

What Works to Reduce Bias? A Multilevel Approach

Nicole M. Stephens¹, Lauren A. Rivera¹, and Sarah S. M. Townsend²

¹Management and Organizations Department, Kellogg School of Management,

Northwestern University

²Management and Organization Department, Marshall School of Business, University of

Southern California

Author Note

Correspondence concerning this article should be addressed to Nicole Stephens, Kellogg School of Management, Northwestern University, 2211 Campus Drive, Evanston, IL 60208, USA. Email: n-stephens@kellogg.northwestern.edu

Abstract

A rich body of research throughout the social sciences demonstrates that bias--people's tendency to display group-based preferences--is a major obstacle to increasing demographic diversity in the workplace. However, there has been less research and theory on what can be done to reduce workplace bias. The current article fills this gap by providing a theoretically informed multilevel approach for how to intervene to reduce bias in an enduring way throughout the organization. First, we discuss the theoretical foundations of our approach and explain why reducing bias requires intervening at multiple levels. Specifically, drawing on research and theory on the interdependence between people and their social contexts, we describe how workplace bias operates as a cycle and then propose that successfully reducing bias requires intervening at both the individual and organizational levels of the cycle. Second, we review research from psychology on how to effectively reduce bias at the individual level (e.g., by changing attitudes and behavior). Third, we review research from a variety of disciplines on how to effectively reduce bias at the organizational level (i.e., by changing organizational policies and practices). Finally, we conclude by discussing our theoretical contributions and outlining promising directions for future research.

What Works to Reduce Bias? A Multilevel Approach

The diversity, equity, and inclusion (DEI) space is a booming “big business” (Zelevansky, 2019). By some estimates, organizations in the United States spend \$8 billion annually (Mehta, 2019). Despite organizations’ widespread interest in improving their DEI outcomes, one key obstacle that stands in the way is *bias*: people’s tendency to show a disproportionate preference in favor of some people and/or against other people, often based on social group membership, identity, or background. This could include the tendency to rely on group-based stereotypes to make decisions for hiring (e.g., Greenwald & Banaji, 1995), or to feel or express negative affect or prejudice against someone based on group membership (e.g., Allport, 1954). Bias can occur at either an implicit or explicit level—that is, either outside of or within the bounds of individuals’ conscious awareness (Dovidio et al., 1997; Dovidio et al., 2002; Greenwald & Banaji, 1995).

In this article, we review and integrate empirically-supported strategies for reducing the expression of bias—people’s prejudice and/or reliance on group based stereotypes—in the workplace. Drawing on past research on the interdependence between people and their social contexts (Hamedani & Markus, 2019; Markus & Kitayama, 2010; Stephens et al., 2012), we propose that workplace bias operates as a cycle. Specifically, workplace bias is reproduced through the ongoing, bidirectional interactions through which individuals (e.g., attitudes and behaviors) and organizations (e.g., policies and practices) influence each other. Consequently, we argue that effectively reducing bias requires interrupting the bias cycle at both levels.

We proceed as follows. First, we discuss our theoretical model and describe why effectively reducing bias requires a multilevel approach. Second, we review research from psychology addressing how to effectively reduce bias at the individual level (e.g., in attitudes and behavior). Third, we review research from a variety of disciplines on how to effectively reduce bias at the organizational level (i.e., in organizational policies and practices). We conclude by discussing our theoretical contribution and outlining promising directions for future research.

Reducing Bias Requires a Multilevel Approach

Conceptualizing Bias as a Cycle

To reduce the expression of bias in the workplace, we propose that it is necessary to understand how bias is sustained and reproduced in a cycle. As shown in Figure 1, this cycle consists of the bi-directional pathways through which individuals and organizational contexts shape each other (Hamedani & Markus, 2019; Markus & Kitayama, 2010; Stephens et al., 2012). In one direction, people learn about their own and other social groups through their ongoing participation in particular social contexts. These contexts are infused with widely shared beliefs about the relative competence and worth of particular groups (Fryberg et al., 2008; Ridgeway, 2011). In the other direction, people's understandings of their own and other social groups inform how they interact with others and shape their contexts (e.g., support policies that advantage certain social groups).

Why Either-or Approaches so Often Fail

By conceptualizing workplace bias as operating in a mutually reinforcing cycle, it becomes clear why changes at *either* an individual or organizational level are often

fragile, hard to sustain, or just plain ineffective (Kalev et al., 2006). Indeed, an *individual level intervention*¹--an effort to change people's or groups' attitudes, beliefs, and behavior--on its own is likely to be ineffective. Interventions that target the individual level, such as countering stereotypes or perspective taking, have been shown to reduce the reliance on group-based stereotypes, reduce prejudice toward outgroups, and improve the quality of intergroup interactions (e.g., Brambilla et al., 2012; Galinsky & Moskowitz, 2000; Todd et al., 2011). However, even if these types of interventions successfully reduce employees' tendency to express bias in their attitudes and behaviors, these changes will not necessarily lead to a reduction in biased outcomes (e.g., hiring or promotion decisions) unless they are paired with organizational policies and practices that reduce bias. For example, encouraging intergroup contact could reduce individual employees' prejudice toward other employees and increase their motivation to make fair and unbiased hiring decisions. However, if an organization's policies for sourcing job applications or scoring résumés result in an interview pool that is homogenous, managers will have limited ability to act on intentions to make less biased decisions. Thus, even when individuals are motivated to avoid bias, the policies and practices that guide their decisions can nevertheless be conduits of bias (e.g., Kalev, 2009; Pedulla & Thebaud, 2015; Stamarski & Son Hing, 2015).

Conversely, *organizational level interventions*--that is, efforts to change organizations' policies and practices--in the absence of individual-level intervention are

¹ Although there is an extensive literature on diversity in groups and teams and how to improve their interactions (Dumas et al., 2013; Goncalo et al., 2015; Shemla et al., 2016), this research does not tend to focus on reducing bias or prejudice or on improving intergroup relations more generally. Instead, it focuses on how to leverage the strengths of diversity in a given situation. Since our focus here is on strategies for bias reduction, these literatures are beyond the scope of our article.

also likely to fail. Indeed, a lack of internal support for diversity programs is a major reason why they are not successfully adopted (Dobbin et al., 2011). If individuals are not open to diversity and motivated to reduce bias, organizational efforts to reduce bias are likely to have little impact or even elicit backlash. Indeed, employees may actively resist these organizational level changes and refuse to adopt them (Dobbin et al., 2015; Lambouthis III et al., 2019; Plant & Devine, 2001; Plaut et al., 2011). Consequently, adopting an “either-or” approach to bias reduction will likely fail to reduce the expression of bias in workplace decisions because of the dynamic cycle through which individuals and social contexts influence one another.

A Multilevel Approach

Because these two levels influence one another (see Figure 1), we further propose that successfully reducing bias requires a multilevel approach that interrupts the cycle of bias at *both* the individual level (e.g., attitudes and behavior) and organizational level (e.g., hiring, promotion, and mentoring practices). Indeed, intervening at both levels can render the desired changes more likely to endure because reducing bias at one level tends to reinforce and amplify the reduction of bias at the other level in an ongoing cycle. Consider the impact of intervening at both levels: for example, implementing individual programming to enable workers to see people who are different from themselves in less stereotypical terms and also changing the hiring process to reduce the salience of group-based stereotypes. Changes at the individual level should render individuals more receptive and motivated to enact the policies made at the organizational level. Changes at the organizational level should create the conditions that constrain bias and reduce the opportunity for biased decisions.

Although interventions at both levels seek to reduce bias, they strive to do so in different ways. At the individual level, the interventions we review are mostly from the psychological literature and are often referred to as “prejudice reduction interventions” (Dixon et al., 2012; Dovidio et al., 2016; Paluck & Green, 2009). These interventions focus on changing individuals’ hearts and minds--i.e., reducing people’s prejudice and/or reliance on group based stereotypes. The assumption is that doing so will improve people’s attitudes and behavior toward members of negatively stereotyped and/or lower status groups across domains (e.g., decisions about whom to hire and the quality of intergroup interactions). In contrast, at the organizational level, the interventions we review focus on changing policies and practices to lay the groundwork for less biased and more equitable behavior. They seek to do so by reducing the salience or relevance of group based stereotypes (e.g., in hiring or evaluation). Despite the different assumptions underlying these different approaches, implementing them both should reinforce each other in a way that successfully reduces bias (i.e., people’s reliance on group-based prejudice or stereotypes) in the workplace in an enduring way.

What does it mean to successfully reduce bias? First, there should be evidence of improvements at both individual and organizational levels. At an individual level, successful intervention would mean that there are improvements in individual employees’ attitudes and behavior (e.g., more openness and receptiveness to diversity, reduced intergroup conflict, higher quality interactions across social groups). At the organizational level, successful intervention would mean that there are parallel improvements in the equity of personnel decisions (e.g., resume screens, interviews, hiring, job assignments, mentoring, promotion). Second, concurrent improvements at

the individual level and organizational level should lead to increased demographic diversity of employees. These changes should persist beyond the short term and extend throughout all levels of the organization.

Our multilevel approach offers a new theoretical explanation for why either-or approaches often fail and why multilevel approaches are necessary to successfully reduce bias. Prior work has suggested the benefits of enacting multiple interventions (e.g., multiple sessions of a training over time or more than one type of intervention delivered simultaneously; e.g., Bendick et al., 2001; Bezrukova et al., 2016; Carter et al., 2006; Castillo et al., 2007; Dobbin & Kalev, 2016; Earley, 1987). However, this prior work has not provided a theoretical explanation for why a multilevel approach will reduce bias more effectively than interventions at just one level. Our work expands on this prior work in a key way: it suggests that it is necessary to adopt *multiple intervention strategies across multiple levels* of the organization. In the following sections, we review research from a variety of disciplines that suggests how to effectively reduce bias, focusing first on the individual level and second on the organizational level.

Figure 1.

The Cycle of Workplace Bias



Reducing Bias Requires Intervention at the Individual Level

As the first step of a multilevel approach to reducing bias, we theorize that it is important to start with interventions at the individual level. Doing so will help increase employees' receptivity to and likelihood of adopting organizational interventions.

Research on change management suggests that organizations are more likely to be successful in getting people to adopt changes in policy or practice when leaders first engage in efforts to build awareness and interest in organizational change (e.g., see Angehrn, 2005; Pfeffer & Sutton, 1999; Rogers, 1983).

Traditional diversity training, which typically focuses on increasing awareness of bias and understanding of how it affects behavior, is the most commonly used individual

level intervention (Bendick et al., 2001; Cox, 1994). However, we do not include diversity training as a specific strategy in our review for two key reasons. First, there is very little research that examines the causal impact of diversity training (for exceptions, see Chang et al., 2019; Kalev et al., 2006; Moss-Racusin et al., 2016). Second, when diversity training is evaluated, the results are challenging to interpret. This is because diversity training is a broad, heterogeneous category that can incorporate many different types of content (e.g., awareness of bias, various individual level strategies to reduce bias) and use various formats (i.e., lecture, video, group activities). As a result, evaluations of the impact of diversity training often produce inconsistent results and do not pinpoint the specific individual level strategies that are effective or ineffective.

Based on our review of the psychological literature on “prejudice reduction” interventions, we review four individual level strategies below: increasing intergroup contact, countering stereotypes, encouraging perspective-taking, and finding common ground. We focus on these strategies because they have the most empirical support in the literature and because they are often included as components of diversity training and are, therefore, relevant to organizations.

Intergroup Contact

The most studied strategy for reducing the affective dimensions of bias--namely, group-based prejudice and hostility--is intergroup contact. *Intergroup contact* simply means participating in an interaction with people who are members of an outgroup. Hundreds of studies across disciplines over the last 70 years have sought to establish the benefits of intergroup contact for reducing prejudice against others who have different identities, social group membership (e.g., race or religion), or backgrounds

(e.g., social class; Lemmer & Wagner, 2015; Schroeder & Risen, 2016). At a high level, a meta-analysis of over 500 studies noted that research “conclusively show[s] that intergroup contact can promote reductions in intergroup prejudice” (Pettigrew & Tropp, 2006, p. 751).

The original contact hypothesis proposed that these benefits only occur in situations that have four conditions: equal status, intergroup cooperation, common goals, and institutional support (Allport, 1954). More recent research, however, has led to a revision of this hypothesis. In the influential meta-analysis noted above (Pettigrew & Tropp, 2006), the researchers found no empirical support for the claim that these conditions are necessary to realize the benefits of intergroup contact. Instead, they concluded: “Allport's conditions are not essential for intergroup contact to achieve positive outcomes. [...] samples with no claim to these key conditions still show significant relationships between contact and prejudice” (p. 766).

Below, we describe two recent, noteworthy examples of the benefits of intergroup contact for reducing bias and/or creating more positive attitudes toward outgroups. In the case of racial bias, Whites often experience anxiety when they interact with underrepresented racial minorities because they lack positive experiences with interracial encounters, resulting in a desire to avoid such interactions altogether (Plant & Devine, 2003; West et al., 2009). In the workplace, these dynamics can reduce the willingness of white and male managers to mentor underrepresented racial minorities and women, respectively, in the workplace (e.g., Thomas, 1994). Such anxiety and avoidance can adversely affect the careers of racial minorities (see Macan & Meritt, 2011, for a review).

One study conducted among White and Latina/o participants examined how cross-group friendships could help to reduce anxiety during intergroup contact (Page-Gould et al., 2008). The researchers randomly assigned participants to either a same-group or cross-group friendship dyad and had the friendship dyads meet for three weeks to complete bonding tasks (e.g., a task involving self-disclosure; Aron et al., 1997). Among participants who were high in anxiety about intergroup contact and high in bias before the intervention, their cross-group interactions reduced bias: that is, participants showed reduced anxiety and increased intentions to engage in future intergroup contact after the intervention. By reducing the negative emotions associated with interacting with outgroup members, these types of interventions can increase the likelihood that people will initiate and engage in cross-group interaction within workplaces.

Another recent intervention found that creating intergroup interactions between Iraqi Christians and Muslims improved Christians' behaviors toward Muslims (Mousa, 2020). Specifically, after being assigned to play on a soccer team with Muslims (vs. an all Christian team), Christians with Muslim teammates were more likely to vote for a Muslim (not on their team) to receive an award, take the opportunity to play on a diverse team in the subsequent season, and train with Muslims nearly 6 months after the intervention. Interestingly, in this case, the intervention led to long term reductions in bias against Muslims, but these effects did not generalize beyond the context of soccer (Mousa, 2020). There is evidence that intergroup contact is also beneficial for reducing bias in the workplace (e.g., for reducing the impact of ageism on hiring or reducing anti-immigrant attitudes in interactions; Fasbender & Wang, 2017; Pagotto et al., 2010).

Countering Stereotypes

A second strategy that organizations can use to reduce bias at an individual level is countering stereotypes (Dasgupta & Greenwald, 2001; Kawakami et al., 2000; Kawakami et al., 2007; King & Ahmad, 2010; King et al., 2006; Singletary & Hebl, 2009). Stereotypes are major drivers of workplace bias. Employers view the potential and quality of workers through group-based stereotypes that present some groups of employees as more capable, committed, or enjoyable workers than others; reliance on stereotypes provides advantages for positively stereotyped workers and disadvantages for negatively stereotyped workers, holding actual skill or quality constant (see Rivera, 2020, for a review). *Countering stereotypes* refers to being presented with or imagining in detail someone who is a member of an outgroup who acts in a way that is inconsistent with a stereotype of their group. This can be used in a variety of ways—for example, by presenting people with images of someone who is counter-stereotypical, asking them to read about someone who is counter-stereotypical, or having them meet someone in person who defies stereotypes.

Research finds that when people have information about outgroup members that directly contradicts salient stereotypes, they are less likely to express bias, display prejudice, or engage in discriminatory behaviors toward them. For instance, in one study, participants were asked to take on the role of HR personnel and to evaluate resumes that either included or did not include counterstereotypic information. When the resume included counterstereotypic information about Muslim job applicants (i.e., they spent time volunteering), participants subsequently perceived applicants more positively (e.g., as less cold and unfriendly) and reported that they would behave more positively

toward them (e.g., be less likely to show rudeness or hostility; King & Ahmad, 2010). In another study, participants were either exposed to a counterstereotypical representation of a woman (e.g., a strong capable woman) or a neutral representation that did not counter stereotypes. Participants in the counterstereotypical imagery condition showed a lower level of implicit gender stereotypes (based on the IAT results) compared to the control condition (Blair et al., 2001).

Although most of these studies about countering stereotypes focus on reducing people's reliance on stereotypes of outgroups, stereotypes are widely shared and distributed in the larger culture (e.g., stereotypes about women are held by both men and women; Banaji & Greenwald, 2016; Eberhardt, 2019; Reuben et al., 2014). This strategy of countering stereotypes should therefore be broadly relevant and effective in reducing the use of stereotypes toward lower status groups more generally, even when those stereotypes are about ingroups (see Kawakami et al., 2007 for example).

In sum, providing counter-stereotypic information can reduce the activation of stereotypes that lead to biased decisions, suppress the expression of prejudice, and lay the foundation for more positive intergroup interactions.

Perspective-taking

A third strategy that organizations can use to reduce individuals' prejudice and bias is perspective-taking (see Batson et al., 1997; Finlay & Stephan, 2000; Vescio et al., 2003). *Perspective-taking* means actively considering others' psychological experiences (Dovidio et al., 2004).

Research finds that “perspective taking can combat automatic expressions of racial biases without simultaneously decreasing sensitivity to ongoing racial disparities”

(Todd et al., 2011). There is evidence to support this assertion, both from laboratory studies in psychology as well as field studies examining the long-term effects. For example, in a series of five laboratory experiments, Todd and colleagues (2011) demonstrated that participants who adopted the perspective of a Black target subsequently exhibited more warmth toward Blacks, less pro-White bias, and a greater awareness of racial inequality. In addition, they found that perspective-taking produced stronger approach-oriented action tendencies (e.g., sitting closer) toward Blacks. Moreover, the effects on the perspective-taker translated into a better experience for the Black interaction partners: they rated face-to-face interactions with the perspective-takers more positively than interactions with non-perspective takers.

Even beyond these short-term benefits observed in the laboratory, the benefits of perspective-taking have also been documented in the field and shown to persist over time. For example, in one noteworthy field experiment, the researchers leveraged perspective-taking to reduce the transphobia of potential voters (Broockman & Kalla, 2016). In this study, trained canvassers went door-to-door to engage in conversations with voters, in which they asked a series of questions that encouraged them to take the perspective of transgender individuals. In the control condition, in contrast, the canvassers had conversations with participants about recycling. They found that participating in active perspective-taking substantially reduced transphobia (i.e., based on a feeling thermometer and a “transgender tolerance index”) compared to the control condition, and these effects persisted for 3 months. This experience of perspective taking also increased support for a nondiscrimination law that would protect transgender individuals. These results show that actively taking the perspectives of outgroup

members can have enduring benefits on reducing bias toward them (Broockman & Kalla, 2016). These results from both the lab and the field suggest that actively encouraging perspective-taking among employees (e.g., in an orientation or training) could reduce the expression of prejudice toward negatively stereotyped and/or lower status groups in the workplace.

Finding Common Ground

A third strategy that organizations can use to reduce individuals' prejudice and bias is finding common ground. *Finding common ground* means finding something in common with an outgroup member--for example, a common experience or activity, value, preference, background, or identity. The literature has referred to this strategy as creating a "common ingroup identity" or "superordinate identity" (Gaertner et al., 1999).

Research suggests that finding common ground can help to reduce prejudice toward outgroup members. Building on social identity theory and the idea that people prefer their ingroups to outgroups (Tajfel, 1974; Turner, 1975; Turner et al., 1979), finding common ground works by broadening the circle of others included in one's ingroup. If outgroups are viewed instead as part of and connected to that self and one's ingroup, then people should show the same kind of "ingroup" preference for people previously viewed as "outgroup."

For example, in one study, Riek and colleagues (2010) sought to reduce outgroup bias between Democrats and Republicans by making a common identity salient. Specifically, researchers made salient either a shared identity (i.e., American), dual identities (i.e., political party and American), or separate identities (i.e., political party only). When participants' shared identity as American was made salient, either

alone or simultaneously with their political party identity, they reported more positive attitudes towards outgroup members compared to when political party identity alone was salient. Further, this increase in positive outgroup attitudes was mediated by a decrease in intergroup threat.

Another set of studies sought to reduce bias across different disadvantaged groups (i.e., racial groups' bias toward underrepresented sexual minorities) by reminding them of a shared or common experience--in this case, discrimination (Cortland et al., 2017). Across five studies, Cortland and colleagues demonstrated that a shared experience of discrimination with another disadvantaged group can improve positive attitudes toward them. For example, in one study, straight, Asian American participants either read an article about an experience of discrimination that was relevant to both racial and sexual minorities or a control article that did not communicate a shared experience. Compared to those who read the control article, Asian American participants who read the shared experience article perceived more similarity with LGBTQ individuals, and in turn, indicated more support for their civil rights and more positive attitudes toward them. Together these results suggest that encouraging employees to find common ground (e.g., shared organizational identity or socialization experiences) could improve attitudes toward negatively stereotyped and/or lower status groups in the workplace.

In sum, these individual level strategies have potential to reduce prejudice, which can increase positive interactions and cooperation between different groups of workers. By increasing workers' openness and enthusiasm for working with people who are different from themselves, these types of interventions should also make people more

receptive to changes in organizational policies and practices aimed at reducing group-based bias. Indeed, our multilevel approach suggests that individual level efforts to reduce bias will be effective and long-lasting when paired with organizational level policies and practices. The changes at both levels will serve to leverage the cycle of bias to reinforce and amplify each other.

Reducing Bias Requires Intervention at the Organizational Level

After intervening at the individual level, as part of our proposed multilevel approach to reducing bias, organizations should also intervene at the organizational level to change policies and practices. In the following sections, we focus on four empirically-supported strategies for reducing the expression of bias in personnel selection and management: diversifying opportunity, increasing transparency, making evaluation more systematic, and creating accountability.

Diversifying Opportunity

The first set of organizational level interventions are aimed at *diversifying* opportunity: adopting organizational policies and practices that widen the pool of individuals considered for jobs, work assignments, and sponsorship opportunities. Diversifying opportunity not only increases the statistical likelihood that individuals from underrepresented backgrounds will be selected, but also reduces bias in how people tend to define merit. For example, one study showed that when the applicant pool for a job is predominantly White, recruiters are more likely to view the ideal candidate as White. When the applicant pool is predominantly people of color, they are more likely to view the ideal candidate as a person of color (Johnson et al., 2016).

In hiring, diversifying opportunity entails widening the channels companies use to source talent. Many organizations rely on recruitment channels that are heavily biased against people from backgrounds or groups that are underrepresented in their context. For example, professional service firms' near-exclusive reliance on super-elite colleges and universities in hiring creates biases against students of color and those from lower social class backgrounds (Rivera, 2012, 2015). Likewise, Silicon Valley tech firms' reliance on Bay Area schools biases hiring against Black engineers and programmers (see Dean & Bhuiyan, 2020). Organizations can reduce such *pipeline bias* by recruiting talent from a wider and more diverse array of sources, such as recruiting programs at Black colleges and universities (HBCUs) and women's colleges (Dobbin et al., 2015).

Once on the job, biases in job assignments disadvantage members of underrepresented groups (Williams et al., 2016). Men and Whites are more likely to be asked to participate in high-status, client-facing activities that increase promotion prospects (i.e., "glamour work"), whereas women and racial minorities are more likely to be assigned office "housework" activities (e.g., planning social events, serving on a diversity committee) that are important for the organization, but do not advance one's career (Wilkins & Gulati, 1996; Williams, 2014; Williams et al., 2016). To reduce these types of biases in job assignment and diversify the opportunities available to underrepresented groups, organizations can develop a system to track assignments to ensure that they are equitably distributed across different demographic groups (Madden, 2012; Tulshyan, 2018).

In addition, having equal access to mentorship and/or sponsorship is critical for developing employees' skills and increasing their chances of succeeding on the job

(Blau et al., 2010; Eby et al., 2008). In many organizations, getting promoted requires enlisting the support of a senior manager who serves as a sponsor (e.g., Roth, 2004). Given gender and racial differences in social networks, women and racial minorities are less likely to be sponsored by high status members of the organization, disadvantaging them in promotions (Ibarra et al., 2010). To reduce these types of biases, organizations can develop formal mentoring programs, in which all employees are assigned a mentor or multiple mentors, rather than being asked to seek them out. Research shows that these types of programs can be effective in promoting more women and racial minorities into management positions (Kalev et al., 2006; Dobbin et al., 2015). Designing equitable mentoring systems also requires considering the composition of mentor-mentee dyads. For underrepresented groups in organizations (e.g., women and racial minorities), the most effective mentoring systems include both in-group and out-group members; while in-group members provide needed social support and solidarity, outgroup members tend to have higher status in the organization and connections to decision makers (see Ibarra, 1992).

Increasing Transparency

The second category of organizational level interventions seeks to *increase transparency*. Transparency can diversify access to information so that all employees, rather than just those from dominant groups, are aware of job opportunities and the “rules of the game” for how to succeed. In the domain of hiring, for both internal and external roles, firms can increase transparency about jobs by widely circulating job postings and by making the requirements of those jobs clear. Formal job posting systems, as opposed to filling roles through referrals and word-of-mouth, decrease bias

by making a wider group of people aware of available jobs and their requirements (see Baron & Bielby, 1980; Beaman et al., 2018; DiPrete, 1989; Hodson & Kaufman, 1982; McDonald et al., 2009; Pedulla & Pager, 2019; Reskin, 2000).

After entering an organization, transparency can help a broader range of employees to understand how to gain access to promotions (e.g., the career progression for a given role; see Kalev et al., 2006 for discussion). Having clear job ladders-- that is, a map of job levels within an organization and the required pathways to achieve them-- is a key step toward fostering transparency. Beyond clearly identifying the steps to progress from one role to another, it is also critical to be clear about the criteria on which promotions will be based (Castilla, 2015; see also Making Evaluation More Systematic, below). This will help to ensure that all employees are aware of what is required to gain a promotion. Being transparent about both the process and performance requirements is a key step toward reducing bias in who gets access to opportunities for advancement (Garcia-Izquierdo et al., 2012).

Being transparent about the promotion process also requires clearly informing all employees who are eligible to move to the next level. This means that organizations should avoid relying on employees to nominate themselves or encourage all employees to meet clear standards to self nominate. Indeed, self nomination systems tend to lead to biased outcomes, given gender and racial biases in who is willing to nominate oneself for an opportunity (Bear, 2011; Bowles et al., 2005; Leibbrandt & List, 2015). For example, the People Analytics team at Google noticed a disparity between the rates of men and women who were receiving promotions and discovered that equally qualified women were less likely to self-nominate for promotions. To eliminate the gender

discrepancy in promotions, a senior leader increased transparency by reminding employees to “self-nominate if they are ready and told managers to keep their eyes open for promo-ready Googlers” (Google, n.d.).

Making Evaluation More Systematic

The third set of organizational level interventions involves *making evaluation more systematic*. Making evaluation systematic has two components that we discuss in the sections below. We first discuss how to *de-bias evaluative tools* and then discuss how to *de-bias evaluative procedures*. Making these evaluations more systematic works to reduce bias by reducing the influence of group-based stereotypes.

De-Biasing Evaluative Tools

Designing more equitable evaluation tools is important for hiring and job interviews. Organizations can reduce bias in hiring decisions by replacing open-ended interviews with structured interviews. Indeed, structured interviews are not only less prone to bias, but also tend to be more valid predictors of job performance (Huffcutt, 2011).² Although unstructured interviews are quite popular, they are highly susceptible to the influence of bias. For example, when interviews are unstructured, evaluators tend to rely on “gut” feelings of “fit,” “chemistry” and “spark,” which can introduce bias against both racial minorities and women (Rivera, 2012b; Rivera, 2015a).

One example of a structured interview is a behavioral interview, in which evaluators ask job candidates about how they handled themselves in past situations that are relevant for the job (e.g., in a client service role, “Tell me about a time when you

² While using structured interviews is associated with reducing bias in hiring, organizations need to think carefully about whether the questions developed are themselves biased (for examples, see Dittmann et al., 2020; Rivera 2015b).

had a difficult client. Tell me about the situation and what you did.”) or ask them how they would respond in a job-relevant situation. These types of interviews can provide useful information both about future job performance and overall cognitive skills (Huffcutt et al., 2004).

Other examples of structured interviews include “work sample” tests, in which employers ask applicants to complete a task or set of tasks similar to those required by the job. These tests have a structured system for scoring responses (Ployhart et al., 2006).³ Like behavioral interviews, there is evidence that work sample tests can reduce bias when they are used correctly. The most famous example of the bias-reducing benefits of using a work sample test is Goldin and Rouse’s (2000) orchestra study. The authors analyzed audition records from 8 major symphony orchestras, dating from the late 1950s to 1995. They found that when orchestras implemented a work sample test—when job candidates were asked to play music behind a screen—they dramatically increased the chances of women being selected. Thus, the researchers found that implementing work-sample-based auditions significantly reduced gender-bias in hiring and the gender gap in the composition of symphony orchestras.

Reducing bias in evaluative tools is also important for performance evaluations. The design of a performance appraisal method can make group-based stereotypes more or less salient. Stereotypes are more salient when individuals are asked to make subjective, category-dependent, relative evaluations (e.g., “Is this person tall?”) than

³ These are different from job knowledge tests, which are often pencil and paper tests tapping general knowledge of a field (e.g., the U.S. Civil Service Exam). Instead, they demonstrate job-relevant skills. Work sample interviews, while not perfect, correlate with job interview performance and cognitive skill (Roth et al., 2005).

when they are asked to make absolute evaluations (e.g., “Please list this person’s height in inches; Biernat & Vescio, 2002). Consequently, designing performance prompts in a way that elicits objective rather than subjective information can help reduce bias. For example, rather than asking if someone is a “rainmaker,” ask them how many clients or how much in revenue did they bring in. For numeric performance evaluations, the specific numeric scale chosen also matters. Rivera and Tilcsik (2019) found that changing the rating scale for teaching evaluations could reduce the salience and impact of gender stereotypes on students' ratings. When the university had a 10-point scale, images of perfection and brilliance came to mind, which benefited male teachers because raters were more likely to associate these ideas with men versus women. When the university changed to a 6-point scale, these gender stereotypes were less salient and the new scale served to eliminate gender gaps in performance ratings.

Another strategy for reducing bias in performance appraisals is to shorten the time lag that often occurs between employees' performance and their evaluation. When long stretches of time pass between an event and evaluation, biases of numerous types are likely to creep in (see Kahneman, 2011 for a review). To limit the impact of this time lag, new tools are being developed to help employees' to evaluate performance in real-time (Cecchi-Dimeglio, 2017).

De-Biasing Evaluative Procedures

In addition to de-biasing evaluative tools, it is also necessary to make the procedures for evaluation more systematic. Most notably, it is critical for organizations to specify—and to also ask employees to commit to—a set of evaluative criteria in

advance (Uhlmann & Cohen, 2005).⁴ These criteria should be used in personnel decisions including resume screening, interviewing, performance evaluations, compensation setting, and promotion reviews. Without these criteria, evaluators frequently invent or cherry pick criteria after the fact to justify their preferred employees. This can result in a situation of shifting standards (e.g., Biernat & Vescio, 2002), in which raters evaluate members of different social groups according to different metrics. Supporting the need for systematic criteria, one study examined data of 8000 employees in a financial sector firm, and found a larger gender gap in bonuses and variable pay than in base salary or merit raises after controlling for performance. The former did not have clear criteria, while the latter did (Elvira & Graham, 2002; see also Castilla, 2008).

In addition, providing employees with guidelines about how to judge the criteria for evaluation can keep the evaluations more closely tied to the skills or traits that are most helpful for performing well in a particular job. Likewise, specifying examples of behaviors that indicate high quality performance (e.g., a strong presentation to a client) can also help evaluators base ratings on performance-related skills and behaviors, rather than relying on group-based stereotypes. It can also help evaluators to judge members of different groups according to similar metrics.

Making evaluation systematic can help reduce the impact of cognitive and affective biases. However, when it comes to standardizing evaluation, there is a delicate

⁴ However, it is critical that organizations to review the criteria and metrics being used to ensure they are not defining merit in a way that is biased against members of underrepresented groups (see Cheryan & Markus, 2020; Dittmann et al., 2020).

balance between formalization and flexibility. While some scholars advocate complete formalization in which criteria and scoring rubrics are fixed and managerial discretion is eliminated entirely (e.g., Reskin, 2000), others have found that complete standardization can elicit backlash or actually increase bias (Dobbin et al. 2015; Jencks, 1998; Steele & Aronson, 1998; Walton et al., 2013). What is clear from the literature is that evaluative criteria are needed, and that it is also important for managers to buy into these criteria (Uhlmann & Cohen, 2005).

Increasing Accountability

The fourth set of organizational level interventions involves *increasing accountability*: requiring that people report, explain, and/or justify their behavior to others. Organizations can adopt policies and practices to reduce bias by holding employees accountable for making fair, equitable, and unbiased decisions (Tetlock 1983; Tetlock, 1985; Tetlock & Kim, 1987). Accountability works because people care about how they are viewed in the eyes of others. Thus, when people know that others may scrutinize their decisions or that they could be asked to justify or explain their decisions, they will be more motivated to be vigilant about the decisions that they make. Indeed, psychological research shows that when people are held accountable for their decisions, they tend to engage in more thoughtful and less biased evaluations (e.g., Kruglanski & Freund, 1983).

In practice, organizations can create accountability in various ways. First, one simple strategy is for organizations to put systems or processes in place, such that employees know that their decisions will be viewed and/or discussed by others (Lerner & Tetlock, 1999). For example, employees could be informed that an “equity committee”

will review their promotion decisions for fairness, and that they will also be asked to explain the rationale behind their decisions to the committee (for similar example, see Castilla, 2015). For evaluation decisions, organizations can also ask evaluators to write or type their full name at the top of the evaluation forms (e.g., resume scoring sheets; e.g., Shu et al., 2012).

Second, organizations can increase accountability by setting specific and clear goals or targets for what the organization hopes to achieve with respect to reducing bias. For example, they might specify that the organization's goal is to reduce bias and therefore increase the percentage of Black hires from 2 to 4% over the course of the next 2 years. For those making gatekeeping decisions (e.g., about whom to hire), having these goals should encourage them to be more careful in their decisionmaking and thereby lead to less biased decisions (e.g., Kruglanski & Freund, 1983). Moreover, for employees who are committed to the goal of decreasing bias, having these goals might function as an important commitment device that will encourage people to follow through on their intentions or desires (i.e., implementation intentions, Gollwitzer & Sheeran, 2006; Milkman et al., 2011; Rogers et al., 2015).

Third, organizations can increase accountability by creating positions or entities that are responsible for overseeing initiatives intended to increase workplace equity (Kalev et al. 2006). Creating these roles establishes authority to enforce adherence to policies and guidelines intended to reduce bias and to monitor processes and outcomes for potential bias.

In addition, efforts to increase accountability can work in tandem with efforts to increase transparency in reducing workplace bias. For example, in a field study of a

U.S. service organization, Castilla (2015) found that organizational interventions to increase transparency (e.g., communicating clear standards and outcomes to managers) and accountability (e.g., providing oversight for both decision processes and outcomes) worked together to significantly reduce gender, race, and nationality gaps in merit-based pay raises.

General Discussion

Theoretical Contribution

In the United States and across the globe, the 2020 COVID-19 pandemic has served to widen existing racial and economic inequalities (Pappas, 2020; Thorbecke & Mitropoulos, 2020). These inequalities have been accompanied by rising support for collective action and movements (e.g., Black Lives Matter) to improve racial and economic justice (Cohn & Quealy, 2020). These movements have increased pressure on organizations to take action to improve diversity, equity, and inclusion. Despite organizations' increased interest in improving their DEI outcomes, one key obstacle that stands in the way is *bias*.

Hundreds of studies in psychology, sociology, political science, and economics document the pervasive biases that disadvantage employees from negatively stereotyped and/or lower status social groups. There is no doubt that bias exists and that it affects employees' career trajectories. However, there has been less research and theory on what can be done to reduce workplace bias. The current article fills this gap by providing a theoretically informed multilevel approach for how to intervene to reduce bias in an enduring way throughout the organization.

Previous research across disciplines suggests a wide range of strategies to reduce bias at either individual or organizational levels. Although scholars have suggested the benefits of multiple interventions (e.g., more than one type of intervention delivered simultaneously), we extend this prior work by providing two novel theoretical contributions. First, by conceptualizing bias as a cycle, our multilevel model explains (a) why either-or approaches to intervention often fail and (b) why successfully reducing bias requires adopting multiple intervention strategies across multiple levels of the organization. Second, this article identified, reviewed, and organized a wide range of empirically supported strategies at both the individual and organizational levels.

Principles for Maximizing Interventions' Effectiveness

When delivering interventions across both individual and organizational levels, it is important to take into account some cross-cutting general principles to render them more effective. First, in encouraging employees to participate in organizationally-sanctioned activities or programs, it is important to make sure that employees feel that they have the agency—or choice—to participate. Indeed, a wealth of studies in psychology and sociology suggest that affording people the opportunity to choose such experiences for themselves, rather than having them mandated by the organization, helps to ensure that employees fully engage in these experiences and benefit from them (Brannon & Walton, 2013; Dobbin & Kalev, 2013; Dobbin & Kalev, 2016; Dobbin, et al., 2011; Dobbin et al., 2015; Langer & Rodin, 1976). When delivering individual level interventions in particular (e.g., perspective taking), another factor to consider is that face-to-face and group-based interactions tend to be more effective in encouraging

behavioral change than more passive means, such as relying on email or other types of written communications (Roghanizad & Bohns, 2017).

Beyond these general principles, it is also important to consider the type of bias (e.g., based on gender, race, sexual orientation, class, disability status, veteran status, religion, etc.) that an organization seeks to reduce. In the current review, we focused primarily on reducing gender and racial bias for two reasons. First, most of the existing research on bias focuses on these groups. Second, most organizations likewise focus on reducing bias based on gender and/or race. While we believe that most of the strategies we reviewed here (e.g., intergroup contact, transparency) would be effective irrespective of the type of bias under consideration, more research is needed to understand whether reducing bias against particular groups requires a different approach.

Future Directions

Our proposed theoretical model clearly suggests the need for interventions at multiple levels throughout the organization. Based on the literature on change management (e.g., see Angehrn, 2005; Pfeffer & Sutton, 1999; Rogers, 1983), we propose that it would be more effective to begin with individual level interventions because they can increase the likelihood of employees adopting organizational changes. However, more research is needed to specify the ideal way to roll out multiple changes to maximize effectiveness.

Our model also does not identify the exact intervention that organizations should use, nor does it specify how many interventions to implement at each level. However, by conceptualizing bias as a cycle, our model suggests that organizations should

carefully consider how intervening at one level can build on and amplify changes made at the other level. In other words, organizations should enact interventions that are most likely to be congruent with and complement changes at the other level. To inform such a strategy and identify the exact domain where the intervention should be delivered (e.g., resume screens or interview decisions), a data driven approach is necessary. That is, before intervening, an organization first needs to understand where the biases--and associated group-based disparities--emerge and where they are the strongest.

Analyzing data on personnel decisions at each step of employees' progress throughout the organization (i.e., resume screens, interview invitations, hiring decisions, work assignments, promotion decisions) is necessary to identify where the disparities arise, as well as where they may build on each throughout the organization. Future research should further examine the optimal mix and number of interventions at each level to reduce bias in an enduring way.

One type of intervention we did not include our review is using artificial intelligence (AI). Simply automating or using artificial intelligence (AI) alone to score performance does not necessarily reduce bias (Angwin et al., 2016; Obermeyer et al., 2019). Indeed, as an example of how these efforts can backfire, Amazon sought to reduce bias in recruiting by using machine learning to rate résumés. The algorithm was trained on résumé data from the past 10 years. However, because the applicant pool during that time skewed heavily in favor of men, the system began to use maleness as a success signal and systematically excluded job female applicants from invitations to interview (see Destin, 2018). While AI may hold promise as one method to help

organizations reduce bias, more research is needed to understand how to train algorithms in a way that counters rather than reproduces group-based inequalities.

Conclusion: Reducing Bias is Not Enough

In this article, we have reviewed and integrated research on empirically grounded strategies to reduce bias in individuals' hearts and minds and in organizations' policies and practices. Our goal is to provide organizations with a framework to help conceptualize their change efforts and also offer strategies they can use as they work to reduce bias and increase the demographic diversity of their employees. Yet, reducing bias is only the first step in a two step process of creating high performing, diverse, equitable, and inclusive organizations. Indeed, organizations must first reduce the impact of bias on decision-making throughout all levels of the organization in order to increase diversity. From a public-facing view, achieving this diversity might give organizations "diversity credentials." However, these organizations and their employees will not benefit from that diversity without careful and systematic efforts to foster inclusion: taking steps to ensure that a broad range of diverse employees are fully engaged, empowered, respected, and feel part of the organizational community.

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