimination account holds that across a variety of settings, inequitable outcomes result from the fact that a numerical majority of individuals behave in biased ways (Banaji & Greenwald, 2016; Ghandnoosh, 2014; Sadler, Correll, Park, & Judd, 2012).

### Mixed Empirical Support for the Dispersed Discrimination Account

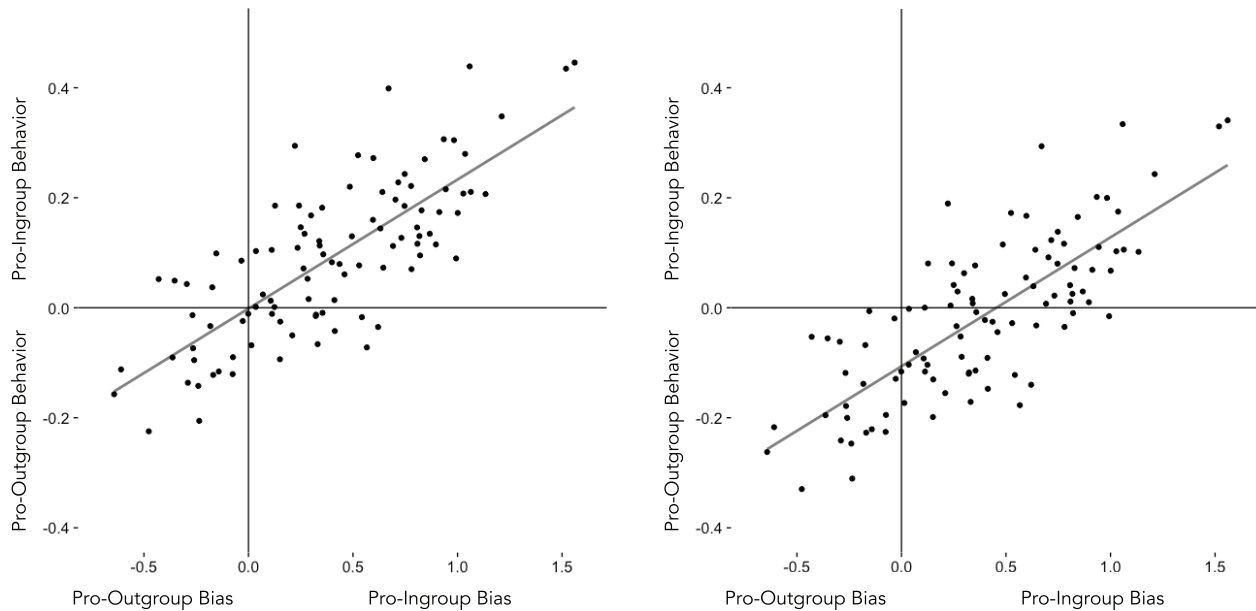
There are a number of reasons to be skeptical of this account. First, the evidence for the claim that implicit associations about

social groups affect behavior is mixed (Blanton & Jaccard, 2017). Research has shown that moderators play a salient role in determining the extent to which implicit bias correlates with discriminatory behavior (Dasgupta, 2004; Forscher, Lai, et al., 2019; Nosek, 2005; Nosek, Greenwald, & Banaji, 2007). For example, the article by Ziegert and Hanges (2005) mentioned earlier showed that the effect of implicit bias on behavior disappeared in the absence of an injunctive norm that condoned racism. Variables such as awareness, control, motivation, and beliefs about stereotypes can reduce the effect of implicit bias on discriminatory behaviors to zero. These variables strongly impact behavior and can overpower the effect of implicit bias, especially in real-world settings (Gawronski, 2019; Nosek et al., 2007).

Other evidence suggests that even if an implicit association with a target group comes to mind, acting on this association is not inevitable. Gilbert and Hixon (1991) demonstrated that stereotype activation (implicit bias) and stereotype application are distinct processes, and that only participants who are cognitively busy tend to apply a stereotype that has previously been activated. This distinction was later reinforced in a study that showed the existence of two distinct types of implicit measurements: those that assess automatic activation of stereotypes (including the IAT) and those that assess automatic application of those stereotypes (Brauer, Wasel, & Niedenthal, 2000). Burns, Monteith, and Parker (2017) showed that though cognitive retraining techniques reliably led to reductions in IAT scores (i.e., stereotype activation), they did not lead to changes in a stereotype application task. Taken together, these findings call into question the assumed automatic impact of implicit associations on behavior.

In both an initial review and a later response, Oswald and colleagues provided evidence suggesting that the IAT explains, at most, a very small proportion of the variability in intergroup behavior measured in lab settings, and the authors note that these effects are likely to be even smaller in more complex real-world situations (Oswald, Mitchell, Blanton, Jaccard, & Tetlock, 2013, 2015; see also Carlsson & Agerström, 2016; but see Kurdi et al., 2019, who found a correlation of .14 between implicit bias and behavior). According to Lai, Hoffman, & Nosek, 2013 there is not a single study showing that a change in implicit attitudes leads to a change in behavior. A recent review showed that while a variety of methods have been developed that change implicit bias, these methods produce trivial changes in behavior and if they do, these effects on behavior are not mediated by changes in implicit measures (Forscher, Lai, et al., 2019). The same conclusion was also drawn by Lai et al. (2016), who showed that none of the techniques intended to change implicit biases had effects that lasted for more than 24 hours. These findings could be fueled by a lack of clarity about what an individual's score on the IAT actually represents (Jussim et al., in press).

Finally, even if people's implicit associations did reliably predict discriminatory behavior toward outgroup members, one would not be able to draw any inferences about the proportion of individuals who treat outgroup members more negatively than ingroup members. The dispersed discrimination account relies on the assumption that pro-ingroup implicit bias implies pro-ingroup discriminatory behavior, as shown in the left panel of Figure 1. However, the fact that two variables are correlated and one of the variables has a positive mean does not allow one to draw any conclusions about the mean of the other variable. Although IAT



*Figure 1.* The dispersed discrimination account (left panel) assumes that the relationship between individuals' implicit associations (bias) and their intergroup behaviors is positive and that the means for both constructs are positive. However, the same positive relationship is also consistent with the concentrated discrimination account (right panel), which assumes less pro-ingroup behavior among those with average bias.

scores are on average positive (i.e., showing pro-ingroup bias) and, for the sake of the example, correlated with discriminatory behavior, it could nevertheless be the case that the average individual treats outgroup members just as positively as ingroup members (right panel of Figure 1).

The fact that most individuals have positive IAT scores (suggesting implicit biases against marginalized groups) does not necessarily imply that most individuals engage in subtle or overt forms of discrimination. Although there is no doubt that members of marginalized groups experience discrimination, it remains unclear whether this discrimination is perpetrated by a majority or a minority of individuals.

### The Concentrated Discrimination Account

An alternative explanation for the persistent discrimination is what we call the *concentrated discrimination account*: this account holds that discrimination is mainly perpetrated by a numerical minority of individuals who repeatedly engage in discriminatory behaviors toward members of marginalized groups. To highlight the distinction, consider the example of litter along a roadway. The fact that there is a lot of litter does not necessarily imply that the most drivers throw trash out their car window. It could be that a numerical minority of drivers is responsible for the litter along the roadway. The same logic applies to the intergroup domain: When female applicants applying for a STEM lab manager position are rated less positively, on average, than male applicants (Moss-Racusin et al., 2012), we do not know if the effect is due to most faculty members being influenced by implicit gender biases and thus evaluating the female candidate slightly less positively than the male candidate, or to numerical minority of faculty members who harbor the belief that women are less competent in STEM

than men and therefore systematically prefer male applicants. Indeed, more recent research has provided suggestive evidence for the latter explanation (Begeny et al., 2020).

The "Pareto Principle," named after economist Vilfredo Pareto, states that in many domains the majority of results come from a minority of inputs (Sanders, 1987). It is sometimes referred to as the "80/20 rule" because for many phenomena, 80% of the effects come from 20% of the causes: 80% of the revenue is created by 20% of the customers, 80% of the crashes are caused by 20% of the bugs, 80% of the cheating is committed by 20% of the individuals, and so forth. Note that the two percentages, 80% and 20%, are not absolutes, but vary depending on the phenomenon. They also may or may not sum to 100%; for example, it could be that 95% of sexual assaults are perpetrated by 15% of men, or 75% of political donations are made by 10% of voters. The Pareto principle simply states that a numerical majority of the effects is created by a numerical minority of causes. As such, the concentrated discrimination account is an instantiation of the Pareto Principle, suggesting that most of the discrimination that exists is caused by a numeric minority of individuals.

Although the concentrated discrimination account has not been directly tested, there are a number of empirical studies that indirectly support the idea that the discrimination, which members of marginalized groups are exposed to, is primarily perpetrated by a numerical minority of individuals, at least under certain circumstances. These empirical studies have identified features of settings in which most individuals are unlikely to engage in discriminatory behaviors. These features are discussed in the next paragraphs. We suggest that many settings do indeed possess these features and that the large public univer-

sity where the empirical studies reported below were conducted is a typical exemplar of these settings.

First, numerous studies have demonstrated the strong effect of injunctive norms—which indicate what behaviors are supported or approved of in a given environment—on people’s behaviors (e.g., Larimer, Turner, Mallett, & Geisner, 2004; Park & Smith, 2007). It is likely that these types of norms also affect intergroup behavior (see Dobbin & Kalev, 2018, for a similar claim). There are many settings where strong injunctive norms around nondiscrimination are highly salient. Managers, top administrators, and opinion leaders frequently insist on inclusion being one of their institutions’ core values. The prevalence of injunctive norms in modern society is demonstrated through the increasingly common adoption of nondiscrimination and similar policies in corporations and institutions of higher education; for example, a large proportion of businesses now have a perfect score on the Human Rights Campaign’s *Corporate Equality Index* (2019), which requires having such policies clearly articulated.

Next, there is evidence that explicit attitudes can have a causal effect on intergroup behaviors, over and above the effects of implicit associations. The research shows that this effect is particularly strong when the intergroup behaviors (a) can be consciously controlled, (b) are verbal, (c) are deliberate, (d) are intentional, or (e) have high conceptual correspondence with the explicit attitudes (Cameron, Brown-Iannuzzi, & Payne, 2012; Gawronski, 2019). Furthermore, intergroup behaviors are likely to be related to positive explicit attitudes when individuals are motivated to be unprejudiced and when their explicit attitudes are strong and accessible (Fazio, 2007; Fazio & Towles-Schwen, 1999; Gawronski, 2019; Gawronski & De Houwer, 2014). Recent data suggest that self-reported explicit intergroup attitudes tend to be relatively positive (Charlesworth & Banaji, 2019; Madon et al., 2001; McCarthy, 2018; Newport, 2013; Pearson, Dovidio, & Gaertner, 2009). In most settings, diversity and intergroup relations are salient issues that are frequently discussed, and people’s intergroup attitudes are thus highly accessible. In addition, many individuals are motivated to behave in a nondiscriminatory manner, as evidenced by the fact that a majority of them score above the scale midpoint on relevant scales (Dunton & Fazio, 1997; Plant & Devine, 1998). Most intergroup behaviors satisfy all, or nearly all, of the criteria above. It could thus be that there at least some—and maybe even many—settings where a numerical majority of individuals try to create a welcoming environment for others, or at least abstain from engaging in discriminatory behaviors.

Finally, despite the recent evidence of discrimination discussed above, there have also been numerous recent studies that have failed to find reliable differences in treatment based on social group membership. For example, an analysis of the NIH peer review process showed no reliable gender or race discrimination in the evaluation of grant proposals (Forscher, Cox, Brauer, & Devine, 2019). The same pattern of results was found in a study examining ratings of gig economy workers (Thebault-Spieker et al., 2017). Working with large survey data sets of more than 10,000 participants each, both Zigerell (2018) and Boutwell and colleagues (2017) found little to no evidence that members of marginalized groups experienced widespread discrimination. At the very least, these findings suggest there is some variability in when and how discrimination is expressed in modern society.

Somewhat surprisingly, there are very few recent empirical studies that examine how many individuals in a given setting treat members of marginalized groups less favorably than members of nonmarginalized groups. Several decades ago, many social scientists conducted so-called “unobtrusive method” studies by examining whether members of certain social groups were discriminated against in field settings (Crosby, Bromley, & Saxe, 1980). For example, targets belonging to different social groups would elicit helping behaviors by calling participants on the phone (as in Gaertner & Bickman, 1971) or leaving completed but unsorted applications in public places (as in Benson, Karabenick, & Lerner, 1976). Since Crosby and colleagues’ 1980 review, though, such studies examining intergroup behavior have become far less common. We know little about how widespread discrimination is today in a variety of settings.

### Communications About Discrimination Have Consequences

There is another reason why it is important to determine whether discrimination, which undeniably exists, is caused by a numerical minority or majority of individuals: communications about the ubiquity of bias, discrimination, and microaggressions affect people’s perceptions of the social norms in their environment. Such communications convey the following message to perceivers: “Your peers (and you), without being aware of it, frequently engage in discrimination.” We know from research by Schultz and colleagues (2007); Gerber and Rogers (2009), and many others that making salient the high frequency of an undesirable behavior has the potential to increase the occurrence of that behavior. Communications about the large number of people who engage in discriminatory behaviors are thus problematic for two reasons: they usually lack empirical evidence and they may lead to more, rather than fewer, discriminatory behaviors (Duguid & Thomas-Hunt, 2015).

Recent research suggests perceptions of the inevitability of and responsibility for discrimination are affected by whether the behavior is attributed to explicit versus implicit bias. Across a series of studies, participants generally saw an individual who engaged in biased behavior as less responsible for their antisocial behavior and as less worthy of punishment when that behavior was explained as being influenced by implicit rather than explicit bias (Daumeyer, Onyeador, Brown, & Richeson, 2019). Additionally, in a series of experiments testing the effectiveness of videos intended to improve gender relations in STEM fields, messaging that highlighted how widespread and commonplace sexism was in STEM fields served as a social identity threat cue for women, decreasing their sense of belonging, increasing their negative affect, and reducing their desire to combat bias in STEM (Moss-Racusin, Sanzari, Caluori, & Rabasco, 2018; Pietri et al., 2018). Messages about the large number of individuals who engage in discriminatory behaviors because of their implicit biases may thus have a number of unwanted consequences.

### The Present Research

In this article, we report a series of studies conducted at the University of Wisconsin–Madison, a large, public university with about 43,000 students. Using archival data, we first provide evi-



dence suggesting that students at this university have implicit bias scores that are comparable to those that are observed in many other settings (Study 1). We then report results from three large-scale surveys in which students report their attitudes related to diversity, their own behavior, and judgments of their peers' behaviors (Studies 2–4). Finally, we present the results of five field experiments with eight different samples and one internal meta-analysis (Studies 5–10). For these experiments, we used “unobtrusive methods” (Crosby et al., 1980) by measuring individuals' naturally occurring behaviors toward confederates who did or did not belong to marginalized social groups. As explained below, we chose behaviors that are particularly likely to be influenced by implicit biases. All studies were approved or determined to be exempt by the university's IRB.

The dispersed discrimination account predicts that students from marginalized groups should report having a rather negative experience on campus such that they feel generally disrespected and unwelcome. It also predicts that these students perceive the majority of their peers to hold negative attitudes toward outgroups and to engage in discriminatory behaviors. According to this same account, one would further expect that confederates from marginalized groups would frequently receive worse treatment than those not belonging to marginalized groups in behavioral field studies.

The concentrated discrimination account, however, predicts the exact opposite: Students from marginalized groups should report a neutral-to-positive experience on campus because they feel respected and welcomed by the majority of their peers, yet face discrimination by a minority of their peers. Also, one would expect these students to report that a numerical minority of their peers hold negative attitudes toward outgroups and engage in discriminatory behaviors. Finally, the concentrated discrimination account predicts that differences in behavior toward confederates who do or do not belong to marginalized groups will be relatively small (given that most bystanders will treat the confederates equally).

### Study 1: Archival Analysis of IAT Scores

A necessary condition of the dispersed discrimination account is that individuals, on average, have implicit biases against marginalized groups. Thus, they should have positive scores on the Implicit Association Test (IAT). Considering that all subsequent studies presented were run on the same university campus, we examined students' IAT scores. We obtained data sets from articles written by researchers at the university within the past few years in which the IAT was used to measure implicit bias. We limited our archival analysis to participants in these studies who did not receive any kind of experimental treatment (i.e., they either completed a baseline measure or were part of a no-exposure control group). We identified four articles meeting these criteria, comprising eight individual samples. Each used the Black-White/Pleasant-Unpleasant IAT (total  $N = 1,919$ ).

The results demonstrate that the IAT scores of students at the university are consistent with the population-level finding that, on average, people show a moderate bias toward Whites on the Black-White IAT (see Table 1). It is thus reasonable to assume that students who participated in subsequent studies also held implicit biases, as measured by the IAT. Assuming a normal distribution of scores and following Cohen's (1988) rules for pooling standard

deviations, the data in Table 1 suggest that 91.33% of students have IAT scores greater than zero.<sup>1</sup>

According to the 2018 data from Project Implicit's public online repository of IAT scores for American residents, the percentage of students at the university with positive IAT scores is in line with that of the general American population, in which the mean Black-White IAT score is 0.28 with a standard deviation of 0.44 ( $N = 260,548$ ; Xu, Lofaro, Nosek, Greenwald, & Axt, 2019). In our analysis of the Project Implicit raw data, we found that 74.46% of the American populace has a positive IAT score. Furthermore, when compared against the 100 American counties represented in the Project Implicit data, the mean score of 0.50 reported in Table 1 would place the student body in the 84th percentile, showing these scores are representative of or higher than those found in the general American population.

### Study 2: Campus Climate Survey

The purpose of Study 2 was to examine students' perceptions of the campus climate and their peers' behaviors. If discrimination is widespread among individuals on campus, we would expect students from marginalized groups to have a rather negative experience, both in absolute terms and compared to their nonmarginalized peers. The data for Study 2 were collected by the university's Survey Center as part of a campus climate survey. Although we did not have access to the raw data, the number of individuals who chose each response option for each question is publicly available (<https://uwmadison.app.box.com/s/irs8xjgnxsgr4v7bbjqgmx8rcpsybjpm>). We used these numbers to reconstitute the data for the analyses reported below.

### Method

**Participants.** Respondents were undergraduate and graduate students who were recruited by the university's Survey Center between October 17 and November 8, 2016. All students enrolled in courses for credit in the fall semester, including graduate and professional students, undergraduates, and special students (not enrolled in a degree program), were sent an e-mail inviting them to fill out the online survey (41,956 students in total). Overall, 8,652 students (21% of eligible students) completed the survey. Among those, 4,889 (57%) were women, 3,664 (42%) were men, and 99 (1%) selected a nonbinary gender identity. Also, 5,980 (69%) were undergraduates, 2,553 (29%) were graduate students, and 138 (2%) were other. The technical report, written by the university's Academic Planning and Institutional Research Office (also available at the above-mentioned web address), describes a series of analyses suggesting that the students who completed the survey were representative of the entire student body.

Respondents who were not International and who identified as African American or Black; American Indian or Alaska Native; Pacific Islander or Native Hawaiian; Southeast Asian; Asian or Asian American other than Southeast Asian; Chicano(a), Latino(a), or Latinx; or Multiracial or Biracial were categorized as Students of Color. Students who were not International and who

<sup>1</sup> The raw data from the IAT present a slight negative skew (−0.4). It is thus likely that the estimated percentage of students with positive IAT scores is an underestimate of the true percentage.

Table 1  
Mean Black-White IAT Scores in Studies at the University Where Subsequent Studies Were Conducted

Source article	Forscher, Mitamura, Dix, Cox, & Devine, 2017	Devine, Forscher, Austin, & Cox, 2012	Cox, 2015	Byun, 2019	Total
<i>N</i>	292	91	1241	295	1,919
Mean Black-White IAT score ( <i>SD</i> )	0.35 (0.34)	0.46 (0.39)	0.55 (0.36)	0.43 (0.40)	0.50 (0.37)

identified as Middle Eastern or White of European descent and no other race or ethnic category were classified as White. International students as well as students who did not indicate their race/ethnicity were not considered in the analyses reported below. The remaining sample consisted of 1,441 (20%) Students of Color and 5,784 (80%) Whites (total  $N = 7,225$ ).

**Procedure and outcomes.** The students completed a climate survey that contained a large number of questions regarding their experience on campus. Results of the full survey, including many items not discussed here, can be found online. The survey included items such as “How often do you feel welcome?”, “How important is it to you that the university has a strong commitment to diversity?”, and “How often do you feel respected in study groups or during group project work for a class?”

Students responded on 5-point Likert scales with labels associated with each response option. For example, the response labels for questions that asked about a frequency (“How often . . . ?”)

were *never*, *rarely*, *sometimes*, *very often*, and *extremely often*, and the response labels for questions that asked about a degree (“How much . . . ?”) were *not at all*, *slightly*, *somewhat*, *very*, and *extremely*.

In one question, respondents were asked if during the current school year, they had seriously considered leaving the university (yes or no). If they answered affirmatively, they were presented with a list of 16 possible reasons (e.g., academics too difficult, financial concerns, campus climate and culture) and were asked to check all reasons that applied to them.

## Results and Discussion

Table 2 summarizes the most important results. Replicating other climate surveys conducted at large public universities (e.g., <https://diversity.umich.edu/strategic-plan/climate-survey/>), White students held relatively positive explicit attitudes. For example,

Table 2  
Percentage of Students in Each Ethnic Category Who Chose Each of the Five Response Options for Various Items of the Campus Climate Survey

Question	Responses by White students (W)					Responses by Students of Color (C)					(W) above midpoint ( <i>p</i> value)	(C) above midpoint ( <i>p</i> value)	Odds ratio, (W) versus (C)
	1	2	3	4	5	1	2	3	4	5			
I try to create a welcoming environment for other students <sup>a</sup>	1	1	16	48	34	1	2	17	43	38	.000	.000	0.95
Important that one's university is committed to diversity <sup>b</sup>	5	7	20	34	33	3	3	9	26	59	.000	.000	0.36*
Valuing diversity is important to future success <sup>b</sup>	1	3	14	39	42	2	2	7	25	64	.000	.000	0.43*
Noticing/managing biases is important to future success <sup>b</sup>	1	2	11	39	47	1	1	7	26	64	.000	.000	0.53*
How often do you feel welcome? <sup>a</sup>	0	1	12	57	30	1	6	28	48	17	.000	.000	2.94*
How often do you feel respected? <sup>a</sup>	0	2	15	58	25	1	5	29	49	15	.000	.000	2.51*
Feel respected in study groups or during group project work <sup>a</sup>	0	1	9	60	30	1	4	20	52	22	.000	.000	2.07*
Teaching assistants respect one's comments/questions <sup>c</sup>	0	3	18	55	23	1	4	21	51	23	.000	.000	1.17*
Faculty and instructors respect one's comments/questions <sup>c</sup>	1	3	18	55	23	1	4	20	51	24	.000	.000	1.13*
Other students in class respect one's comments/questions <sup>c</sup>	1	3	28	54	14	3	10	33	40	14	.000	.000	1.73*
How respectfully are ethnic minority students treated? <sup>d,e</sup>	5	19	15	32	29	15	25	17	24	19	.000	.028	2.07*
How respectfully are White or Caucasian students treated? <sup>d</sup>	0	2	6	26	65	1	2	7	18	72	.000	.000	0.76*

Note. Inferential statistics were computed with ordered logistic regression models. \*Indicates significant odds ratios.

<sup>a</sup> The response options were: *never* (1), *rarely* (2), *sometimes* (3), *very often* (4), and *extremely often* (5). <sup>b</sup> The response options were: *not at all important* (1), *slightly important* (2), *somewhat important* (3), *very important* (4), and *extremely important* (5). <sup>c</sup> The response options were: *not at all respected* (1), *slightly respected* (2), *somewhat respected* (3), *very respected* (4), and *extremely respected* (5). <sup>d</sup> The response options were: *extremely disrespectfully* (1), *somewhat disrespectfully* (2), *neither respectfully nor disrespectfully* (3), *somewhat respectfully* (4), and *extremely respectfully* (5). <sup>e</sup> The percentages are the average of four questions asking about (a) Black or African American students, (b) Hispanic or Latino/Latina students, (c) Asian or Asian American students, and (d) American Indian or Alaska Native students.

81% of White students reported that they try *very often* or *extremely often* to create a welcoming environment for other students. A majority (68%) agreed that it is very or extremely important to them that their university has a strong commitment to diversity (another 20% considered it *somewhat important*). The vast majority of White students also considered it very or extremely important to one's future success to value diversity (81%) and to notice and manage biases (86%). Although these numbers should be interpreted with caution because of possible social desirability effects, they nevertheless suggest that a large majority of White students support the university's prodiversity initiatives and at least try to behave in a welcoming manner.

More relevant for our hypotheses are the responses by the Students of Color. The majority of them report feeling *very often* or *extremely often* welcome (65%) and respected (64%) at the university (87% and 83% for White students). A large proportion also felt very or extremely often that they were respected in study groups or during class group project work (75%), by their teaching assistants (74%), and by their faculty or instructors (74%; compared with 90%, 78%, and 78% for White students). Slightly more than half of the Students of Color (54%) felt that other students in their classes showed great respect for their comments and questions. This statistic is not encouraging, but it is also relatively low for White students (68%). Among the 1,356 Students of Color who answered the question, 258 (19%) reported having seriously considered leaving the university during the current school year (compared with 10% of White students). These 258 individuals checked a total of 833 reasons for considering leaving. Among these, the reason "campus climate or culture" was chosen by 148 individuals (57%; 27% for White students) and the reason "unsafe or hostile environment" was chosen by 78 individuals (30%; 7% for White students). Taken together, these results suggest that Students of Color report a relatively positive experience on campus, though not as positive as that of their White peers.

We conducted three inferential tests for each item: (a) whether the responses of the White students were reliably above the scale midpoint (i.e., the third response option), (b) whether the responses of the Students of Color were reliably above the scale midpoint, and (c) whether the White students differed reliably from the Students of Color. We analyzed the responses using ordered logit regression, as suggested by Fullerton and Xu (2016). This data-analytic strategy seemed particular appropriate in the present case, because the five response options did not constitute an interval scale (e.g., the psychological gap between *sometimes* and *very often* is much greater than that between *rarely* and *sometimes* and that between *very often* and *extremely often*). Table 2 reports the inferential statistics for each of the three tests mentioned above.

The ratings of Students of Color and White students were reliably above the midpoint of the scale on all the reported items (all  $ps < .0001$  except the item asking about minority student treatment,  $p < .05$ ), suggesting that both groups of students report having an experience on campus that is more positive than negative. Tests of group differences between White students and Students of Color yielded odds ratios that were generally small in magnitude (though, given the large sample size, nearly all were statistically significant).<sup>2</sup> Additional analyses revealed that similar patterns were observed for other marginalized groups, including LGBQ and Muslim students (see complete data online for more information). The dispersed discrimination account would predict

that students from marginalized backgrounds have frequent negative experiences and thus feel generally unwelcome and disrespected. Our data show that although there is a discrepancy between Students of Color and White students, Students of Color and other marginalized students do report having relatively positive experiences on campus overall.<sup>3</sup>

Taken together, these results undermine the dispersed discrimination account. Although Students of Color and other students from marginalized backgrounds generally felt less positively than White students, possibly due to experiences of discrimination or hostile behavior, the fact that they generally report feeling quite welcomed and respected is inconsistent with the account that discrimination is perpetrated by the majority of individuals with whom they interact.

### Studies 3a and 3b: Peer Perceptions

Although the results of the campus climate survey (Study 2) are consistent with the idea that discrimination is perpetrated by a relatively small number of individuals, the evidence is indirect. We thus conducted several studies in which we asked students directly to judge how many of their peers behave in either an inclusive or a discriminatory manner.

#### Method Study 3a

**Participants.** The data comprising this study were collected across multiple time points and settings. We included data from the introductory psychology "Mass Survey" across three semesters, excluding first-year students who completed the survey in the first week of their fall semester, as students in their first week on campus were unlikely to have well-informed impressions of the student body.<sup>4</sup> We also included data from three large-scale classroom intervention studies, considering only the data from students assigned to the no-exposure control condition. The total number of participants was 2,026.

Among the participants, 1,110 (57.51%) were women, 188 (9.81%) were LGBTQ (selected a nonheterosexual sexual orientation, a nonbinary gender identity, or identified as trans), 181

<sup>2</sup> According to Chen, Cohen, and Chen (2010), odds ratios of 1.68 (0.60), 3.47 (0.29), and 6.71 (0.15) correspond to small, medium, and large effects. An odds ratio of 1 indicates no difference.

<sup>3</sup> An interesting difference emerged between self-reported experiences and perceptions of how marginalized groups are treated. The percentage of Students of Color who reported that they were treated in a disrespectful manner is relatively small (6% felt disrespected in general, 5% felt disrespected in study groups or during group project work, 5% felt disrespected by faculty and instructors; see Table 2). However, when asked about how members of different social groups are treated on campus in general, a substantial proportion of Students of Color (39%) and White students (24%) agreed that Students of Color are treated "extremely disrespectfully" or "somewhat disrespectfully." This discrepancy could be due to self-selection (i.e., Students of Color who felt disrespected disproportionately decided not take part in the survey), but it could also reflect a real phenomenon: students believe the messages propagated by the university, communicating that discrimination is widespread on campus, despite the fact that they personally do not feel discriminated against by a large number of their peers.

<sup>4</sup> When first-year students are included,  $F$  statistics and effect sizes for the tests of moderation by participant group membership become even smaller in magnitude.

(9.36%) self-identified as religious minorities (Jewish, Muslim, Hindu, and Buddhist), and 525 (27.20%) were Students of Color (same definition as that used in Study 2).

**Procedure and outcomes.** The outcome of interest was embedded in a longer survey. In the one question relevant to our hypothesis, we asked respondents to divide the student body into six categories: (a) students who have very negative attitudes toward members of different social groups and engage in explicit forms discrimination, (b) students who have slightly negative attitudes toward members of different social groups and engage in indirect or subtle forms of discrimination, (c) students who have middle-of-the-road attitudes toward members of different social groups and make no effort to behave inclusively but also do not discriminate against others, (d) students who have relatively positive attitudes toward people from different social groups and behave somewhat inclusively, (e) students who have very positive attitudes toward people from different social groups and behave very inclusively, and (f) students who do not fit into any of these categories (e.g., students who have positive attitudes but engage in discrimination). Respondents were asked to assign a percentage to each category, and the sum had to total 100% in order to proceed. Participants also completed a demographic survey indicating their gender identity, sexual orientation, race/ethnicity, and religion.

### Results Study 3a

The respondents reported on average relatively positive impressions of their peers (see Figure 2). Most peers (51.56%) were seen as having very or somewhat positive attitudes toward other social groups and as behaving very or somewhat inclusively. A further 26.13% were judged as being “neutral” and not affecting campus climate in either direction. A smaller proportion of peers (11.31%) were seen as having somewhat negative behaviors and a small minority (7.09%) were judged to be highly prejudiced toward others and overtly discriminatory (3.91% were sorted into the “other” category). Notably, there was a high degree of agreement among respondents belonging to different social groups about their peers’ attitudes and behaviors. The pattern of results was similar across each of the demographic subsets considered.

To examine differences between respondent groups, we computed a linear trend for each participant: That is, we assigned different weights to each of the categories provided in the question (very discriminatory = -2, somewhat discriminatory = -1, neutral = 0, somewhat inclusive = 1, very inclusive = 2). Higher scores on this linear trend indicate an impression that more peers behave inclusively than in a discriminatory manner, and vice versa. We analyzed the linear trend multiple ways. We tested

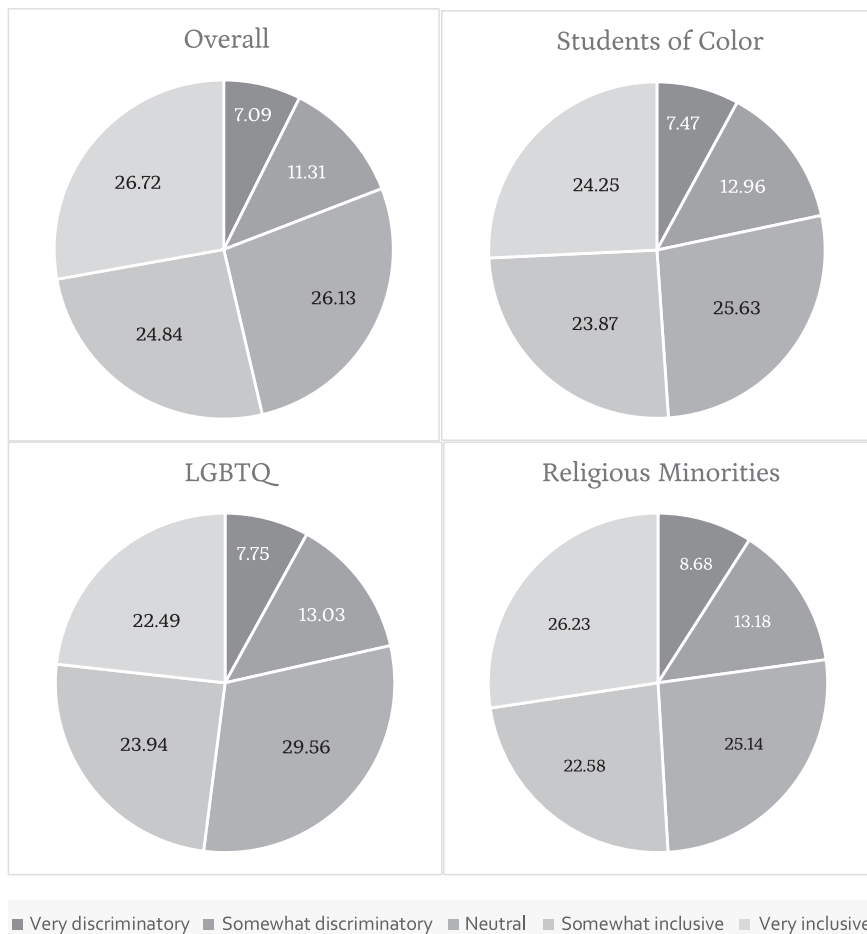


Figure 2. Perceptions of peers’ intergroup attitudes and inclusive/discriminatory behaviors of respondents overall and of respondents belonging to different marginalized groups in Study 3a.



whether the linear trends for marginalized groups were reliably different from 0. Indeed, Students of Color ( $M = 42.37$ ,  $SD = 47.48$ ), LGBTQ students ( $M = 40.38$ ,  $SD = 46.56$ ), and religious minority students ( $M = 43.45$ ,  $SD = 49.19$ ) all had linear trends significantly greater than zero, all  $ps < .0001$  and all  $\eta_p^2 > .43$ . All groups believed that the proportion of their peers who have positive attitudes toward out-groups and behave in an inclusive manner outnumber those with negative attitudes and discriminatory behaviors.

We also calculated the proportion of individuals in each of the respondent groups whose beliefs correspond to the concentrated discrimination account, that is, who believed that a minority of their peers (i.e., less than 50%) have slightly or very negative attitudes toward members of marginalized groups and discriminate toward them. Indeed, 95.22% of Students of Color, 96.07% of LGBTQ students, and 94.74% of religious minority students reported that a numerical minority of their peers are responsible for the discrimination observed on campus.

### Method and Results Study 3b

Study 3a had one major shortcoming. The descriptions of the six categories were double-barreled in that they characterized each category in terms of both attitudes and behaviors. In order to address this methodological weakness we conducted another study in which we separated the above mentioned question into two questions, one asking respondents to divide the student body into six categories defined by their attitudes and one asking respondents to divide the student body into six categories defined by their behaviors ( $N = 969$ ). The Method and Results are described in detail in the [online supplemental material](#). In short, the results were virtually identical to those of Study 3a. A relatively small proportion of peers was seen to hold somewhat or very discriminatory attitudes (20.14%), and respondents reported that a slightly smaller proportion of their peers engaged in somewhat or very discriminatory behaviors (16.14%). The pattern of results was similar across the demographic subsets we examined.

### Discussion

Taken together, these results show the overwhelming agreement among students, including those belonging to marginalized groups, that a minority of their peers engages in subtle or overt discrimination, a finding that is inconsistent with the dispersed discrimination account. Students seem to agree that a highly biased numerical minority, not a subtly biased numerical majority, is responsible for discriminatory conduct on campus, lending strong support for the concentrated discrimination account. This result is consistent with a recent report indicating that 80% of Black Americans do *not* agree with the statement “all or most White people in the U.S. are prejudiced against Black people” (Horowitz, Brown, & Cox, 2019).

### Study 4: Evidence From a College of Engineering

Studies 3a and 3b provide direct evidence for the idea that students at the University of Wisconsin–Madison do not perceive the majority of their peers to be discriminatory. One may argue, however, that it is uninformative to ask about how peers behave in

general. It could be that many students are inclusive most of the time, but occasionally engage in discriminatory behaviors. In addition, one may argue that the threshold is too high when the question is about discriminatory behavior. Most students belonging to marginalized groups report that they are rarely the target of blatant acts of discrimination, but frequently the target of more ambiguous exclusive behaviors (e.g., being chosen last for a group project; Campbell et al., 2020). To conduct a more conservative test, we obtained permission to include several questions in an “Educational Environment Survey” conducted by a large College of Engineering within a R01 research institution in the Midwest.

### Method

**Participants.** Undergraduate and graduate students at the selected college completed a survey ( $N = 1,427$ ). They were recruited through emails sent by the college’s dean and diversity office. Respondents received no compensation. Data collection occurred in the Spring semester of 2019. According to the data provided by the College of Engineering, 926 respondents identified as male, 493 as female, and eight indicated a nonbinary gender identity. Furthermore, 89 respondents corresponded to the university’s definition of “Domestic Targeted Minority” students (African American, Hispanic, Native American/Alaskan Native, Native Hawaiian, Southeast Asian), 231 were international students, and 1,098 were classified as “Domestic Majority or Not Specified.”

**Stimulus material.** The survey administered to participants contained a large number of items related to a variety of topics, including student attitudes toward and experiences in the college, commitment to their choice of major, their own confidence in relevant subjects, and future career plans (the results of the study are slated to be published publicly). The four questions we included were: “In your opinion, what proportion of engineering students engage at least occasionally in exclusive behaviors toward women?” and “In your opinion, what proportion of engineering students engage at least occasionally in exclusive behaviors toward people from races or ethnicities different from their own?” The remaining two questions were identical but asked about instructors rather than students.

### Results and Discussion

The results are summarized in [Table 3](#). Note that international students were included in the analyses of the questions about women, but excluded from the analysis about races/ethnicities. Whether graduate students and/or international students were included in the analyses or not had virtually no impact on the results.

There was a large degree of consistency across respondents from different social groups. Most respondents belonging to marginalized groups reported a relatively positive image of their peers and instructors. Among female respondents, 75% believe that the peers who engage at least occasionally in exclusive behaviors toward women constitute a numerical minority (response options “Less than half, but not none” and “None or nearly none”). Among targeted minority students, 71% believe that a numerical minority of their peers engages at least occasionally in exclusive behaviors toward people from races or ethnicities different from their own. An even larger percentage of women and respondents from targeted minority groups believe that exclusive instructors constitute a numerical minority (86% and 87% for exclusive behaviors toward women and toward other races/eth-

Table 3

*Distribution of Responses to the Items About Exclusive Behaviors Toward Women and Toward Other Races or Ethnicities in Study 4*

<i>In your opinion, what proportion of engineering students engage at least occasionally in exclusive behaviors . . .</i>				
	<i>. . . toward women?</i>		<i>. . . toward people from races or ethnicities different from their own?</i>	
	Female respondents ( <i>N</i> = 490)	Male respondents ( <i>N</i> = 919)	Domestic targeted minority respondents ( <i>N</i> = 89)	Domestic majority respondents ( <i>N</i> = 1,090)
None or nearly none	26%	57%	26%	42%
Less than half, but not none	49%	34%	45%	44%
About half	14%	5%	12%	9%
More than half, but not all	9%	3%	15%	5%
All or nearly all	2%	1%	2%	1%

<i>In your opinion, what proportion of engineering instructors engage at least occasionally in exclusive behaviors . . .</i>				
	<i>. . . toward women?</i>		<i>. . . toward people from races or ethnicities different from their own?</i>	
	Female respondents ( <i>N</i> = 492)	Male respondents ( <i>N</i> = 920)	Domestic targeted minority respondents ( <i>N</i> = 88)	Domestic majority respondents ( <i>N</i> = 1,095)
None or nearly none	51%	77%	61%	72%
Less than half, but not none	35%	18%	26%	21%
About half	8%	3%	7%	3%
More than half, but not all	6%	1%	6%	2%
All or nearly all	1%	1%	0%	2%

nicities, respectively). Said differently, female students and targeted minority students report, on average, that the majority of their peers and instructors engage in exclusive behaviors less frequently than “at least occasionally.” This result strongly supports the concentrated discrimination account, but is inconsistent with the dispersed discrimination account.

### Study 5: Door Holding

The studies reported above were based on self-reports. Although it is relevant to know that students from marginalized groups generally evaluate their experience on campus positively (albeit less positively than nonmarginalized students) and perceive the majority of their peers to be inclusive, it is nevertheless unclear whether these self-reports reflect reality. Only behavioral field experiments in which we unobtrusively measure individuals’ reactions to members of different social groups can achieve this goal. This is precisely what we did in Studies 5–9. Research confederates, who did or did not present as members of marginalized social groups, engaged in a variety of scripted behaviors on campus. We chose behaviors that were particularly likely to be influenced by people’s implicit biases: spontaneous reactions to fellow students in situations in which participants had neither the time nor the motivation to deliberately plan their course of action, such as holding the door, sitting next to someone on the campus bus, helping someone pick up items that they dropped, and so forth. These kinds of behaviors are those that should be best predicted by implicit bias (Gawronski, 2019). We also chose behaviors that were mentioned by students belonging to marginalized groups as typical examples of discrimination on campus.

According to the dispersed discrimination account, one would expect large and highly significant differences in treatment of the marginalized and the nonmarginalized confederates. If, however,

only a minority of individuals treats members of marginalized groups more negatively, as predicted by the concentrated discrimination account, then one might expect small and maybe even nonsignificant differences in treatment in our field experiments. To anticipate the results in advance: we find support for the latter, but not for the former account.

It is worth noting the behavioral field experiments reported below were originally designed as pilot tests: We sought to identify situations on campus in which a large proportion of individuals discriminated against marginalized group members, with the goal of then using these situations as behavioral outcomes for tests of prodiversity interventions. Accordingly, we selected situations in which we expected to find differential treatment based on informal interviews with students, and as such did not hypothesize to find the small and often nonsignificant effects reported below.

As an initial demonstration of students’ spontaneous reactions to marginalized and nonmarginalized individuals, we sought to measure a passive helping behavior where the target of the behavior was not in clear need of assistance: door holding. Helping behaviors are one domain in which implicit bias likely leads to discriminatory behaviors: If discrimination is widespread among individuals, members of marginalized groups should be less likely to receive help. We examined helping toward White and Black individuals.

### Method

**Participants.** There were 480 participants in the study. All appeared to be college students, as judged by confederates. Race and gender of the participants were not recorded.

**Procedure and outcomes.** Two confederates waited outside a moderately busy campus building, one actor and one observer. The actor followed about 15 feet behind the first student who was

walking alone toward one of the doors. The actor was either Black or White, and either male or female. The actors were trained to behave in an identical manner. Both the actor and the observer recorded the focal outcome, namely whether the participant held the door for the actor (there were no disagreements in their judgments).

## Results and Discussion

A chi-square test examining the relationship between actor ethnicity and door holding behavior yielded a non-significant result,  $\chi^2(1, N = 480) = 2.26, p = .13$  (see Table 4). This effect was not moderated by actor gender,  $p = .37$ . When manipulating racial identity, either Black or White, we found a small difference in door holding behavior, but with  $p = .13$ , this difference did not reach conventional levels of statistical significance. According to the data, 95% of students do not take the other person's race into account—they either hold the door (82%) or they do not (13%)—whereas 5% of students hold the door for a White person but not for a Black person.<sup>5</sup>

### Studies 6a and 6b: Asking Directions

In these studies, actors solicited directions from a stranger. Building on Study 5, this paradigm made clear that the target was in need of assistance. Furthermore, we included manipulations of social group membership that were not systematically confounded with actor identity (i.e., the same actor could be represented as both a member of the marginalized group and a member of the nonmarginalized group). Across these studies, actors representing members of different social groups asked for directions to another location on campus. In Study 6a, we examined helping behavior toward Whites, Asians, and Muslims. In Study 6b, the confederate asking for help was either gay or his sexual orientation was unspecified. We also added a quantitative outcome variable to measure the extent of the helpfulness.

## Method

**Participants.** In both studies, we collected behavioral responses from individuals at the University of Wisconsin–Madison. The actors only approached individuals who appeared to be college age, though the exact age of the participants is unknown. There were 108 participants in Study 6a. We asked the confederates to judge participant race and gender in order to test for moderation by these demographic characteristics. Based on these judgments, 62 participants were male and 46 were female. The confederates also determined that 85 were White, 19 Asian, three Black, and one participant's race could not be determined.

There were 100 participants in Study 6b. Based on confederate ratings, there were 47 women and 53 men. Racial information was

not collected because, unlike in Study 6a, there were no anticipated interactions of the hypothesized effect with race.

**Procedure and outcomes.** In each trial, one confederate served as the “actor” and another as the “observer.” In Study 6a, a female actor stood near the doors of a campus building in preparation for each trial. There were three actor ethnicity conditions: The actor was either White, Asian, or Muslim (a White woman wearing a hijab). Two of the confederates were White and one was Asian: Each White confederate wore the hijab in an equal number of trials, though the order was randomized. The actor would approach the first individual leaving the building who appeared to be a college student, was not wearing headphones or earbuds, and was walking alone. She then asked this individual for directions to a campus building a few blocks away.

If the participant consented, the actor then asked if the participant would be willing to walk them to the destination. If the participant agreed, the actor would walk with them for a block before saying, “I think I can find my way from here,” thanking the participant, and continuing alone. All confederates were trained to behave in an identical manner, including using specific, scripted statements.

The observer stood to the side and recorded information about the interaction: They recorded participant race and gender and measured the length of the interaction. The interaction was considered to be over when the conversation about directions stopped (before the two started walking, in situations where the participant agreed to go with the actor). The outcomes of interest were whether the participants helped, how long the interaction lasted, and whether they agreed to accompany the actor to the destination.

In Study 6b, the actor, always one of two White males, wore either a pro-gay t-shirt or a neutral t-shirt of a similar color, serving as a manipulation of their perceived sexual orientation (see Hebl, Foster, Mannix, & Dovidio, 2002). The pro-gay t-shirt had a prominent slogan (“Legalize gay!”) printed in large letters on the upper part of the shirt, making it easily visible to participants interacting with the actor. Each of the two confederates served as the actor equal amounts in both conditions, though the specific order was randomized across blocks of five to seven trials.

In addition to the observer measuring the duration of the interaction, the actor recorded the number of instructional details the participant gave them. This served as another continuous measure of helpfulness, addressing some shortcomings of simply measuring time: for example, time could not account for the proportion of the conversation the actor was speaking or participant speaking speed. A participant who said something like “It’s three blocks that way” would receive a score of 1 on the details variable, while one who said “Take a left at the end of the block, turn right on the next street, then walk two blocks” would get a score of 3. This quantitative measurement is important, as prior research has shown differences in treatment of gay people on outcomes like this while

Table 4  
Summary Statistics for Study 5

Actor ethnicity	Percent who held door
Black	82%
White	87%

<sup>5</sup> To be precise, our data show that the percentage of participants who hold the door for a White person but not for a Black person is 5% higher than the percentage of participants who hold the door for a Black person but not for a White person. It could be for example, that 25% of the participants hold the door for a White person but not for a Black person, 20% of participants hold the door for a Black person but not for a White person, and 55% of the participants do not alter their behavior as a function of the other person's race.

failing to find effects on binary outcomes (Hebl et al., 2002). The actor in Study 6b did not ask participants if they would be willing to walk him to the destination.

## Results and Discussion

In Study 6a, there were no significant interactions between actor ethnicity and either participant gender (all  $ps > .20$ ) or participant race (all  $ps > .28$ ) on any of the outcomes, so these latter variables were not included in the reported analyses. For the overall two-degree of freedom test and assuming a medium effect size,<sup>6</sup>  $\eta_p^2 = .08$ , we had 77.7% power to detect effects on the continuous outcome variable in this study.

The means for the three outcome variables in Study 6a are reported in Table 5. Overall, 87% participants helped the actor. We created two dummy-coded contrasts for actor ethnicity: C1 (0, 1, 0) and C2 (0, 0, 1) for the White, Asian, and Muslim conditions, respectively. C1 contrasts the White condition against the Asian condition, while C2 contrasts the White condition against the Muslim condition (Kirk, 2013). We then conducted a logistic regression in which we estimated helping behavior as a function of the two dummy-codes for the actor ethnicity variable. Although the White actor was helped most frequently, a chi-square test showed no statistically significant differences in treatment across actor ethnicity,  $\chi^2(2, N = 108) = 1.203, p = .55$ .

When analyzing the duration of the interaction, we considered only those participants who helped. There were no statistically significant differences in the amount of time spent interacting with the actor across conditions, C1:  $F(1, 89) = 0.213, p = .65$ ; C2:  $F(1, 89) = 3.206, p = .08$ . As can be seen in Table 5, the marginal effect of C2 was driven by participants spending more time interacting with the Muslim actor compared with the White actor.

Overall, 56% of participants agreed to accompany the actor to her destination. There were no statistically significant discrepancies in who was offered guidance to the destination,  $\chi^2(2, N = 94) = 0.882, p = .64$ . Altogether, there was little evidence from this field study of a systematic difference in helping behavior toward members of different ethnic groups.

In Study 6b, there were no significant interactions between actor orientation and participant gender (all  $ps > .58$ ) on the outcomes, so participant gender was not included in any of the reported analyses. Assuming a medium effect size, we had 83% power to detect a condition effect on the continuous outcome variables.

As reported in Table 5, participants were, statistically speaking, just as likely to help the actor with the neutral t-shirt than the actor with the gay t-shirt,  $\chi^2(1, N = 100) = 1.088, p = .30$ . Overall, 96% of the participants helped, making helping behavior a relatively insensitive measure.

Among those who helped, there was no statistically significant difference in the amount of time the participants spent helping the straight or the gay actor,  $F(1, 94) = 1.20, p = .28$ . Although participants gave more directional details to the actor with the neutral t-shirt than to the actor with the gay t-shirt, this difference did not reach conventional levels of statistical significance,  $F(1, 94) = 2.56, p = .11$ .

Across binary and continuous measures of helpfulness, White, Asian, and Muslim, as well as gay and straight individuals, were treated differently when asking for directions to a campus building, but none of the observed differences were statistically significant.

The Study 6a data suggest that 91% of individuals were equally helpful to the actor regardless of her ethnic group membership (83% helped, 8% did not). However, 9% discriminated (6% helped the White actor but none of the other actors, and another 3% helped the White and Muslim actors but not the Asian actors). The Study 6b data suggest that 96% of individuals were equally helpful to the actor regardless of his sexual orientation, whereas 4% helped the gay actor but not the straight actor. One limitation of these studies was that the large majority of participants helped, resulting in a ceiling effect that reduced our ability to detect a significant condition difference. We sought to address this limitation in the next set of studies.

## Studies 7a and 7b: Dropping Cards

The new paradigm used in Studies 7a and 7b involved a confederate dropping a stack of notecards in an elevator. If discrimination were widespread among individuals, we would expect students to be less likely to help members of marginalized groups and, if they did help, be less helpful (i.e., spending less time helping and picking up fewer cards). In Study 7a, we examined participants' helping behavior toward White and Muslim individuals. In Study 7b, we examined helping behaviors toward White and Asian individuals. In both studies, we included a continuous outcome measure representing the extent of the helpfulness.

## Method

**Participants.** In Study 7a, the confederates performed 107 trials in the elevator of a busy campus building at the university, comprising a total of 165 participants. The confederates initiated a trial only when (a) the individual(s) who entered the elevator appeared to be of student age, (b) three or fewer individuals entered the elevator, and (c) no individuals in the elevator selected a destination floor less than 3 floors away from the current floor (allowing enough time to run a trial). The confederates did not record racial information about the participants, but they did assign gender information for the individuals who chose to help: Thirty-five of the helpers were men, 59 were women, and one participant's gender could not be determined. In Study 7b, 138 participants took part in the experiment across 100 trials. The same rules were used for determining when a trial could be initiated. Participant gender information was not collected in Study 7b.

**Procedure and outcomes.** In Study 7a, two White female confederates entered the elevator on the basement level. One was the observer: she stood in the corner, remained passive throughout the trial, and collected information about the trial. The other was the actor: She either wore hijab or not, representing the manipulation of marginalized actor ethnicity (White vs. Muslim). During the elevator ride, the actor dropped a pile of 50 flash cards in such a manner as to spread them across the floor of the elevator. She paused for a moment and sighed before stooping to pick up the cards, allowing the participant(s) in the elevator enough time to provide help. As she was handed the cards collected by the

<sup>6</sup> Calculating power for dichotomous outcomes requires an expected odds ratio and a predicted probability of the target event, neither of which we could assume or obtain from prior research. All power estimates presented in the article refer only to continuous outcome measurements.



Table 5  
Focal Outcomes for Studies 6a and 6b

Condition	Helped the actor	Duration of interaction in seconds	Agreed to accompany actor	Number of directional details given
Actor ethnicity, Study 6a				
White	92%	27.00 (12.67)	58%	—
Asian	83%	29.27 (16.36)	62%	—
Muslim <sup>a</sup>	86%	35.80 (26.62)	50%	—
Actor orientation, Study 6b				
Straight	94%	25.60 (17.03)	—	3.96 (2.04)
Gay	98%	22.50 (9.88)	—	3.37 (1.55)

Note. The values in parentheses are standard deviations.

<sup>a</sup> The terms “White” and “Muslim” are used for the purposes of simplicity, though most Hijab-wearing women would be classified as racially “White.”

participants, the actor kept the piles separate so that she could assess the number of cards collected by each participant at the end of the trial. The observer recorded how many people in the elevator helped and kept time, starting a stopwatch when the first participant present bent down to help and stopping it when the last participant ceased collecting cards. Actor and observer roles were counterbalanced across confederates.

The focal outcomes were whether the participant(s) helped, the time spent helping, and the number of cards each participant collected. We expected fewer participants to help overall than in the directions paradigm, both because they were not being asked for help directly and because of the observer’s presence: She was a passive bystander, and by not offering help made it less likely others present would also help (Latané & Rodin, 1969).

A very similar procedure was used in Study 7b, except that the information collected was slightly different and a different actor ethnicity manipulation was used. Only trial-level data were collected, and rather than collecting time spent helping, the observer recorded the delay until one of the participants started helping the actor. The actor was either a White or Asian man (clothing was consistent across the confederates).

## Results and Discussion

Because the observations from participants in the same elevator are nonindependent, we used the trial (elevator ride) as the unit of analysis. Assuming a medium effect size of  $\eta_p^2 = .08$ , we had 86% power to detect trial-level effects on continuous outcomes in Study 7a and 83% power to detect these effects in Study 7b.

We computed a binary outcome variable indicating whether anyone present in a given trial provided assistance (see Table 6). In Study 7a, the mean number of individuals present in the elevator did not differ between the White ( $M = 1.56$ ) and Muslim ( $M =$

1.53) conditions,  $p = .71$ . The White confederate was marginally more likely to receive help from at least one individual in the elevator than the Muslim confederate,  $\chi^2(1, N = 107) = 3.69, p = .06$ . In the trials where help was provided, there was no statistically significant difference in the amount of time participants spent helping the White actor compared with the Muslim actor,  $F(1, 68) = 0.67, p = .42$ . As is customary with count data, we applied a square root transformation to the number of cards participants picked up. We found no statistically significant condition difference in the total number of cards picked up in trials where at least one participant helped,  $F(1, 68) = 1.069, p = .31$ .

In Study 7b, there was no difference in the number of individuals in the elevator between the White ( $M = 1.30$ ) and Asian ( $M = 1.46$ ) conditions,  $p = .18$ . The Asian actor was significantly more likely to receive help than the White actor,  $\chi^2(1, N = 100) = 5.04, p = .03$ . There was no statistically significant difference in the delay before helping, though there was a marginal effect indicating a longer delay for the Asian actor,  $F(1, 69) = 3.67, p = .06$ . Participants picked up about six additional cards for the Asian actor, on average, than they did for the White actor: Using the square root transformed count variable, this difference was statistically significant,  $F(1, 69) = 18.18, p < .001$ .

These results extend those of Studies 5, 6a, and 6b to a new helping domain without the problem of ceiling effects. The results, though, do paint something of an unclear picture, with some results nearing or achieving statistical significance in inconsistent directions. Taken together, though, there is little evidence that participants were systematically less helpful when interacting with members of particular social groups. In 82% of the Study 7a trials our actors were treated the same regardless of their ethnicity (in 56% of the trials at least one person present in the elevator helped and in 26% of the trials no one helped), whereas in 18% of the trials the

Table 6  
Summary Statistics of Focal Outcomes in Studies 7a and 7b

Condition	Helped the actor	Time spent helping in seconds	Number of cards picked up	Delay before helping
Actor ethnicity, Study 7a				
White	74%	3.75 (1.58)	19.93 (10.10)	—
Muslim	56%	4.06 (1.48)	16.61 (8.75)	—
Actor ethnicity, Study 7b				
White	62%	—	5.03 (3.80)	3.03 (1.31)
Asian	82%	—	11.38 (7.90)	4.51 (4.13)

Note. Number in parentheses are standard deviations.

White actor received preferential treatment. In 80% of the Study 7b trials our actors were treated the same (in 62% of the trials at least one person present in the elevator helped and in 18% of the trials no one helped), whereas in 20% of the trials the Asian actor received help.

### Study 8: Bus Seating

Each of the previous studies involved helping behaviors, which require a certain level of active engagement with another individual. We identified the campus bus line as a fitting situation to measure an intergroup behavior related to social distance. If discrimination is widespread among individuals, people should be less likely to sit next to members of marginalized groups on the bus and spend less time sitting next to them.

### Method

**Participants.** The bus line chosen for the study was the free campus bus, a busy line taken nearly exclusively by students. The confederates sat in the bus for a total of 462 stops (21 rides from terminal to terminal, each of which had 22 stops), of which 323 provided usable data (i.e., at least one confederate was able to sit in their experimentally designated seat).

**Procedure and outcomes.** Three confederates boarded the bus at one of the earlier stops on the ride, when the bus was mostly empty. Two of the confederates (both White) served as actors and took the window seats in the row directly behind the rear door of the bus. We chose these seats because they were somewhat elevated, making the actors easily visible to people entering the bus. One of these actors wore a hijab while the other did not (Muslim vs. White), counterbalanced across confederates and sides of the bus. Actors wore headphones and had notebooks on their laps in order to discourage participants from interacting with them. The observer sat further back in the bus and kept notes during the ride.

A single trial consisted of one bus stop, from the moment the doors opened at one stop to the moment the doors opened at the next stop. The actors and the observer kept notes on each trial, recording the following information: (a) whether or not someone was seated next to each actor during the trial (i.e., whether the seat was occupied); (b) the perceived race and gender of that individual; (c) whether that same passenger was already seated next to the actor on the previous trial; and (d) which seat was taken first (on trials on which both seats next to the actors were empty at the beginning of the trial and were both occupied during the trial).

### Results and Discussion

We analyzed the data in a variety of ways. First, we computed the number of trials (i.e., bus stops) that a passenger sat next to each of the two actors during at least part of the trial. Although the

seat next to the Muslim actor was occupied less frequently ( $127/275 = 46.2\%$ ) than the seat next to the White actor ( $150/285 = 52.6\%$ ), this difference did not reach conventional levels of statistical significance,  $\chi^2(1, N = 560) = 2.33, p = .13$  (see Table 7).

Next, we looked specifically at trials in which the seats next to both actors were empty at the beginning of the trial and only one seat was occupied during the trial ( $N = 30$ ). The seat next to the White actor was twice as likely to be taken than the seat next to the Muslim actor in this situation,  $\chi^2(1, N = 30) = 3.33, p = .07$ .

We also conducted analyses with the passenger as the unit of analysis. Once a passenger decided to sit down next to one of the actors, how many stops did that individual remain seated? If passengers want to keep their social distance from Muslims, one would expect them to sit down next to the Muslim confederate only if they stay on the bus for a small number of stops. In total, 58 different passengers sat down next to our actors, and they remained seated for a ride length of one to 10 stops. The length of the ride did not differ as a function of actor ethnicity,  $F(1, 56) = 0.02, p = .90$ .

Finally, we conducted analyses with empty seats as the unit of analysis. Once a seat was liberated, how many stops did it remain empty? In total, the seat next to one of our actors was empty for one or more stops 43 times, and it remained empty for a length of one to 17 stops. There was no statistically significant difference between the White and Muslim confederate with regard to the length that the seat next to them remained empty,  $F(1, 41) = 0.38, p = .54$ .

These results provide some (albeit weak) evidence for the idea that Muslim women experience greater social distance than White women when seated in a campus bus. Across all stops for which we could collect data, our actors were treated the same in 93.6% of the stops (the seat was occupied in 46.2% of the time and empty 47.4% of the time), but the Muslim actor was treated with greater social distance on 6.4% of the stops.

### Studies 9a and 9b: Student Resumes

We pursued multiple goals with Studies 9a and 9b. In these studies, we utilized a paradigm well-established in the field and often used to detect bias toward members of different social groups: Members of marginalized groups being responded to less frequently when applying to jobs using resumes of equal caliber (e.g., Bertrand & Maullainathan, 2004). Furthermore, these studies will extend the results of the previous studies by looking at the behaviors of members of the campus community other than students: It could be the case that students generally behave inclusively but there is dispersed discrimination among staff and faculty that contributes to inequalities at the university. Most importantly, the studies employ a within-subject design, allowing us to directly determine the number of individuals who treat members of differ-

Table 7  
Summary of Results From Study 8

Actor ethnicity	Seat occupied at given stop ( <i>N</i> )	One seat taken from both empty	Length of passenger ride ( <i>SD</i> )	Length seat empty ( <i>SD</i> )
White	52.6% (285)	20	3.66 (2.21)	5.71 (5.03)
Muslim	46.2% (275)	10	3.58 (2.35)	6.73 (5.72)

ent social groups differently. Studies 9a and 9b are thus an improvement over previous studies, where we were forced to infer indirectly that a numerical minority of students engaged in discriminatory behaviors. One challenge of utilizing a within-subjects design is that participants may realize they are participating in a study, so we took measures to minimize suspicions, including separating the application materials by at least 24 hr and only applying to a single job for a specific supervisor.

## Method

**Participants.** For both studies, we applied to jobs advertised on an online job posting board at the university. All of these postings were for student positions within the university, not outside companies or organizations, and each were “entry level,” having modest requirements and job experience. There were jobs in STEM departments, social science and humanities departments, and nonacademic campus offices. Examples of the jobs applied to include Human Resources Assistant, Research Assistant, Exam Proctor, and Computer Lab Monitor. The participants, then, were the individuals who were listed as the contact person for the jobs advertised on an online job posting board. Most of these individuals were university staff, while a smaller proportion were faculty. For Study 9a, we applied to 42 jobs. For Study 9b, we applied to 24 jobs. We thus had a total of 66 participants who each received two e-mails from us.

**Materials.** We created four resumes and four cover letters (two STEM-focused and two humanities-focused, all of good general quality; the same materials were used in both studies). When applying to a given job, we first determined whether the job was more related to STEM or to humanities and then randomly assigned the two relevant cover letters and resumes to the two names. In Study 9a, the name was either prototypically White (“Christopher O’Donnell”) or prototypically Arab (“Abdul Rasheed”). In Study 9b, the name was either prototypically White (“Cody Miller”) or prototypically Black (“DeShawn Washington”). The specific cover letter and resume used and the order in which these documents were sent out was counterbalanced across jobs. We sent applications from Gmail accounts we created for each of these fictional job applicants.

**Procedure and outcomes.** Both “students” sent a resume and cover letter to each of the 66 participants, with 1 to 5 days separating the two applications. The focal outcomes were (a) whether a given contact person responded to an application at all and (b) whether they offered to set up an interview or requested more information (indicating positive interest in the candidate).

## Results and Discussion

In Study 9a, 63.10% of the applications received a response, and 26.19% received a request for more information or to schedule an interview (see Table 8). We used McNemar’s test to assess our focal outcomes: this test accounts for nonindependence when analyzing dichotomous outcome variables (McCrum-Gardner, 2008). Although “Abdul” was less likely to receive a response to his application than “Christopher,” this difference was not statistically significant,  $\chi^2(1, N = 42) = 1.33, p = .25$ . The difference in requests for more information from the employer also did not reach conventional levels of statistical significance,  $\chi^2(1, N = 42) = 2.25, p = .13$ . Twenty-five potential employers (59.5%) responded to both applicants, 14 (33.3%) responded to neither, and three (7.1%) responded to Christopher but not Abdul. There were no significant order effects (all  $ps > .66$ ).

In Study 9b, 58.33% of the applications received a response, and 27.08% received a request for more information or to schedule an interview (see Table 8). As in Study 9a, applicant name was not a statistically significant predictor of these outcomes. “Cody” and “DeShawn” received responses at relatively similar rates,  $\chi^2(1, N = 24) = 0.50, p = .48$ , and also did not statistically differ in the number of responses they received requesting more information or an interview,  $\chi^2(1, N = 24) = 0.33, p = .56$ . Fifteen potential employers (62.5%) responded to both applicants, nine (37.5%) responded to neither, and two (8.3%) responded to Cody but not DeShawn. There were no significant order effects (all  $ps > .69$ ).

There was no statistically significant evidence that applicants from underrepresented backgrounds were systematically much less likely to receive a response from a potential on-campus employer than White applicants. This extends the results of the previous studies by focusing on the behaviors of staff and faculty. More importantly, this study’s within-subject design allows us to specifically determine the proportion of individuals who discriminated between the two applicants: This proportion was five of the 66 total jobs, or 7.6% (and for three of these five jobs, the White candidate applied first). All other individuals treated the two candidates equally, by either responding or not responding to both of them.

### Study 10: Meta-Analysis

The biggest weakness of the behavioral field studies is their statistical power: One could make the argument that these studies are simply insufficiently powered to find a significant effect,

Table 8  
*Results of Student Resume Studies*

Condition	Received a response (%)	Requested more info or interview time (%)
Applicant name (ethnicity), Study 9a		
Christopher (White)	28 (66.67%)	13 (30.95%)
Abdul (Arab)	25 (59.52%)	9 (21.43%)
Applicant name (ethnicity), Study 9b		
Cody (White)	15 (62.50%)	7 (29.17%)
DeShawn (Black)	13 (54.17%)	6 (25.00%)

Note. Percentages are based on 42 (Study 9a) and 24 (Study 9b) total jobs applied to.

especially given most of the nonsignificant effects were in the expected direction (i.e., with the marginalized group member being treated more poorly). To address this weakness, we conducted an internal meta-analysis, a method suggested by Cumming (2014), among others.

## Method

We created a data file distilling the results of Studies 5–9 (total  $N = 1,181$ ). For the purposes of the meta-analysis, we considered any non-White, nonheterosexual social group membership to be “marginalized,” while others were “privileged” (both the “Asian” and “Muslim” conditions from Study 6a were coded as marginalized). We computed log odds ratio effect sizes for the binary outcome of each study (for Study 8, the focal outcome used was whether a given seat was occupied or empty during each trial). These log odds ratios were then submitted to an internal meta-analysis fitted using restricted maximum likelihood (REML; Viechtbauer, 2010).

## Results and Discussion

The log odds ratio effect sizes from the individual studies ranged from 0.69 (Study 7a) to  $-1.14$  (Study 6b). Positive effect sizes indicate pro-ingroup behavior (i.e., more negative treatment of marginalized individuals). There was an overall effect size estimate of 0.23, which was not statistically different from zero,  $z = 1.35$ ,  $p = .18$  (see Figure 3).

We conducted a second meta-analysis in which we included only the studies in which we examined participants’ behaviors toward groups that (a) can easily be identified as members of a marginalized groups and (b) are most frequently the target of prejudice: Black and Muslim targets (Studies 5, 6a, 7a, 8, 9a, and 9b; note that for Study 6a we only considered the trials in which the actor was either White or Muslim). This meta-analysis yielded an overall effect size estimate of 0.35, which did exceed conventional levels of statistical significance,  $z = -2.88$ ,  $p = .004$  (see Figure 3).

A small difference in treatment such as this would be anticipated if a numerical minority of individuals behaved in a biased way. However, the results are rather inconsistent with the dispersed discrimination account, which would predict a much more substantial difference in treatment.

## General Discussion

Before we discuss the implications of our findings, we would like to state explicitly the claims that we are *not* making. First, we are not suggesting that discrimination has ceased to exist. There is ample empirical evidence that members of marginalized groups receive on average less positive treatment than members of non-marginalized groups across a variety of domains (see West & Eaton, 2019). There are also numerous studies showing that People of Color continue to report personal experiences of discrimination (e.g., English et al., 2020). Furthermore, acts of overt discrimination that occurred on the campus on which these studies were conducted demonstrate that prejudice and bigotry continue to be problems that deserve attention, even in an institution that is committed to diversity and inclusion (Bieler, 2016). Second, we

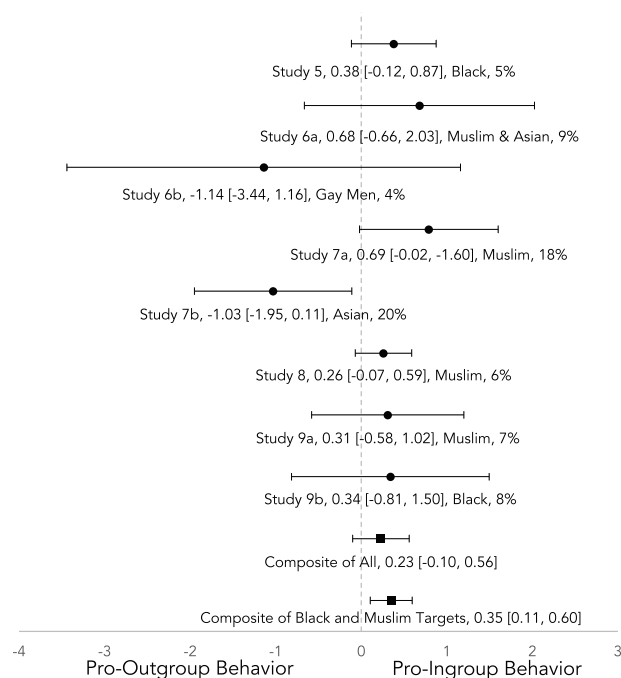


Figure 3. Points represent log odds ratio effect size estimates of binary outcomes with 95% confidence intervals. For each study, we also indicate the target group and the estimated or actual percentage of participants who engaged in discriminatory behavior. Positive log-odds values indicate preferential treatment for nonmarginalized groups. The overall effect of target group membership was nonsignificant. The model was fitted using restricted maximum likelihood.

are not suggesting that students belonging to marginalized groups on the whole have an equally positive experience at large public universities as other students: The data clearly show that they do not. Regardless of the number of their peers who engage in discriminatory behaviors, students belonging to marginalized groups are likely to experience less positive treatment in any given week, given the sheer number of individuals they interact with.

Third, we do not mean to imply that students from marginalized groups exaggerate the problem of discrimination on campus. Our findings by no means invalidate the experiences of members of marginalized groups, who still face discrimination, bias, and barriers (Robert Johnson Wood Foundation, 2018). For example, the fact that White students received more responses to their job applications than ethnic minority students (Study 9) is highly objectionable, even if the differences did not reach conventional levels of statistical significance. Fourth, we are certainly not suggesting pro-diversity efforts on university campuses are superfluous. Quite to the contrary: Students belonging to marginalized groups feel less welcome, report a decreased sense of belonging, and are more likely to be the target of discrimination than their nonmarginalized peers (see Study 2). At most universities, including the one where this research was conducted, marginalized students tend to have lower grades and higher drop-out rates (Harackiewicz, Canning, Tibbetts, Priniski, & Hyde, 2016; 6-Year Graduation Rate Summary, 2019; Walton & Cohen, 2011). Such discrepancies are undesirable and should be addressed through prodiversity initiatives (see Murrar, Campbell, & Brauer, 2020, for



an example). If anything, we are hoping that the results reported in this article will help design prodiversity initiatives that are more effective than previous initiatives in reducing these discrepancies. Finally, the claims we make in this paper are limited to interpersonal manifestations of discrimination. These are distinct from systemic or institutional forms of bias that impact members of marginalized social groups (Feagin, 2006).

### Support for the Concentrated Discrimination Account

The research reported in this article was designed to contrast two accounts against each other. According to the dispersed discrimination account, most individuals engage in subtle—and sometimes not so subtle—forms of discrimination. According to the concentrated discrimination account, discrimination, which undeniably exists, is due to a numerical minority of individuals who treat individuals from marginalized social groups less favorably. We tested these accounts in a setting in which most individuals have fairly typical IAT scores: a large public university.

In four large-scale surveys (Studies 2, 3a, 3b, and 4), marginalized students report having a relatively positive experience on campus (albeit less positive than nonmarginalized students). Most importantly, marginalized students report that a majority of their peers hold positive attitudes toward other social groups and generally behave inclusively (or at least abstain from discriminating). Across a variety of situations and manipulations of social group identity (Studies 5–9), we found no evidence for the idea that discrimination is propagated by a vast majority of individuals engaging in negative behaviors. This general finding held across helping and nonhelping behaviors as well as manipulations of both visible and concealed social identities. Furthermore, the results were not moderated by participants' own social identities (i.e., race and gender). Our meta-analysis (Study 10) revealed a small difference in how marginalized students are treated relative to nonmarginalized students, exactly what the concentrated discrimination account would predict.

The findings from all the studies reported in this article, considered as a set, are more consistent with the concentrated discrimination account than with the dispersed discrimination account. It appears that the discrimination that occurs on the campus of the University of Wisconsin–Madison is primarily perpetrated by a numerical minority of individuals. The Pareto principle states that, for many events, roughly 80% of the effects come from 20% of the causes (Sanders, 1987). This principle has been shown for a variety of phenomena in economy, computing, sports, quality control, and occupational safety. It seems that the Pareto principle also applies to discrimination, at least at the large, public university, where the studies were conducted: our results are consistent with the idea that most of the discriminatory acts are committed by a numerical minority of the individuals.

### Shortcomings of the Present Research

Our research has numerous shortcomings. In our survey studies, we do not know if the Students of Color who decided to complete the survey are representative of all Students of Color. Students of Color who perceive the climate to be highly negative may have chosen not to respond. In addition, Students of Color may have experienced various pressures and motivations when responding to the surveys. Given that they have chosen to attend this university, they may be motivated to downplay the difficulties they are facing, because failure

to do so would create dissonance and regret. Further, even when anonymous, most students do not want to come across as “whiners” who complain about the way things are. Finally, Students of Color may not be aware of the extent to which their discriminatory experiences negatively impact their mental health and academic achievement motivation (Major et al., 2002).

In our field studies, we tested a limited set of intergroup behaviors, namely inconsequential encounters with individuals that our participants did not know personally and did not expect to interact with in the future. We do not know if our findings generalize to other intergroup behaviors, such as helping behaviors that are more costly or social sanctions conferred for engaging in behaviors that violate norms. Some studies suggest that members of social outgroups are punished more harshly than ingroup members for norm violations (Bernhard, Fischbacher, & Fehr, 2006; Gini, 2006; Schiller, Baumgartner, & Knoch, 2014). Our studies also did not assess the number of individuals who engage in microaggressions: It could be that the vast majority of members of the campus community regularly use offensive language toward members of marginalized groups, thus communicating to them that they do not belong (Lilienfeld, 2017; Sue, 2013). Other potentially relevant intergroup behaviors that we did not examine include positive behaviors, such as reaching out to students from different social backgrounds in class projects, study groups, or informal social interactions and events.

We do not know whether our results generalize to other settings. It could be that the University of Wisconsin–Madison is rather unusual and that the dispersed discrimination account accurately explains discriminatory behaviors in most other settings. Alternatively, it could be that our results generalize only to similar environments: those where most people hold strong egalitarian attitudes, where motivation to be nonprejudiced is high, and where there are strong institutional injunctive norms to be inclusive. Contextual factors like these could have led to the failure to detect discrimination in recent studies, discussed earlier (Boutwell et al., 2017; Forscher, Cox, et al., 2019; Thebault-Spieker et al., 2017; Zigerell, 2018). These studies indirectly suggest that there may be several contexts where the discrimination that individuals from marginalized groups experience is poorly described by the dispersed discrimination account. Additional research is necessary to identify the features of settings in which the concentrated discrimination account accurately explains persisting negative intergroup behaviors.

### Consequences of Dispersed Discrimination Messaging

Like many other universities, the University of Wisconsin–Madison regularly communicates the idea that bias is widespread and that most members of the campus community engage in discriminatory behaviors. This message is inconsistent with the findings reported in this article. As mentioned above, such a message may increase rather than decrease the occurrence and perceived acceptability of discriminatory behaviors.<sup>7</sup>

<sup>7</sup> Indirect support for the detrimental effect of these types of communications comes from the campus climate survey (Study 2). Despite the fact that a relatively small number of students belonging to marginalized groups felt disrespected personally (see Table 2), a larger number of respondents thought that students from racial and ethnic minority groups are treated disrespectfully on campus in general (Campus Climate Survey Technical Report, 2017).

One may speculate about what well-intentioned students are likely to do when they are told that they behave in discriminatory ways outside of their awareness. The logical course of action is to distance themselves from individuals from different social backgrounds out of fear of saying or doing something offensive, thus preventing opportunities for productive intergroup contact (Pettigrew & Tropp, 2006). Messages about rampant discrimination that occurs outside individuals' conscious control can thus increase intergroup anxiety and reduce intentions to engage in cross-group interactions (Perry, Dovidio, Murphy, & van Ryn, 2015). Furthermore, these messages can provoke anger or decrease motivation by leading students to form negative opinions of themselves and their peers (Anand & Winters, 2008; Kulik, Pepper, Roberson, & Parker, 2007). There is evidence demonstrating that simply completing an IAT reduces positive behavior in an intergroup interaction, suggesting that messages about implicit bias being widespread can worsen intergroup contact when it occurs (Vorauer, 2012). The claim that most individuals engage in subtle or overt forms of discrimination not only lacks empirical basis in many settings, it also may deteriorate rather than improve relationships between members of different social groups.

### Implications for Prodiversity Initiatives

The present research has important implications for initiatives aimed at promoting diversity and decreasing discrimination. If in a given organization most individuals engage in discriminatory behaviors, possibly outside their own awareness (dispersed discrimination), then it may be effective to implement unconscious bias training for all members of the organization and to communicate about the ubiquity of microaggressions and implicit biases. If, however, the acts of discrimination in the organization are perpetrated by a numerical minority of individuals (concentrated discrimination), such an approach is likely to be ineffective or counterproductive.

When discrimination is concentrated, prodiversity initiatives must be targeted to specific kinds of individuals, such as the categories we provided in Study 3. On the one hand, preventative measures should be taken to shield members of marginalized groups from the actions of individuals who discriminate (i.e., those who belong to Categories a and b in Study 3a). Standardized procedures for recruitment (e.g., of research assistants), extensions on class projects, grading of exams and essays, attribution of awards and fellowships, and admission to student groups must be put in place. Behavioral expectations for informal interactions with members of different social groups (e.g., class discussion, dorms) should be stated explicitly, and deviations from these expectations should be addressed swiftly. At the same time, it is necessary to communicate to individuals who discriminate that their behaviors are at odds with the values and attitudes of most of their peers and the campus leadership (Schultz et al., 2007). Finally, students belonging to marginalized groups must be informed repeatedly who they can talk to if they feel that they were discriminated against (but see Dobbin & Kalev, 2016, about the potential counterproductive effects of grievance procedures).

On the other hand, the experience of marginalized students can be improved by encouraging their peers to engage in more inclusive behaviors. The target audience here is not highly discriminatory individuals, but rather individuals who engage in only few

inclusive behaviors or who behave in neither inclusive nor discriminatory ways (see Categories c and d in Study 3a). Indeed, in focus groups we have conducted with members of different groups on campus, many students from marginalized groups report that they are most affected by social distancing behaviors in their day-to-day lives, suggesting that influencing this "movable middle" could substantially improve their experiences on campus.

In focus groups that we held with nonmarginalized individuals, meanwhile, the students frequently told us they cared about diversity and discrimination but did not know what to do about it and feared doing or saying the wrong thing when interacting with individuals from different social backgrounds. Blaming nonmarginalized students as a group for discrimination and climate problems on campus is likely to be ineffective. Instead, providing these individuals with tools that help them engage in more inclusive behaviors is likely to improve climate. For example, the university could communicate about expressions that are perceived as offensive by many marginalized students or about the types of behaviors that signal to marginalized students that they are welcome, respected, and that they belong. It is also possible to teach effective ways to speak up when one witnesses discrimination or bigotry (e.g., Lamb, Bigler, Liben, & Green, 2009). Finally, the university could communicate about how vital it is in today's society to be able to work with people from different social backgrounds, in turn increasing students' motivation to reach out to others who are different from them.

### Conclusion

The studies presented in this article do not support the dispersed discrimination account, which holds that most individuals engage in subtle or overt discriminatory behaviors. We demonstrate that a nonzero average IAT score in a given population does not necessarily imply that most members of this population engage in discrimination. The concentrated discrimination account, which maintains that discrimination is largely perpetrated by a highly biased numerical minority of individuals, is a better fit with the results obtained in our studies (at least for the campus on which the studies were conducted). We suggest that the effectiveness of prodiversity initiatives depends on the extent to which they take into account the reality of discrimination in a particular setting: how many individuals engage in discrimination and what forms this discrimination takes. In settings in which discrimination is concentrated in a numerical minority of individuals, communications about the ubiquity of discrimination and microaggressions are likely to backfire, especially when they are unsupported by data. Rather than rolling out implicit bias training (or some other form of diversity training) for all individuals, it may be more effective to target individuals with neither positive nor negative outgroup attitudes and to provide them with tools and psychological incentives to engage in a larger number of inclusive behaviors.

### Context of the Research

The present article is part of a research program on the influence of descriptive norms on intergroup relations and the development of effective prodiversity initiatives (Campbell & Brauer, 2020; Murrar & Brauer, 2019). In focus groups we conducted at the University of Wisconsin–Madison, ethnic minority students re-

ported that most of their peers behaved in positive ways toward them, but that their sense of belonging was negatively affected by the numerical minority of peers who behaved in a discriminatory manner toward them (Campbell et al., 2020). The results reported in this article address an interesting question in itself—see the discussion on the concentrated versus dispersed discrimination account—but also have important repercussions. First, we were able to use this information in our norm-based prodiversity interventions, which turned out to be highly effective (Murrar et al., 2020). Second, the results suggest the target audience for prodiversity interventions should be the numerical minority of individuals who engage at least occasionally in discriminatory behaviors. Third, dire claims about the ubiquity of bias on this campus seem to have no empirical support and may deteriorate intergroup relations. In our future research, we will examine the extent to which the current findings generalize to other settings. In another project, our goal will be to get a better understanding of the numerical minority of individuals who engage in discriminatory behaviors: What prevents these individuals from behaving more inclusively and what messages are they likely to be receptive to?

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