Examining the Causes and Consequences of the Misperception that Equality Harms Advantaged Groups

By

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Abstract

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Inequality persists even though it stifles the prosperity of disadvantaged and advantaged groups alike. In this dissertation, we integrate research from social identity theory, social comparison theory, and zero-sum thinking, to theorize that group status itself motivates individuals' perception of equality-enhancing policies. Across five studies (N=4,191), we examine whether advantaged group members misperceive equality policies as necessarily harmful to advantaged groups' resource access and necessarily beneficial to disadvantaged groups' access to resources. We found that advantaged group members misperceived equality-enhancing policies as harmful to their group even when policies did not affect their groups' access to resources (Pilot Study and Study 1a). Disadvantaged groups members, however, accurately perceived such policies as not harming the advantaged group. Conversely, we found no effect of group status when equality policies reduced resources to the advantaged group without changing resources to the disadvantaged group—all perceived equality as necessarily beneficial to disadvantaged groups (Study 1b). To test whether group status-based motivations contribute to misconstrued perceptions equality policies, we experimentally manipulate contexts wherein policies enhance equality between relevant or non-relevant groups (Study 2), and by incentivizing participants to either enhance equality or to maintain an unequal status quo (Study 3). Across each study, we investigate whether fairness judgments causally explain why disadvantaged group members perceive equality-enhancing policies more accurately than advantaged groups. We also examine whether the predicted effects persist even when controlling for perceptions of common fate and ideological beliefs around hierarchy, prejudice, and political conservatism across studies. Finally, we discuss how this misperception that equality is a zero-sum game can explain why inequality prevails even as it exacts a toll on everyone in society.

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At some point over the last five years, I found this video of Dr. Maya Angelou discussing what a lyric from a 19th century African-American song meant to her. In this video, Dr. Angelou uses this lyric as a metaphor to honor the people who have extended her kindness throughout her life. In it, she says: *"And I've had so many rainbows in my clouds. I had a lot of clouds…but I have had so many rainbows."* If there is anything I have learned during graduate school, it is this: Though I have had a lot of clouds, I have had so many rainbows.

I dedicate my dissertation to these rainbows.

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At the end of the video, Dr. Angelou says: *"So I don't ever feel I have no help. I've had rainbows in my clouds. And the thing to do—it seems to me—is to prepare yourself, so that you can be a rainbow in somebody else's cloud."*

To everyone who has been a part of my journey through graduate school, this is what you have helped prepare me to do: to be a rainbow in somebody's cloud. And I am endlessly grateful.

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Introduction

Inequality persists even when it wreaks havoc on the prosperity of everyone in society—disadvantaged and advantaged groups alike. Racial inequality costs the U.S. economy an estimated $16 trillion in lost GDP (Peterson & Mann, 2020), failing to hire job seekers with a criminal history results in an annual loss of $78 billion in U.S. GDP (ACLU, 2017), and the persistent gender pay gap restrains the global economy by about $160 trillion (Wodon & de la Briere, 2018). Why, then, do many social and economic inequalities continue, if not worsen, even as they extract a price from everyone?

One reason for the persistence of inequality, we argue, is the misperception that equality unavoidably harms the advantaged group and benefits the disadvantaged group, even when this is not necessarily the case. Decades of research have documented that people tend to perceive situations as a zero-sum game—wherein gains to one group is only made possible by taking away from another group—even when situations are not (e.g., Johnson et al., 2022; Kern et al., 2020; Meegan, 2010). The social comparison literature offers a cogent explanation, illustrating that people closely attend to how well-off they are relative to others (Adams, 1965; Baldwin & Mussweiler, 2018; Festinger, 1954), often disregarding their outcomes in an absolute sense. Such processes may lead people to universally hold a cognitive heuristic that in order for equality to occur, policies *must* benefit the disadvantaged group at the cost of those in the advantaged group.

Research has also shown that people behave in ways that maximize their own (or their groups') relative advantage over others—even when maximizing relative outcomes can be detrimental to their outcomes in an absolute sense (e.g., Brown et al., 2022; Gershon et al., 2022; Sidanius et al., 2007). Research on social identity theory, for instance, has long demonstrated that people are motivated to prioritize relative gains over an outgroup, often preferring an unequal distribution of resources in favor of their group relative to an outgroup (e.g., Ben-Ner et al., 2009; Tajfel et al., 1971). Although this work suggests that group membership likely exerts an additional influence over people's perception of inequality, a group's position in the social hierarchy also becomes an important, and distinct, motivator that can navigate perceptions of inequality.

In the present research, we draw from these literatures to argue that, when considering equality-enhancing policies, people do not simply *prefer* to maximize their relative advantages. Instead, people fundamentally *misperceive* losses (or gains) of relative advantage as losses (or gains) in absolute terms. We further argue that misperceptions are guided by group-status based motives (Kteily & Richeson, 2016). Advantaged group members, people who have been historically afforded greater access to valuable resources (e.g., jobs, healthcare, education, housing), may be particularly motivated to protect their groups' resource access, and thus preserve the status quo. Disadvantaged group members, on the other hand, may be particularly motivated to promote equality, thereby enhance their groups' access to resources. Thus, group-based motivations may have a unique impact on an individuals' overall perception of equality-enhancing policies, beyond the pervasive tendency to socially compare oneself—or one's group––to others.

Building upon this, we predict that advantaged group members will misperceive equality-enhancing policies as more harmful to advantaged groups, and more beneficial to disadvantaged groups, based on mistaken assumptions that they are protecting their groups' access to resources. Specifically, we hypothesize that advantaged group members will misperceive equality policies as harmful to their group when policies do not change their groups' resource access. Conversely,

we predict that advantaged group members will misperceive equality policies as beneficial to the disadvantaged group even when policies do not change the disadvantaged groups' resource access. However, because equality-enhancing policies are ultimately favorable to the disadvantaged groups' resource access (i.e., relative to advantaged groups' resource access), we predict disadvantaged groups will more accurately perceive the effects of equality policies.

Focus on relative outcomes: A cognitive heuristic account

Longstanding research has shown that people readily compare the self to others (e.g., Festinger, 1954; Gerber et al., 2018; Goethals & Darley, 1977; Suls et al., 2002). In seminal work, Festinger (1954) argued that people often look to others when evaluating one's own abilities, societal standing, and potential outcomes (also see Fiske, 2010). Consistent with this theorizing, empirical work has found that having a greater income relative to others is a stronger predictor of job (and life) satisfaction and turnover rates than having a greater income overall (e.g., Brown et al., 2008; Boyce et al., 2010; Clark et al., 2008; Luttmer, 2005).

The tendency to focus on relative outcomes is well-documented in research on perceptions of inequality. Recent work has illustrated that economic inequality increases preference to make social comparisons (e.g., Hannay, 2022). For instance, people are more strongly impacted by the income of their neighbors in communities with greater inequality (Cheung & Lucas, 2016). People also tend to cognitively skew the subjective perception of their income, which in turn predicts support for redistribution policies (e.g., Brown-Iannuzzi et al., 2015; Jackson & Payne, 2021). Work also shows that upward social comparisons—the processes of comparing oneself with others who they consider relatively advantaged along a dimension—in particular, can be a powerful motivator of thoughts and actions. For instance, Payne and colleagues (2017) demonstrated that inequality increased risk-taking behavior because people readily engaged in upward social comparisons, regardless of one's relative standing and access to resources. Existing work also finds that people making upward social comparisons tend to be more supportive of redistributive policies (Condon & Wichowsky, 2019). Downward social comparisons, on the other hand, can make people feel better about their advantaged position but can instigate motivations to protect, or further enhance, their standing (Wood et al., 1994, cf. Lowery et al., 2012). In sum, this work illustrates that focusing on one's relative outcome compared to others is a universal tendency (Suls et al., 2002), including when individuals form attitudes about inequality.

As a result, people often perceive situations as zero-sum, even in situations that are not (Brown & Jacoby-Senghor, 2022; Meegan, 2010; Sirola & Pitesa, 2017). For instance, the "fixed pie bias" leads negotiators to see their interests as diametrically opposed to the interests of their counterpart, even when there exist opportunities to improve the well-being of one or both parties without harming the other (e.g., Bazerman, 1983; Harinck et al., 2000; Kern et al., 2020; Pinkley et al., 1995; Thompson & Hastie, 1990). People also view economic success as zero-sum, believing that the rich get richer because "the poor" get poorer (Różycka-Tran et al., 2015). Furthermore, people deny win-win scenarios that occur in everyday transactions—such as buying food or purchasing a vehicle—instead mistakenly assuming these scenarios operate in a zero-sum manner, leaving one party or group better off than the other (Johnson et al., 2021). These entrenched zero-sum beliefs can also prompt policymakers and voters to perceive that policies will negatively affect them more than they will benefit others (Baron et al., 2006), leading to the rejection of any policy that might make others, and perhaps society overall, better-off (Brown et al., 2022; McGhee, 2021). Essentially, receiving less than someone else can feel like incurring a loss, even in situations where no one is worse off than before. In the current

work, we examine whether this very focus on assessing one's standing relative to others may, ironically, lead people to misjudge gains or losses in relative outcomes as gains or losses in an absolute sense.

This generalized propensity to make social comparisons, and view the world as zero-sum as a consequence, has been well-reflected in research on intergroup relations. For instance, people pay close attention to how the standing of the ingroup compares to that of the outgroup and behave in ways that provide their own group a relative advantage (e.g., Moscatelli et al., 2014; Pratto et al., 1994; Tajfel & Turner, 1979). In formative work on the subject, Tajfel and colleagues (1971) showed that people chose to maximize resources allocated to ingroup members relative to out-group members across a series of tasks. Similarly, Sidanius and colleagues (2007) found that advantaged group members were willing to sacrifice greater ingroup profits in an absolute sense to ensure the ingroup maintained a relative advantage over the outgroup. Emerging evidence within the zero-sum beliefs literature suggests that people often exhibit zero-sum thinking when it benefits their group to do so. For instance, conservatives view policies that challenge the status quo as zero-sum, but liberals view policies that uphold the status quo as zero-sum (Davidai & Ongis, 2019). Similar group-based motives may determine when (and how) zero-sum thinking governs perceptions of equality-enhancing policies. Recent work has shown that, whereas White Americans believe their educational opportunities are harmed by university diversity policies that mutually benefit White and non-White applicants, Black Americans correctly perceive these policies as helping everyone (Brown & Jacoby-Senghor, 2022). This divergence may have something to do with the fact that people frequently believe that others gain at one's own expense, but that one's own gains do not come at the expense of others (Roberts & Davidai, 2021; Wilkins et al., 2015). Thus, while social comparisons and zero-sum thinking are likely general phenomena, group membership may motivate the circumstances under which these lenses are applied.

Effect of group status on perceptions of equality-enhancing policies: A status motivation based account

Researchers have long known that people view the world through the lens of their group membership. Social identity and self-categorization theories assert that people classify themselves and others into different social categories (Turner et al., 1987), identifying similar others as ingroup members and dissimilar others as outgroup members (e.g., Castano et al., 2002; Perdue et al., 1990; Tajfel et al., 1971). As a consequence of this categorization process, people prefer unequal distribution of resources, often preferring that greater amounts of resources are allocated to ingroup members than to outgroup members even when a more equal distribution of resources would benefit one's ingroup (Diehl, 1990; Tajfel & Turner, 1979). This propensity to favor one's ingroup often occurs with little effort and has been shown to also shape perceptions in arbitrary group settings that operate outside the influence of group-based ideologies (e.g., Fiske & Neuberg, 1990; Xiao et al., 2012; 2016). Relatedly, the social value orientation literature demonstrates that people may hold general preferences for how resources should be distributed (e.g., Bornstein et al., 1983; Messick & Thorngate, 1967; Van Prooijen et al., 2008). Often using minimal groups paradigms, this work finds that individuals prefer allocations that maximize (or minimize) ingroup resources, allocations that maximize the relative difference in resources between ingroups and outgroups, or allocations that maximize joint payoff to ingroups and outgroups (see Murphy & Ackermann, 2014, Table 2). In sum, group membership has a powerful influence on individuals' perceptions of equality.

However, group status—that is, being a member of an advantaged or disadvantaged group—may itself lead to the inaccurate (or accurate) perceptions of equality-enhancing policies. Research on intergroup hierarchy suggests that belonging to an advantaged group also affects how one views the world and one's social standing within it. In their hierarchical model of intergroup relations, Kteily and Richeson (2016) argue that status and hierarchical differences between groups fundamentally shape social perceptions in addition to mere group membership. Groups with higher status and power attend to whether their advantaged position in society is undercut or preserved. These societal advantages, at times afforded by group membership, can engender motivations to preserve (or even augment) their groups' status (e.g., Ho et al., 2015; Sidanius & Pratto, 2001; also see Anderson et al., 2020). In line with this theorizing, we suggest that motivations that result from a groups' status position, not merely based on group membership, could be key to understanding perceptions of equality-enhancing policies. From this perspective, we argue that group status adds a unique layer that motivates people to perceive equality-enhancing policies differently based on beliefs about how such policies affect a groups' access to resources.

Numerous studies reveal that advantaged group members, in particular, perceive improving outcomes for disadvantaged groups as leading to worse outcomes for the advantaged group, even when the advantaged group is objectively no worse off (e.g., Brown & Jacoby-Senghor, 2022; Sherif et al., 1961; Smith et al., 2012; Wilkins et al., 2014; 2015). For example, White individuals' concern for their racial ingroup predicts opposition to affirmative action (Lowery et al., 2006, 2012) and displeasure with increasing demographic diversity (e.g., Craig & Richeson, 2014a; Esses et al., 1998, 2001; see Craig et al., 2018, for a review). Even progress toward equality that does not involve resource allocation is often perceived as involving costs to the advantaged group. For example, White Americans—but not Black Americans—report that as anti-Black bias has decreased over time, anti-White bias has correspondingly increased (Norton & Sommers, 2011). At the policy level, White American's opposition to race-targeted policies (e.g., affirmative action) is, in part, explained by the perception that their group could not benefit from such opportunity-enhancing policies (e.g., Bobo & Kluegel, 1993). Across such examples, advantaged group members perceive benefits to disadvantaged groups as an indication that their group might be harmed (Wilkins et al., 2015; cf. Earle & Hodson, 2020). In sum, belonging to a societally advantaged group may only amplify a tendency toward thinking equality policies harm their ingroup (Kteily & Richeson, 2016; Sidanius & Pratto, 2001), and even increase advantaged group members' willingness to endorse policies that harm their group to preserve their relative advantage.

Whereas advantaged group members are motivated to preserve intergroup hierarchies, research reveals that disadvantaged group members are relatively more motivated to reduce intergroup hierarchy and challenge the status quo (e.g., Brandt, 2013; Ho et al., 2015; cf. Jost et al., 2003; 2004). Such motivations might also extend to how disadvantaged group members perceive equality-enhancing policies. For example, people from racially marginalized groups are typically more supportive of preferential hiring policies (e.g., Kluegel & Smith, 1986; Lee & Tran, 2019; Parker et al., 1997) and organizational efforts to increase the representation of minority groups (e.g., Bobo, 1998; Harrison et al., 2006) than racially advantaged group members (e.g., Chow et al., 2013; Lowery et al., 2007; Plaut et al., 2011). Yet, markedly less research has examined the motivations and perceptions of individuals from disadvantaged groups, particularly as they relate to perceptions of equality (or inequality). Social identity theorists have argued that individuals are motivated to maximize the ingroup's relative

advantaged over an outgroup (i.e., motivation to get ahead) or motivated to minimize the ingroup's disadvantage relative to an outgroup (i.e., motivation to not fall behind; Mummendey et al., 1999; Halevy et al., 2008; 2010; Simpson, 2006). In line with this argument, empirical work has shown that disadvantaged group members may be especially motivated to reduce their groups' disadvantage relative to a more advantaged outgroup. For instance, Halevy and colleagues (2010) found that disadvantaged group members were more likely to engage in competitive behavior to minimize inequality between groups, even though such behavior also reduced outcomes for everyone in an absolute sense.

However, prevailing perspectives in this literature often focus on ideological beliefs—a set of shared beliefs individuals use to interpret their environment (Parsons, 1951)—to explain the motivations underlying intergroup differences in the perception of equality-enhancing policies. Once established, these beliefs shape individuals' social motivations and powerfully influence how people perceive the world (e.g., Jost et al., 2004; Kay & Brandt, 2016; Sidanius & Pratto, 2001). Indeed, such research reveals that people who are more ideologically opposed to equality perceive it as harmful to their group. For instance, prejudice towards disadvantaged outgroups (Krysan, 2000), political conservatism (Wilkins et al., 2015), support for the idea that society is zero-sum (Różycka-Tran et al., 2015), ideological support for the status quo (Dover et al., 2014), and preference for social hierarchies between groups (Kteily et al., 2017; Sidanius & Pratto, 2001) have all been associated with feeling threatened by equality policies and preferences to maintain inequality. Research also illustrates that ideologies can maneuver motivations underlying social cognition, affecting whether (or not) people even notice inequality. For example, individuals higher in social dominance are less accurate at detecting inequality (e.g., Waldfogel et al., 2021) and perceive less inequality, in general.

Despite this substantial body of evidence, this research does not clearly disentangle the motivations that stem from ideological beliefs from motivations that result from group status itself. In many studies, ideological beliefs (e.g., social dominance orientation) are used as a proxy to explain the motivations underlying group status-based differences in inequality perceptions (cf. Kteily et al., 2017). A shortcoming of this approach is that by focusing on people who ideologically oppose equality, we may not clearly identify the role that individuals—advantaged group members, in particular—who ideologically support equality have in contributing to the lack of progress. Indeed, there is a growing body of work demonstrating that ideological beliefs do not always explain people's equality policy perceptions. For instance, Dover and colleagues (2016) found that although White job applicants expressed heighted concern of anti-White bias at companies with pro-diversity messages, their concern was not moderated by prejudice toward minorities, ethnic identification, or system justifying beliefs. Similarly, Brown and Jacoby-Senghor (2022) demonstrated that advantaged group members misperceived win-win equality policies as harmful to their group, regardless of advantaged group member ideological beliefs around diversity, intergroup hierarchy, race, and political conservatism (also see Brown et al., 2022).

Given the extensive evidence illustrating that ideologies can strongly motivate perceptions of equality, we do not argue that group status is a stronger (or more important) predictor of such perceptions. On the contrary, we argue that group status adds an additional perspective that motivates people's perception of equality policies in addition to the ideological beliefs individuals have. As such, while we predict ideological beliefs are correlated with perceptions of equality-enhancing policies, we do not expect our effects to be causally explained by such ideological beliefs. But by what mechanisms does group status lead people to have

different perceptions of equality-enhancing policies? We consider one possibility: perceived fairness.

The mediating role of perceived fairness

It is well-documented that fairness perceptions greatly shape people's attitudes about others and their preferences for resource distribution. Numerous studies, for instance, have shown that fairness perceptions can influence people's decision-making about resource distribution at ages as young as three years old (e.g., Hamann et al., 2014; Hsu et al., 2008; Shaw & Olson, 2014; Sheskin et al., 2014). Notions of fairness have been linked to support (or opposition) to various social (e.g., criminal justice; Sunshine & Tyler, 2003; Tyler, 1997), economic (e.g., tax; Ballard-Rosa et al., 2017; Hammar & Jagers, 2007), and organizational policies (e.g., affirmative action and diversity policies; Lowery et al., 2006; Leslie, 2019; also see Blader & Tyler, 2003). These fairness judgments, recent work reveals, can also drive people's willingness to discriminate against others in hiring decisions (Tomova Shakur & Phillips, 2022) and perceptions of income inequality (e.g., Du & King, 2022). Furthermore, some scholars have argued that fairness perceptions are a primary lever that shapes preferences equality or inequality (Starmans et al., 2017). As such, it is possible that people misperceive the effects of equality-enhancing policies to the extent they judge the policies as fair or unfair. In line with this perspective, individuals who consider the equality policies as unfair may be motivated to misperceive such policies as necessarily harmful to advantaged groups (or beneficial to disadvantaged groups).

Alternatively, it is possible that perceptions of fairness function not as a causal mechanism that predicts misperceptions of harm, but as a consequence of the misperception that equality harms advantaged group. Beyond work describing fairness judgments as central to how people perceive inequality (Starmans et al., 2017), existing research also illustrates that perceived losses can promote fairness perceptions. For example, when participants were led to believe they would incur a loss during an economic game, they were more motivated by fairness and more likely to cognitively activate the concept of fairness in a word association task (Van Beest et al., 2005). Additionally, while perceived fairness has been documented as a mediator between racial identity and support for equality policies, other work has shown that race (and status) related beliefs can also predict perceptions of fairness. For instance, Shteynberg and colleagues (2011) found that perceived disadvantaged mediated the relationship between the presence (vs absence) of affirmative action policies and perceived fairness. Thus, it is possible that misperceptions of harm might predict perceptions of fairness.

Overview of research

In sum, previous work examining how people perceive equality policies has typically focused on the argument that opposition to equality is largely due to ideological opposition (or variation) and on contexts that are plausibly zero-sum. As a result, it is often unclear in the current literature whether perceptions of harm are at all inaccurate. In some studies, materially better outcomes for disadvantaged groups do, in fact, make advantaged groups materially worse off (Lowery et al., 2012). For example, researchers have studied whether participants are willing to hire fewer members of an advantaged group to hire more disadvantaged group members (e.g., Dover et al., 2016; Lowery et al., 2006). In other studies, scholars have examined zero-sum perceptions on symbolic dimensions, which are inherently difficult to disprove. For instance, research has shown majority group members feel their status is threatened by the increasing size of minority groups (e.g., Blau, 1977; Blumer, 1958) and when presented with information that White Americans would be "replaced" by minorities as the new American majority (e.g., Craig

& Richeson, 2014a). This extant work, however, does not consider the possibility that policies can objectively increase equality between two groups in a materially non-zero-sum manner.

In the current research, we seek to address this drawback by asking participants to evaluate policies that are definitionally non-zero-sum, wherein one group's gain is not symmetric to another groups' loss (von Neumann & Morgenstern, 1944). Across studies, we assess individuals' perceptions of policies that promote equality by changing disadvantaged groups' access to a material resource *without* changing advantaged groups' access to that same resource (e.g., increasing the number of jobs available to Black job seekers without changing the number of jobs available to White job seekers). In these policy contexts, we define misperceptions as viewing equality-enhancing policies as harmful to advantaged group members' access to that particular resource (e.g., jobs) when no such change has occurred. We also assess perceptions of equality-enhancing policies that change advantaged groups' access to a material resource without changing disadvantaged groups' access to that same resource (e.g., decreasing the number of jobs available to White job seekers without changing the number of jobs available to Black job seekers). In these policy contexts, we define misperceptions as perceiving equality-enhancing policies as *beneficial* to disadvantaged group members' access to that particular resource (e.g., jobs) even when no such change has occurred.

Across five studies, we examine whether individuals fundamentally misperceive losses of relative advantage as losses in absolute terms, leading them to misjudge the effects of equality-enhancing policies. In an initial pilot study, we draw from a nationally representative sample to assess whether group status predicts the perception that equality policies harm advantaged group members. In Studies 1a and 1b, we examined whether non-zero-sum equality policies are misperceived by advantaged and disadvantaged group members based on how resources are allocated in order to achieve equality. Specifically, in Study 1a we examined whether advantaged group members misperceive equality as necessarily harmful to their group through examining policies that enhance equality by increasing resources to the disadvantaged group without changing resources to the advantaged group. In Study 1b, we examined whether disadvantaged group members misperceive equality as necessarily beneficial to their group via policies that enhance equality by decreasing resources to the advantaged group without changing resources to the disadvantaged group.

We next investigate the extent to which advantaged and disadvantaged group members engage in group status-based motivated processes when evaluating equality-enhancing policies. In Study 2, we test whether misperceptions of equality-enhancing policies are determined, in part, by having the opportunity to identify with the advantaged or disadvantaged group. To do so, we manipulated participants' ability to directly identify with the groups referenced in policies. In Study 3, we experimentally manipulate participants' motivations—to either advocate for increasing equality or to maintain the status quo—to determine whether misperceptions are in fact driven by these motives, in particular. Across all studies, we measure various ideological beliefs known to be related to perceptions of equality (e.g., social dominance orientation, political orientation, group identification, perceived threat) to examine whether our effects hold even when accounting for them.

Chapter 1. Does group status predict the misperception that non-zero-sum equality policies are harmful (or beneficial)?

The primary goal of this chapter is to investigate whether people misperceive equality-enhancing policies as necessarily harmful to advantaged group members—or necessarily beneficial to disadvantaged group—even when policies do not operate in this manner. Across studies, we recruited both advantaged and disadvantaged group members to solicit their attitudes about equality-enhancing policies.

We created policies that proposed enhancing equality by either increasing resources to the disadvantaged group and not changing the resources available to advantaged groups, or by decreasing resources to the advantaged group and not changing resources available to disadvantaged group. According to our theorizing, people will misperceive the effects of equality-enhancing policies based on whether their group receives relatively more (or less) than the outgroup rather than based on the impact the policy has on each groups' absolute outcomes. However, we predict that group status will influence the degree to which this misperception is applied. Specifically, we predict that advantaged group members will misperceive equality policies that increase resources to disadvantaged groups and do not change resources to their group as more harmful to their group than will disadvantaged group members. Conversely, we predict that advantaged group members will misperceive equality policies that decrease resources to their group and do not change resources to the disadvantaged group as more beneficial to disadvantaged groups than will disadvantaged group members. Crucially, we predict that disadvantaged group members will more accurately perceive the effects of equality policies regardless of how equality is framed.

Pilot study

In a pilot study, we examined the relationship between group status and the perception that equality harms advantaged groups using a nationally representative sample. Specifically, we tested whether advantaged group members (i.e., White participants) misperceived a non-zero-sum equality policy as more harmful than disadvantaged group members (i.e., Black and Hispanic participants). In this survey, participants read an equality policy that proposed by public officials to reduce the racial wage gap between Black and Hispanic communities and White communities during the post-COVID recovery period.

Method

Participants

We partnered with the Time-sharing Experiment for the Social Sciences program (TESS), which allowed us to recruit a nationally representation sample of 1,850 individuals (M_{age} = 49.91; *SD* = 16.85, range: 18-93; 54.6 % women) through NORC's AmeriSpeak Panel. Our sample included 1,331 White participants, 236 Black/African-American participants, and 283 Latino/Hispanic participants. The study was fielded between 29 July and 13 August 2021, and participants were offered $2 in exchange for completing this survey.

Procedure, materials, and measures.

All participants read an equality policy that proposed reducing the racial wage gap during the post-COVD recovery period by increasing wages to Black and Hispanic employees and not changing the wages of White employees (see Appendix). After reading the policy proposal, participants indicated how they believed the policy would affect each groups' earnings ("How would this proposal affect earnings in the following year for members of each group?") using a 7-point Likert scale anchored by -3 (*greatly harm*), 0 (*no effect*), and +3 (*greatly improve*). We also measured participants political ideology (1 = *very liberal*, 5 = *very conservative*).

Results and discussion.

We first examined whether group status predicted perceived advantaged group resource access. Consistent with our prediction, we found a significant effect of group status on perceived advantaged group resource access (b = 0.54, SE = 0.07, t(1813) = 8.23, p < .001, 95% CI [0.41, 0.67]). Advantaged group members (M = -0.79, SE = 0.03, 95% CI [-0.85, -0.72]) perceived the equality-enhancing policies as more harmful than disadvantaged group members (M = -0.24, SE = 0.06, 95% CI [-0.35, -0.13]). This lends initial support for our prediction that advantaged group members perceive equality-enhancing policies as more harmful to their group than disadvantaged group members. Furthermore, the effect of group status on perceptions of harm persisted when political ideology was included as a model control (b = 0.48, SE = 0.07, t(1790) = 7.27, p < .001, 95% [0.35, 0.61]. This also lends support to our hypothesis that group status, itself, predicts individuals' perceptions of equality policies separate from the effects of ideological beliefs.

Study 1a

In Study 1a, we build upon the evidence provided from the pilot study to test whether the effects hold true across various disparities and various social groups. To accomplish this, we recruited a balanced sample of advantaged (i.e., White Americans, men) and disadvantaged group members (i.e., Black Americans, Latino Americans, women) to view equality policies that reduced disparities across a variety of contexts, such as salary gap, access to education, and mortgage lending. We also introduce a new dependent variable in order to assess people's objective perception of resource access change in addition to their subjective perception of resource access change (e.g., Brown et al., 2022).

We also captured a more expansive set of ideological beliefs known to predict perceptions of equality to further examine our thinking around the distinct effects of groups status and ideological beliefs of judgements of resource access change. We also used this as an opportunity to assess whether these ideological beliefs measures are viable mechanisms that could explain why advantaged group members misperceive equality as necessarily harmful to their group (Study 1a), and necessarily beneficial to their group (Study 1b). We preregistered our study design and predictions for Study 1a (https://osf.io/f9sjp) and Study 1b (https://osf.io/327uf) on OSF.

Method

Participants

We recruited 605 U.S. citizens from Prolific to participate in our survey in exchange for $3.50. As pre-registered, we excluded fifteen participants that did not report racial (n = 7) or gender (n = 1) demographics consistent with their Prolific prescreen. For example, we excluded participants who did not report being Black or White (non-Hispanic) in the policies discussing Black-White disparities. This resulted in a final sample size of 597 participants (276 women, 317 men; M_{age} = 42.21, SD = 14.87, range = 18-93). Our final sample included 211 White (non-Hispanic) individuals and 104 men as advantaged group members, and 101 Black/African-American, 84 Hispanic/Latino, and 97 women as disadvantaged group members.

Procedure and materials

Each participant was randomly assigned to read three (of six total) different real-world inequalities between an advantaged (i.e., White Americans or men) and a disadvantaged group (i.e., Black Americans, Latino/a Americans, or women). To ensure that our findings were not specific to any particular disparity or group, we generated three sets of policies to address inequality between White and Black/African-Americans, White and Latino/Latino-Americans, or

men and women (i.e., policy context). For each group, we created six equality policy vignettes that involved the following disparities: employment, pay, mortgage lending, startup investment, educational opportunity, and research funding. Three policy vignettes described a monetary disparity (e.g., pay gap) and three vignettes focused on a representational inequality (e.g., unemployment gap). See Appendix for all policy materials.

Crucially, participants were always represented as an advantaged or disadvantaged group member based on their reported demographics—either based on race or gender. Specifically, we recruited non-Hispanic White participants (regardless of gender) as advantaged group members viewing policies addressing Black-White disparities or Latino-White disparities, and men (regardless of race/ethnicity) as advantaged group members viewing policies addressing disparities between men and women. We recruited Black/African-American, non-White Hispanic/Latino participants (regardless of gender), and women participants (regardless of race/ethnicity) to serve as disadvantaged group members for relevant policy contexts. For instance, Black participants only viewed policies describing disparities between White and Black Americans.[1]

For each policy, participants first read a description of an existing disparity between the advantaged and disadvantaged group (e.g., "According to the Bureau of Labor Statistics, there were 124.1 million White Americans employed in the U.S. workforce in 2021 and only 20.5 million Black American employed"). Participants then read a proposal to *increase* resources to the disadvantaged group and *not change* resource access to the advantaged group (e.g., "Several policymakers have proposed a policy to increase the number of Black employees in the workforce by 1.44 million and not change the number of White employees in the workforce over the next five years"). The policies would therefore have the effect of reducing the disparity, or increasing equality, between the two groups. Then, participants answered how they believed each policy would affect the advantaged groups' ability to access resources (e.g., mortgage loans). Importantly, the resources available to the advantaged group did not change across all policies. Thus, we define misperceptions as evaluating the policies as reducing advantaged group members' resource access, even when the advantaged groups' resource access does not change. Participants then completed various measures to assess potential mechanisms, ideological beliefs, and demographic characteristics.

Measures

Perceived group resource access (subjective measure). After each policy, we measured subjective perceptions of resource access change by asking participants to indicate how they thought each proposal would affect each groups' resource access across two items (e.g., "How do you think the proposed changes will affect each groups' chances of receiving funding from these banks over the next five years?").[2] Participants answered this question for the advantaged (M = -0.38, SD = 0.99) and disadvantaged groups (M = 1.65, SD = 1.04) mentioned in the policy using a 7-point Likert-scale with meaningful anchors: -3 (*greatly harm*), 0 (*no effect*), and +3 (*greatly improve*).

[1] Because of the proposed purposive sampling procedure, we concurrently launched five separate studies. First, we conducted the Black-White survey. Once data collection for White participants from that survey completed, we conducted the Latino-White survey, excluding White participants who completed the Black-White survey. We then launched the gender policy survey to recruit equivalent samples of men and women, regardless of race and/or ethnicity.

[2] We use the White-Black policy context as an exemplar throughout this paper for simplicity, but all policies and measures were adapted to feature the groups made salient in each policy.

Our focal dependent variable in this study was perceived advantaged group resource access to identify whether participants misperceived equality policies as harmful to advantaged groups even when they proposed *not changing* their groups' resources. Answers significantly below the scale midpoint represent a misperception that policies would make advantaged group members (e.g., White homebuyers; male job seekers) less likely to access a resource whereas answers significantly above the midpoint represent the misbelief that advantaged group members were more likely to access the resource.

Perceived group resource access (objective measure). We also captured perceived resource access change to each group using a more objective measure of accuracy created for the purpose of this study. For these items, we asked participants to indicate how much the policies would change each groups' ability to access resources (e.g., "By what percentage do you think this proposal will change each groups' chances of receiving mortgage loan funding over the next five years?"). Participants answered each item using a slider scale anchored by -300 (% decrease), 0 (no change), and 300 (% increase). To obtain a measure of accuracy, we subtracted the true percent change based on the information provided in the policy from participants' estimates of resource access change to advantaged (M = -12.76, SD = 66.82) and disadvantaged groups (M = -8.99, SD = 105.78). Thus, negative scores represent underestimations of the policy's proposed impact on resource access, positive scores represent overestimations of the policy's impact, and scores of zero represent accuracy. Once again, our variable of focus was perceived changes to the advantaged group's resource access given that all policies proposed not changing their access to resources.

Perceived outcome fairness. We measured perceived fairness across three items: "The policies I read will result in fair [justifiable] [acceptable] outcomes for [advantaged group] and [disadvantaged group]" (M = 4.28, SD = 1.69, α = 0.96). Participants responded to these items after viewing the three policies using a 7-point Likert scale anchored by 1 (*strongly disagree*) and 7 (*strongly agree*).

Attention check. As an attention check, we asked participants to enter the exact amount by which each policy proposal would change resources to each group (e.g., "By what amount does this policy plan to change the mortgage loan funding for homebuyers from each group") via text entry response. This item was presented on the same page as each policy vignette.

Exploratory measures. Participants also responded to various different scales to assess potential mechanisms that might account for or causally explain the relationship between group status and perceived advantaged group resource access. All measures were presented in randomized order after participants viewed the three policies and assessed using a 7-point Likert-type scale anchored by 1 (*strongly disagree*) to 7 (*strongly agree*), unless otherwise noted.

Perceived relative outcome. Participants indicated how they believed each policy impacted the disadvantaged group *relative* to the advantaged group across a single item, measured three times (M = 4.92, SD = 1.49). An example item was: "After this policy is implemented, are Black homebuyers' chances of receiving mortgage funding better or worse off compared to White homebuyers' chances?". Participants answered these items using a 7-point Likert scale anchored by 1 (*much worse off*) to 7 (*much better off*).[3]

Common fate. We created a four-item measure designed to assess participants' belief that the groups mentioned in the policies share a common fate (also see Lowery et al., 2007). The items were (M = 4.61, SD = 1.29, α = 0.77): "If [disadvantaged group] do better economically,

[3] This item was measured in a repeated measures format for *each* policy participants viewed.

[advantaged group] will do better economically," "If [disadvantaged group] do better economically, [advantaged group] will do worse economically" (reverse-scored), "If [disadvantaged group] are given more civil rights, [advantaged group] will have more civil rights," and "If [disadvantaged group] are given more civil rights, [advantaged group] will have fewer civil rights." [4]

Group status threat. Participants answered three items from Bai & Simon (2020) to measure group status threat (M = 3.42, SD = 1.29, α = 0.68). The items were: "If [disadvantaged group] increase in status, they are likely to reduce the influence of [advantaged group] in society," "If [disadvantaged group] attain higher status, it will be good for [advantaged group] (reverse-scored)," "[advantaged group] will have less economic power and political power if [disadvantaged group] gain economic and political power."

Symbolic threat. Participants answered three items adapted from Bai & Simon (2020) to assess symbolic threat (M = 2.31, SD = 1.31, α = 0.84). The items were: "The values and beliefs of [disadvantaged group] regarding moral issues are not compatible with the values and beliefs of [advantaged group]," "The societal progress of [disadvantaged group] is undermining American culture," "The values and beliefs of [disadvantaged group] regarding work are not compatible with the values and beliefs of [advantaged group]."

Group identification. Four items assessed group identification (adapted from Luhtanen & Crocker, 1992). The items were (M = 4.33, SD = 1.68, α = 0.91): "Overall my racial/ethnic [gender] group membership has very little to do with how I feel about myself" (reverse-scored), "The racial/ethnic [gender] group I belong to is an important reflection of who I am," "The racial/ethnic [gender] group I belong to is unimportant to my sense of what kind of person I am" (reverse-scored), "In general, belonging to my racial/ethnic [gender] group is an important part of my self-image."

Ideological beliefs. We measured various ideological beliefs to include as model controls and exploratory moderators. All measures were presented in randomized order.

Social dominance orientation. The eight-item SDO_{7s} scale (Ho et al., 2015) measured social dominance using a 7-point Likert scale anchored by 1 (*strongly oppose*) and 7 (*strongly favor*). The items were averaged together to provide an SDO score (M = 2.30, SD = 1.28, α = 0.90) where higher scores indicate greater preference for intergroup hierarchy. Example items were: "An ideal society requires some groups to be on top and others to be on the bottom," "Some groups of people are simply inferior to other groups," "No one group should dominate in society" (reverse-scored), "It is unjust to try to make groups equal," and "We should do what we can to equalize conditions for different groups" (reverse-scored).

Just world beliefs. Participants reported their general beliefs in a just world using seven items (adapted from Lipkus, 1991). Example items were (M = 3.56, SD = 1.27, α = 0.90): "I think basically the world is a just place," "I feel that people get what they deserve," "I believe that, by and large, people get what they deserve," and "I am confident that justice always prevails over injustice."

[4] Across all scale items, [advantaged group] and [disadvantaged group] were replaced with the advantaged and disadvantaged groups mentioned in the policies the participants viewed. For example, participants assigned to the Black-White policy context answered the following common fate item: "If Black people do better economically, White people [men] will do better economically." Further, participants assigned to the women-men policy context answered the following item, adapted to their policy context: "If women do better economically, men will do better economically." See Appendix for full list of items.

Global zero-sum beliefs. Participants indicated their general beliefs about whether outcomes in life are zero-sum across seven items (Andrews Fearon et al., 2021). Example items were (M = 2.67, SD = 1.16, α = 0.89): "The success of one person is usually the failure of another person," "Life is such that when one person gains, someone else has to lose," and "One person's success is NOT another person's failure" (reverse-scored).

Explicit prejudice. We measured explicit prejudice towards the outgroup using a single item asking, "Which statement best describes you?" (Axt, 2018). Participants responded to this single question (M = 0.21, SD = 1.15) using a 7-point Likert-type scale (-3 = *I strongly prefer [advantaged group] to [disadvantaged group]*; 0 = *I like [advantaged group] and [disadvantaged group] equally*, +3 = *I strongly prefer [disadvantaged group] to [advantaged group]*).

Political orientation. Three items assessed participants' social, economic, and overall political views using a 7-point Likert-type scale (1 = *very conservative*, 7 = *very liberal;* α = 0.95). We only used overall political orientation in all analyses (M = 4.78, SD = 1.75).[5]

Analysis plan and hypotheses.

In this study, we examined whether group status predicts perceptions that equality-enhancing policies harm the advantaged group, even when that is not the case. As preregistered, we analyzed the data using a series of multilevel models (using the *lmer4* and *lmerTest* R packages) in which group status condition (i.e., disadvantaged group [Black, Latino, or women] or advantaged group [White or men]) predicted perceived advantaged group resource access. We conducted separate models to analyze perceived subjective (7-point Likert scale) and objective advantaged group resource access (-300 to +300 slider scale) as dependent variables. We dummy coded group status condition so that advantaged group was coded as 0 and disadvantaged group was coded as 1. To account for the within-subject nature of the study design, we included a participant random intercept in each model.[6] We also included policy vignette (e.g., mortgage lending, salary, grant funding) as a random intercept in each model because we are interested in the effect generalized across various policies rather than due to any particular policy. In this study, we hypothesized a significant effect of group status on perceived resource access such that advantaged group members will misperceive equality-enhancing policies as more harmful to their group than will disadvantaged group members.

To assess whether participants, in fact, *misperceived* equality-enhancing policies as harmful it is important that the mean rating of perceived resource access is significantly below zero (i.e., the "no effect" scale midpoint). To determine this, we computed the estimated marginal means (using the *emmeans* R package) to observe whether the 95% confidence intervals (CIs) include zero. We operationalized condition means below the scale midpoint with CIs that do not include zero as *misperceptions of policy harm*. We operationalized condition means above the scale midpoint with CIs that do not include zero as *misperceptions of policy benefit*. Finally, we operationalized condition means with CIs that include zero with the scale midpoint as *accurate perceptions* that the equality-enhancing policies do not affect the advantaged groups' ability to access resources. We predicted that advantaged group members will misperceive equality-enhancing policies as harmful to their group, and this condition advantaged mean will be significantly below the scale midpoint (with 95% CIs that do not include zero). However, we did not have an a priori prediction about whether (or not)

[5] The results remain the same if we use a composite measure of political orientation.

[6] Each group condition (White-Latino, White-Black, men-women) will include the same six vignettes. Therefore, including vignette as a random effect should account for variation across these conditions.

disadvantaged group members will also misperceive equality-enhancing policies as harmful. We mainly predicted that disadvantaged group members will perceive equality-enhancing policies as *less harmful to the advantaged group* than will advantaged group members.

Finally, we examined whether perceived outcome fairness mediated the relationship between group status and perceived advantaged group resource access. We conducted mediation analyses using the *lavaan* package in R with 10,000 bootstrapped sampling and clustering by Participant and Vignette.

Exploratory analyses. It is possible that the intent of the study is made obvious to participants due to asking them to respond to multiple vignettes. We conducted exploratory analyses to ensure the effects are not an artifact of the study design in two ways. First, we also included policy vignette as a fixed factor in a multilevel model to determine whether the effect persists across each vignette. Second, we examined whether the effect persists across different group boundaries (e.g., White-Black, White-Latino, men-women) by including disadvantaged group category as a fixed factor in a separate set of multilevel models (see Supplementary materials for these results).

We also examined whether our exploratory measures (e.g., perceived relative outcome, symbolic threat) and ideological beliefs (e.g., SDO, JWB, political orientation) account for our predicted effects by including all as simultaneous control variables in separate linear mixed models. We expect that our predicted effect of group status on perceived advantaged group resource access will remain significant even when accounting for these various measures as model controls. We also tested whether exploratory and ideological belief measures moderated the relationship between group status and perceived advantaged group resource access. We included each measure as simultaneous moderators and examined whether the two-way interaction between group status and moderators were significant. We report any significant moderators in this manuscript (see Supplementary materials for all analyses).[7]

Results

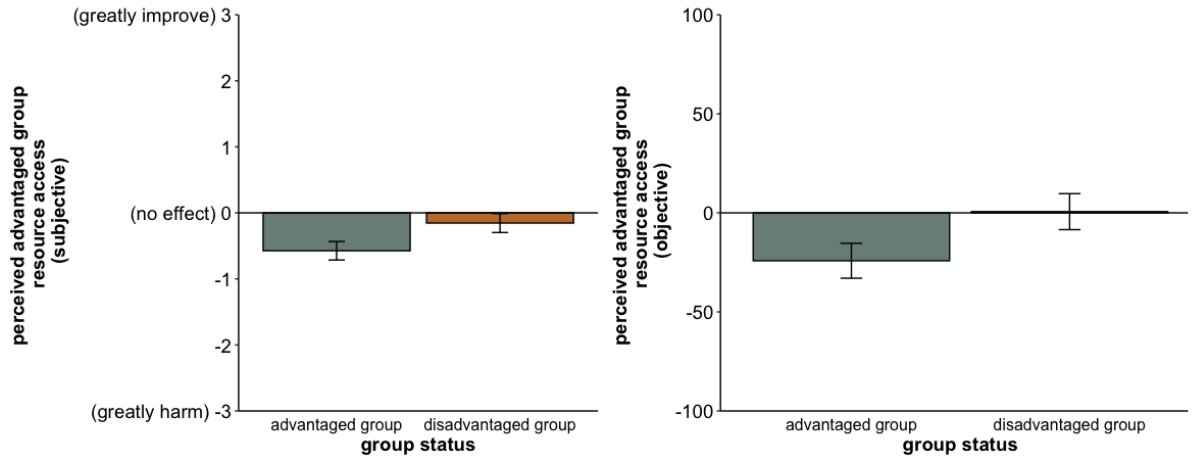
Does group status predict perceived advantaged group resources access? As predicted, there was a significant main effect of group status on subjective perceptions of advantaged groups' resource access, $b = 0.42$, $SE = 0.06$, $t(589) = 6.50$, $p < .001$. Participants from advantaged groups (i.e., White Americans, men) misperceived the equality-enhancing policies ($M = -0.57$, $SE = 0.072$, 95% CI [-0.73, -0.42]) as more harmful than participants from disadvantaged groups ($M = -0.15$, $SE = 0.073$, 95% CI [-0.31, 0.006]).[8] See Figure 1 (left panel). We also found a significant main effect of group status on objective perceptions of advantaged groups' resource access, $b = 24.78$, $SE = 4.60$, $t(572) = 5.39$, $p < .001$. Results indicated that advantaged group participants misperceived the equality-enhancing policies ($M = -24.17$, $SE = 4.49$, 95% CI [-33.76, -14.60]) as more harmful than participants from disadvantaged groups ($M = 0.61$, $SE = 4.63$, 95% CI [-9.18, 10.04]). See Figure 1 (right panel).

[7] We also explored whether any of these measures mediated the relationship between group status and perceived group resource access. We report the results from those analyses in the supplement.

[8] We analyzed whether the estimated marginal means for group status condition were significantly different than the scale midpoint using the *test()* function in the *emmeans* R package. The condition mean for advantaged group participants was significantly below the scale midpoint, $t(11) = -8.02$, $p < .001$. The condition mean for disadvantaged group participants was marginally significantly lower than the scale midpoint, $t(12) = -2.10$, $p = .057$.

Figure 1

Perceptions how policies affect the advantaged groups' access to resources, Study 1a



Note. Means are adjusted based on Participant and Vignette random effect included in the linear mixed model. Error bars indicate 95% CIs around the mean. Subjective perceptions in the left panel and objective perceptions in right panel.

Did policy context or policy vignette influence the relationship between group status and perceived advantaged group resource access? We found no significant difference in perceived advantaged group resource access across policy contexts (i.e., Black-White, Latino-White, women-men). Although we found some significant differences between vignette conditions (i.e., salary vignette was perceived as more harmful than others), our effect persists across all vignettes. See supplemental Tables S1-S2 and Figures S1-S4.

Does the effect persist with model controls? We next examined whether our main predicted effects persisted when controlling for various measures, such as SDO, relative outcome, and political orientation. See supplemental Table S3 for related regression analyses across both variables.

Subjective perceptions. Results revealed a significant main effect of group status condition subjective perceived resource access change to the advantaged group, when controlling for our exploratory measures, $b = 0.34$, $SE = 0.07$, $t(551) = 5.12$, $p < .001$. Advantaged group participants misperceived the policies as more harmful to their group ($M = -0.54$, $SE = 0.06$, 95% CI [-0.68, -0.41]) than did disadvantaged group participants ($M = -0.21$, $SE = 0.06$, 95% CI [-0.34, -0.07]).

Objective perceptions. The significant main effect of group status condition on objective perceived advantaged group resource access also persisted when controlling for the exploratory measures, $b = 22.58$, $SE = 4.98$, $t(530) = 4.54$, $p < .001$. Advantaged group participants misperceived the policies as more harmful to their group ($M = -23.60$, $SE = 4.29$, 95% CI [-32.60, -14.58]) than did disadvantaged group participants ($M = -1.00$, $SE = 4.43$, 95% CI [-10.20, 8.22]).

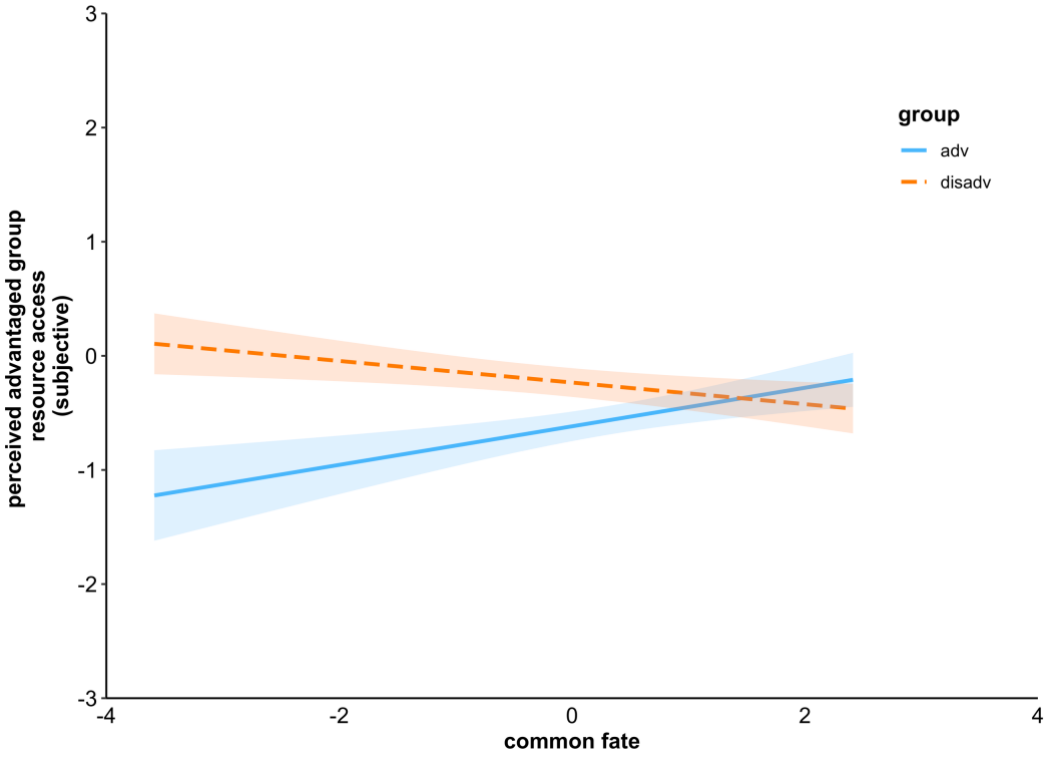
Did exploratory measures *moderate* the relationship between group status condition and perceived advantaged group resource access? We examined whether any of the measured ideological belief variables in this study moderated the relationship between group status (advantaged and disadvantaged group) and our primary outcome variables (i.e., subjective and objective resource access change perceptions). All exploratory variables were mean centered and included as simultaneous moderators using the *lmer* function in R.[9] See supplemental Tables S4-S5 for full moderation analysis results.

Subjective perceptions. Two-way interactions between group status condition and exploratory variables were non-significant ($.221 < ps < .988$) for all but one exploratory measure: common fate. Results revealed a significant interaction between group status condition and perceived common fate on participants' subjective perceptions of resource access change, $b = -0.26$, $SE = 0.06$, $t(541) = -4.39$, $p < .001$. Simple slopes analyses showed that the slopes of common fate perceptions were significant for both advantaged group participants, $b = 0.17$, $SE = 0.05$, $t(543) = 3.45$, $p = .001$, and disadvantaged group participants, $b = -0.09$, $SE = 0.04$, $t(543) = -2.71$, $p = .007$. As shown in Figure 2, common fate perceptions had an opposite impact on advantaged and disadvantaged group members. Specifically, the greater perceptions of common fate that advantaged group members perceived with disadvantaged groups, the more accurately they perceived the effects of the equality-enhancing policies. However, the more disadvantaged group members perceived common fate with advantaged group members, the more inaccurate they were about the effect these policies would have on the advantaged group.

[9] We elected using this approach compared to Hayes' PROCESS (Model 2) to enter all variables in simultaneously. PROCESS allows for a maximum of ten simultaneous moderator variables.

Figure 2

Relationship between common fate and group status on subjective perceptions of advantaged group resource access in Study 1a

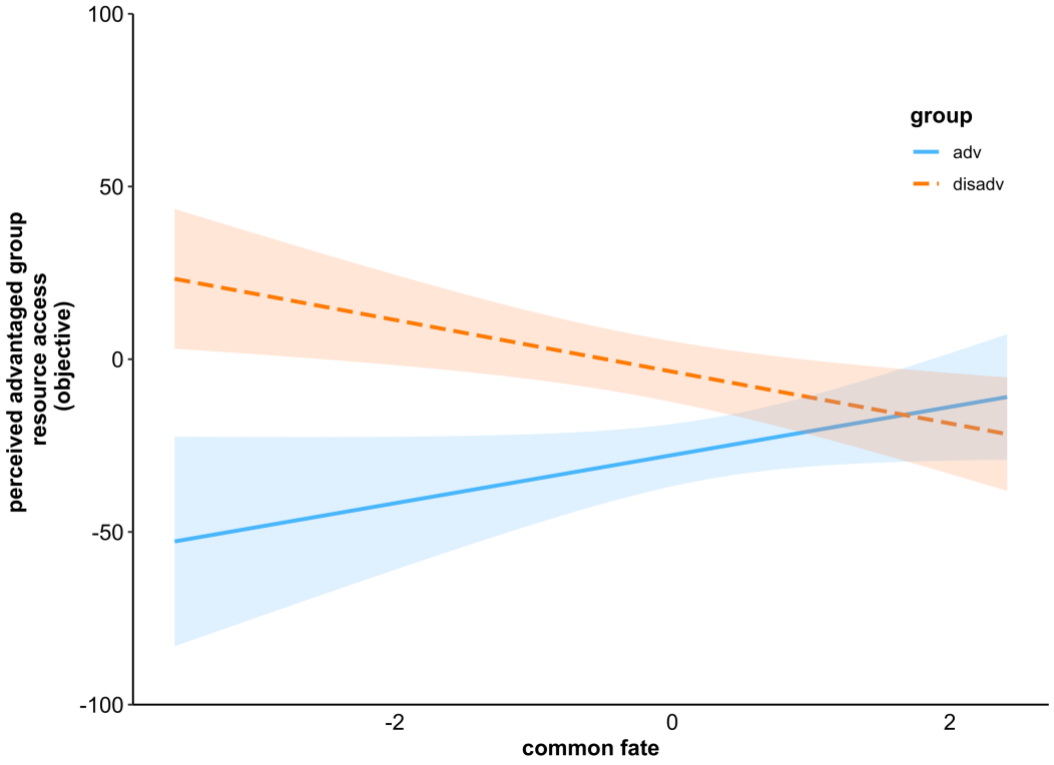


Note. Shaded regions represent 95% CIs.

Objective perceptions. Similar to the subjective measure, all two-way interactions between group status condition and exploratory variables were non-significant (.095 < *ps* < .930) except common fate. We found a significant interaction between group status and perceived common fate, $b = -14.46$, $SE = 4.69$, $t(533) = -3.08$, $p = .002$, 95% CI [-23.48, -5.42]. Simple slopes analyses indicated that the slope of common fate was significant for disadvantaged group participants, $b = -7.49$, $SE = 2.73$, $t(549) = -2.74$, $p = .006$, but not significant for advantaged group members, $b = 6.97$, $SE = 3.82$, $t(538) = 1.83$, $p = .069$. See Figure 3.

Figure 3

Relationship between common fate and group status on objective perceptions of advantaged group resource access in Study 1a



Note. Shaded regions represent 95% CIs.

Did perceived fairness mediate the relationship between group status condition and perceived advantaged group resource access? We also explored whether perceived fairness mediated the relationship between group status and perceived advantaged group resource access. Mediation analyses revealed that the relationship between group status and subjective perceived advantaged group resource access was not mediated by perceptions of fairness (indirect effect: b = 0.04, SE = 0.03, z = 1.45, p = .149, 95% CI [-0.01, 0.09]). Likewise, the relationship between group status and objective perceived advantaged group resource access was not mediated by perceived fairness (indirect effect: b = 2.18, SE = 1.45, z = 1.51, p = .131, 95% CI [-0.65, 5.01]).

We also explored the reverse mediation path to understand whether misperception that equality-enhancing policies harm advantaged groups mediates the relationship between group status and perceptions of fairness. For this analysis, we included objective and subjective perceived resource access variables as simultaneous mediators. Mediation analyses illustrated that the relationship between group status and perceived fairness was mediated by subjective perceptions of advantaged group resource access (indirect effect: b = 0.19, SE = 0.05, z = 4.16, p < .001, 95% CI [0.10, 0.28]), but not mediated by objective perceptions (indirect effect: b = 0.05,

SE = 0.03, *z* = 1.90, *p* = .057, 95% CI [-0.002, 0.11]).[10] See Table 1. Together, this suggests that misperceiving equality as harmful to advantaged groups may shape perceptions of whether (or not) the policy is fair, rather than fairness perceptions informing policy perceptions.

[10] When subjective and objective perceptions of advantaged group resource access were included as individual mediators, results revealed two significant indirect effects. Subjective perceptions mediated the relationship between group status and perceived fairness (indirect effect: *b* = 0.21, *SE* = 0.05, *z* = 4.60, *p* < .001, 95% CI [0.12, 0.30]). Objective perceptions mediated the relationship between group status and perceived fairness (indirect effect: *b* = -0.14, *SE* = 0.04, *z* = 3.78, *p* < .001, 95% CI [0.07, 0.22])

Table 1.
Mediation analysis results from all Studies

Study	Mediator	Outcome	*B*	*SE*	*z*	*p*	*LCI*	*UCI*
1a	Adv .resource access (s)	Fairness	0.19	0.05	4.16	<.001	0.10	0.28
	Fairness	Adv. resource access (s)	0.04	0.03	1.45	.15	-0.01	0.09
1b	Disadv. resource access (s)	Fairness	-0.03	0.02	-1.07	.29	-0.07	0.02
	Fairness	Disadv.resource access (s)	0.05	0.03	1.55	.12	-0.01	0.11
2	Adv. resource access (s)	Fairness	0.32	0.06	5.74	<.001	0.21	0.42
	Fairness	Adv. resource access (s)	0.17	0.04	4.47	<.001	0.10	0.25
3	Adv. resource access (s)	Fairness	0.36	0.07	5.33	<.001	0.23	0.50
	Fairness	Adv. resource access (s)	0.36	0.06	5.98	<.001	0.24	0.48
1a	Adv. resource access (o)	Fairness	0.05	0.03	1.90	.06	-0.002	0.11
	Fairness	Adv. resource access (o)	2.18	1.45	1.51	.13	-0.65	5.01
1b	Disadv. resource access (o)	Fairness	-0.02	0.01	-1.17	.24	-0.04	0.01
	Fairness	Disadv. resource access (o)	2.49	1.72	1.45	.15	-0.89	5.86
2	Adv. resource access (o)	Fairness	0.04	0.02	2.02	.04	0.001	0.08
	Fairness	Adv. resource access (o)	8.72	2.05	4.25	<.001	4.70	12.74
3	Adv. resource access (o)	Fairness	0.03	0.02	2.31	.02	0.005	0.06
	Fairness	Adv. resource access (o)	15.52	5.19	5.11	<.001	16.34	36.70

Note. Mediation analyses conducted with *lavaan* R package (using 10,000 bootstrapped samples). Group status (0=advantaged group, 1=disadvantaged group) entered as the predictor variable across all models. (s) indicates subjective perceived resource access change [top panel]; (o) indicated objective perceived resource access change [bottom panel]. LCI = lower 95% CI; UC = upper 95% CI.

Study 1b

In Study 1a, we investigated whether advantaged group members misperceive the effects of equality-enhancing policies that increase resources to the disadvantaged group without changing resources to the advantaged group. However, equality can be achieved by another form—by decreasing resources to the advantaged group without affecting the resources available to the disadvantaged group. We examined such policies in Study 1b. By utilizing policies that decrease resources to the advantaged group, rather than increase resources to the disadvantaged group, we will be able to observe whether our theorizing applies to how disadvantaged group members (mis)perceive equality-enhancing policies. Based on our predictions, people misjudge relative changes for absolute changes. Although like Study 1a, the policies improve equality by decreasing the advantaged groups relative advantage over disadvantaged groups, in this study equality is achieved by taking away resources from the advantaged group rather than increasing resources to the disadvantaged group. In doing this, we are able to understand whether people misperceive equality-enhancing policies as beneficial to disadvantaged groups' resource access even when their access to resources does not change. We preregistered our study design and predictions on OSF: https://osf.io/327uf.

Method

Participants

We recruited 606 U.S. citizens from Prolific to participate in this study in exchange for $3.50. As pre-registered, we excluded 15 participants that did not report racial (n = 10) or gender (n = 5) demographics consistent with their Prolific prescreen. This resulted in a final sample of 591 participants (287 women, 295 men; M_{age} = 41.36, SD = 14.53). Our final sample included 200 White (non-Hispanic) individuals and 102 men as advantaged group members, and 99 Black/African-American, 95 Hispanic/Latino, and 95 women as disadvantaged group members.

Procedure, Materials, and Measures

We used the same design and recruitment procedure from Study 1a. The study design was identical to Study 1a in which participants were randomly assigned to read three equality-enhancing policies. As in Study 1a, the policies first described existing disparities between an advantaged and disadvantaged group. However, the policies in this study proposed an alternative way of increasing equality—*decreasing* resource access to the advantaged group and *not changing* resource access to the disadvantaged group (e.g., "Several banks propose decreasing the total amount of mortgage loans to White homebuyers by $7.3 billion and not changing the total amount of mortgage loan funding to Latino homebuyers"). These policies therefore would enhance equality between the two groups, but this time by taking away resources to the advantaged group rather than increasing resources to the disadvantaged group. As such, we hypothesized that advantaged group members would misperceive these equality-enhancing policies as more beneficial to disadvantaged groups' ability to access resources than will disadvantaged group members.

Participants answered the same dependent variables from Study 1a. Participants were asked to indicate perceived resource access change to each group across a subjective measure (e.g., "How do you think this proposal will affect each groups' chances of getting a pay increase at these firms over the next five years?") and an objective accuracy measure (e.g., "By what percentage do you think this proposal will change each groups' chances of getting a pay increase over the next five years?"). Importantly, since the resources available to the disadvantaged group remains did not change across conditions, our focal dependent variable in this study was

perceived resource access change to the *disadvantaged group*. Participants otherwise completed the same measures from Study 1a.

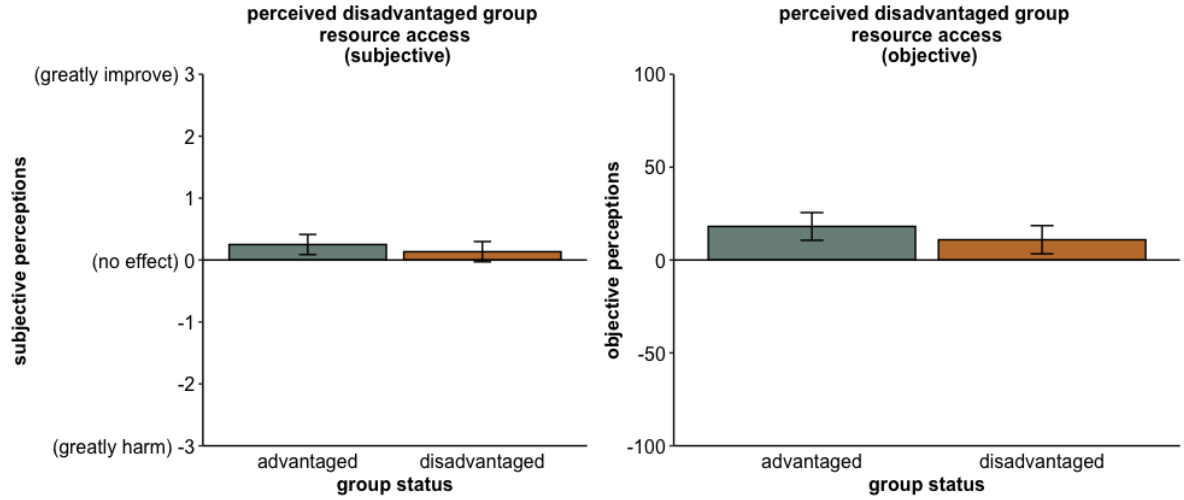
Results

Does group status predict perceived disadvantaged group resources access? We predicted that advantaged group members would perceive equality-enhancing policies that decrease resources to the advantaged group and do not change resources to the disadvantaged group as more beneficial to the disadvantaged group than will disadvantaged group members. Contrary to our prediction, results revealed a non-significant main effect of group status on subjective perceptions of disadvantaged groups' resource access, b = -0.12, SE = 0.08, t(579) = -1.40, p = .162. Although advantaged group participants misperceived the equality-enhancing policies (M = 0.25, SE = 0.083, 95% CI [0.07, 0.43]) as more beneficial to disadvantaged group members than did participants from disadvantaged groups (M = 0.14, SE = 0.084, 95% CI [-0.04, 0.31]), this effect did not reach statistical significance. However, exploratory follow-up analyses indicated that disadvantaged group participants *accurately* perceived the equality-enhancing policies as not changing their ingroups' access to resources, t(15) = 1.61, p = .127, while advantaged group members misperceived the policies as benefitting disadvantaged group members, t(15) = 3.03, p = .009.

Likewise, we found a non-significant main effect of group status on objective perceptions of disadvantaged groups' resource access, b = -7.16, SE = 5.27, t(577) = -1.36, p = .174. Advantaged group (M = 18.10, SE = 3.80, 95% CI [10.56, 25.60]) and disadvantaged group participants (M = 10.90, SE = 3.88, 95% CI [3.26, 18.60]) both misperceived the equality-enhancing policies as beneficial to the disadvantaged groups' resource access on this objective measure. See Figure 4.

Figure 4

Perceptions how policies affect the disadvantaged groups' access to resources in Study 1b



Note. Means are adjusted based on Participant and Vignette random effect included in the linear mixed model. Error bars indicate 95% CIs around the mean. Subjective perceptions included in the left panel and objective perceptions in the right panel.

Did policy context or policy vignette influence the relationship between group status and perceived disadvantaged group resource access? We found no significant difference in perceived advantaged group resource access across policy contexts (i.e., Black-White, Latino-White, women-men). Although we found some significant differences between vignette conditions (i.e., salary vignette was perceived as more harmful than others), our effect persists across all vignettes. See supplemental Tables S6-S7 and Figures S6-S9.

Does the effect persist with model controls? When controls were added to the model, results revealed a non-significant main effect of group status condition subjective perceived resource access change to the disadvantaged group, b = -0.02, SE = 0.07, $t(544)$ = -0.30, p = .765. Both advantaged group (M = 0.20, SE = 0.06, 95% CI [0.08, 0.32]) and disadvantaged group (M = 0.18, SE = 0.06, 95% CI [0.05, 0.30]) participants misperceived the policies as beneficial to the disadvantaged group. See Supplemental Table S8 for related regression analyses across both variables.

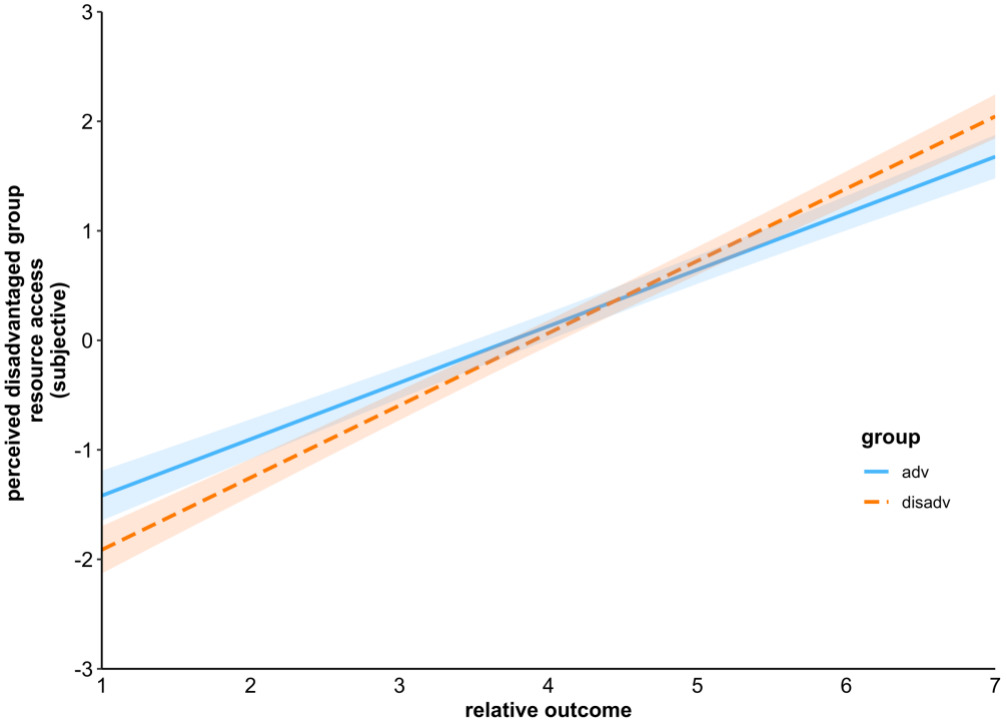
Similarly, the null main effect of group status condition on objective perceptions of disadvantaged group resource access change persisted when model controls were added, b = -3.05, SE = 4.68, $t(533)$ = -0.65, p = .516. There was no difference in advantaged group participants (M = -15.50, SE = 3.14, 95% CI [-9.31, -21.70]) and disadvantaged group participants (M = 12.50, SE = 3.19, 95% CI [6.18, 18.80]) objective perceptions of how these equality policies would affect the disadvantaged groups' ability to access resources. All participants misperceived the equality-enhancing policies as beneficial to disadvantaged group members, even when that was not the case.

Did exploratory measures *moderate* the relationship between group status condition and perceived disadvantaged group resource access? We examined whether any of the measured exploratory variables in this study moderated the relationship between group status condition and perceived changes to disadvantaged group resource access (subjective and objective perceptions).

Subjective perceptions. Two-way interactions between group status condition and exploratory variables were non-significant ($.091 < ps < .542$) for all but perceived relative outcome. Results revealed a significant interaction between group status condition and perceived relative outcome on subjective perceptions of resource access change to the disadvantaged group, b = 0.14, SE = 0.04, $t(1572)$ = 3.48, p = .001, 95% CI [0.06, -0.22]. Simple slopes analyses revealed that the slopes of perceived relative outcome were significant for advantaged group participants, b = 0.52, SE = 0.03, $t(1500)$ = 17.50, $p < .001$, and disadvantaged group participants, b = 0.66, SE = 0.03, $t(1621)$ = 22.57, $p < .001$. See Figure 5 (also see Supplemental Table S9).

Figure 5

Relationship between common fate and group status on subjective perceptions of disadvantaged group resource access in Study 1b



Note. Shaded regions represent 95% CIs.

Objective perceptions. Analyses revealed a significant two-way interaction between group status condition and perceived relative outcome, b = 11.68, SE = 2.62, $t(1512) = 4.46$, $p < .001$, 95% CI [6.43, 18.32]. Simple slopes analyses illustrated that the slopes of perceived relative outcome were significant for advantaged group participants, b = 24.90, SE = 1.89, $t(1483) = 13.14$, $p < .001$, and disadvantaged group participants, b = 36.5, SE = 1.83, $t(1478) = 19.94$, $p < .001$. There was also a significant interaction between group status and perceived common fate, b = 9.36, SE = 4.65, $t(521) = 2.01$, $p = .045$, 95% CI [0.40, 18.32]. Simple slopes analyses indicated that the slope of common fate was significant for advantaged group participants, b = -9.85, SE = 3.78, $t(524) = -2.61$, $p = .009$, but not significant for disadvantaged group members, b = -0.50, SE = 2.71, $t(527) = -0.18$, $p = .855$. All other two-way interactions were not significant ($.071 < ps < .861$). See Figure 6 (also see Supplemental Table S10).

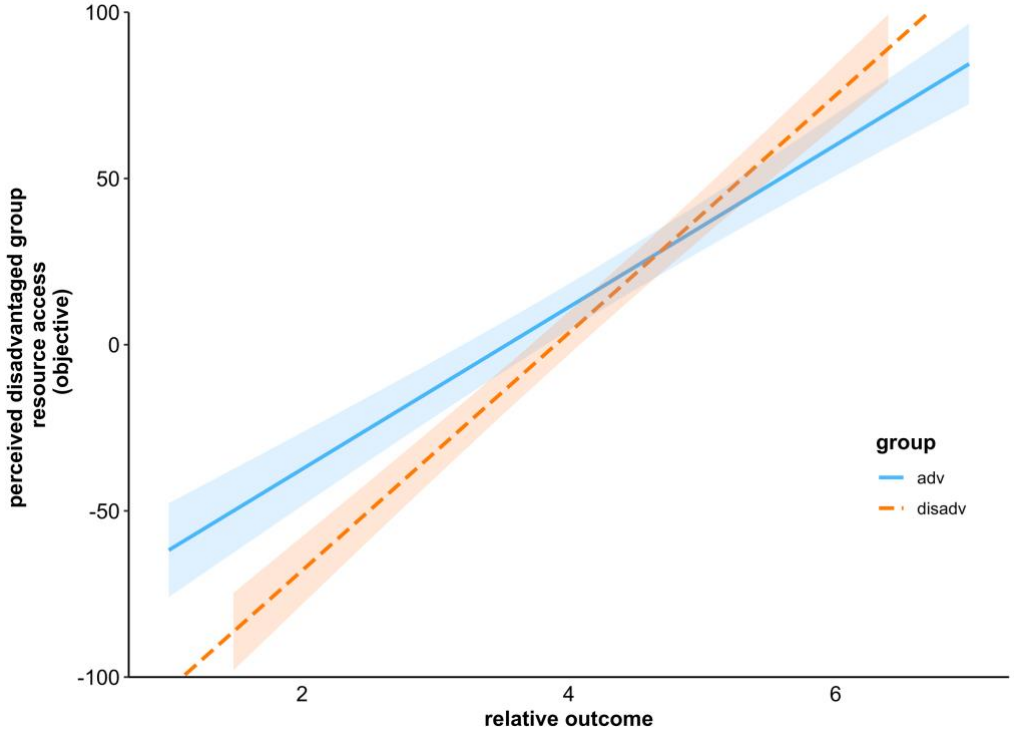
Did perceived fairness mediate the relationship between group status condition and perceived disadvantaged group resource access? We also explored whether perceived fairness mediated the relationship between group status and perceived disadvantaged group resource access. Mediation analyses revealed that the relationship between group status and subjective perceived disadvantaged group resource access was not mediated by perceptions of fairness (indirect effect: b = 0.05, SE = 0.03, z = 1.55, $p = .121$, 95% CI [-0.01, 0.11]). Likewise, the

relationship between group status and objective perceived disadvantaged group resource access was not mediated by perceived fairness (indirect effect: b = 2.49, SE = 1.72, z = 1.45, p = .149, 95% CI [-0.89, 5.86]).

As in Study 1a, we also explored the reverse mediation path to understand whether perceptions equality-enhancing policies necessarily benefit disadvantaged groups mediates the relationship between group status and perceptions of fairness. Mediation analyses revealed that the relationship between group status and perceived fairness was not mediated by subjective perceptions of disadvantaged group resource access (indirect effect: b = -0.03, SE = 0.02, z = -1.07, p = .285, 95% CI [-0.07, 0.02]), or by objective perceptions (indirect effect: b = -0.02, SE = 0.01, z = -1.17, p = .243, 95% CI [-0.04, 0.01]).[11]

Figure 6

Relationship between common fate and group status on objective perceptions of disadvantaged group resource access in Study 1b



Note. Shaded regions represent 95% CIs.

Discussion

Across Studies 1a and 1b, we examined whether individuals misperceive the effects that equality-enhancing policies have on their group. We found that individuals misperceived

[11] When subjective and objective perceptions of disadvantaged group resource access were included as individual mediators, results revealed two non-significant indirect effects. Subjective perceptions did not mediate the relationship between group status and perceived fairness (indirect effect: b = -0.04, SE = 0.03, z = -1.16, p = .247, 95% CI [-0.10, 0.03]). Objective perceptions mediated the relationship between group status and perceived fairness (indirect effect: b = -0.04, SE = 0.03, z = -1.23, p = .221, 95% CI [-0.09, 0.02])

equality-enhancing policies as harmful to advantaged groups (in Study 1a) and beneficial to disadvantaged groups (in Study 1b), even when policies proposed not changing each groups' ability to access resources using both subjective and objective measures of perceived changes to resource access. We also find support for the idea that group status provides a unique lens through which people judge the effects of equality policies, but only when equality policies were framed to increase resources to the disadvantaged group and not change resources to the advantaged group (Study 1a). Contrary to our prediction, group status did not predict the misperception that equality would necessarily benefit the disadvantaged group in Study 1b although the effect trended in the predicted direction. We found that disadvantaged group members more accurately perceived the effects of equality policies than advantaged group members. Further, the differences in perceptions of resource access between advantaged and disadvantaged group members not only persisted when accounting a variety of ideological beliefs (e.g., preference for hierarchy, political ideology, and system justifying beliefs) but were also not moderated by these ideological beliefs.

We did not find support that fairness perceptions mediated the relationship between group status and perceived changes to resource access across Studies 1a and 1b. Instead, we found greater support for the reverse pathway: perceived changes to resource access mediated the relationship between group status and perceived fairness (Study 1a). In Study 2, we sought to replicate this finding to explore whether perceptions of policy fairness are a consequences of misperceptions rather than an explanatory mechanism.

Overall, the pattern of results across these studies are consistent with our theorizing that people tend to misjudge changes in relative outcomes as changes in absolute outcomes. However, it is not clear the extent to which perceptions are motivated by group membership (i.e., being able to identify an ingroup and outgroup in the policy), by group status (i.e., being able to recognize one group has greater advantaged over another group), or by both. If motivated by group membership, we might expect perceptions to stem from motivations to maximize ingroup outcomes (consistent with literature on ingroup favoritism). If motivated by group status, we might expect perceptions to be based on desires to preserve or change the status hierarchy between advantaged and disadvantaged groups. To better understand how these factors influenced perceptions, we experimentally manipulated whether (or not) participants could identify with the groups mentioned in the equality-enhancing policies in Study 2.

Chapter 2. Do people misperceive equality-enhancing policies in non-relevant group contexts?

In Study 2, we directly examined whether individuals' misperceptions of equality-enhancing policies are driven by group-based motives by experimentally manipulating whether (or not) participants can directly identify with the groups invoked in the policies. Social identity theory argues that this identification process (Tajfel & Turner, 1979), itself, can motivate people to engage in group-interested behavior to increase the standing of their group (e.g., Simpson, 2006). Such motives may no longer be present when participants cannot identify with either group invoked in the equality-enhancing policies. Thus, it is possible that participants may more accurately perceive the effects of equality-enhancing policies on advantaged groups when policies affect the resources to two different outgroups.

However, recent theorizing suggests that group status may exert motivations to endorse policies that reinforce, or legitimize, the current social hierarchy (Kteily & Richeson, 2016). According to our argument, the motivation to protect or enhance the standing of one's group may lead individuals to mistake relative gains (or losses) as gains (or losses) in absolute outcomes. Such motivations may still be present when participants cannot identify with either the advantaged or the disadvantaged group in the policy proposal, but nonetheless discern which group is more societally advantaged or disadvantaged. If group status predicts misperceptions of harm towards advantaged groups, then we should still observe a main effect of group status such that advantaged group members misperceive equality as more harmful to advantaged groups than disadvantaged group members, whether or not individuals can identify with the groups mentioned in the policies. However, we predict an interaction such that the effect of group status on perceptions of advantaged group resource access will be stronger in the relevant group condition compared to the non-relevant group condition. We preregistered our study design and predictions on OSF: https://osf.io/wkne2.

Study 2

Methods

Participants

We recruited 803 participants from Prolific to participate in this experiment in exchange for $3.50. As pre-registered, we excluded 23 participants that did not report racial demographics consistent with their Prolific prescreen (n_{Black} = 10; n_{Latino} = 13). This resulted in a final sample of 780 participants (374 women, 390 men; M_{age} = 37.72, SD = 13.50). Our final sample included 412 White (non-Hispanic) participants, 191 Black/African-American participants, and 175 Hispanic/Latino participants.

Procedure and materials

We employed a 2 (group status: advantaged vs. disadvantaged) x 2 (group relevance: relevant group vs. non-relevant group) between-subjects design. After providing informed consent, participants were randomly assigned to one of two group relevance conditions. In the relevant group condition, participants read a policy that would increase equality between two groups, one in which the participant could identify with—either the advantaged (i.e., White participants) or disadvantaged group (i.e., Black and Latino participants). For example, Black participants in this condition read three policies (from six total) that would increase equality between White and Black people. We used the same policies from Study 1a for the relevant group condition. In the non-relevant group condition, participants read policies promoting equality between two social groups that participants do not identify with, neither as the advantaged or disadvantaged group. For instance, Black participants read three policies that

reduced disparities between Asian/Asian-American and Latino people. Latino participants read policies that reduced disparities between Asian/Asian-American and Black people (see Appendix for policy materials).

Measures

Participants responded to the same measures as Study 1a with two changes. First, we measured perceptions of fairness after each policy with a single item ("To what extent do you think this proposal is fair or unfair to [advantaged group]?"; $M = 0.09$, $SD = 1.58$) instead of the three-item measure assessed one time after viewing the policies. Participants answered this item using a 7-point Likert type scale anchored from -3 (*extremely unfair*) to +3 (*extremely fair*). The results from Study 1a suggest that perceived fairness may be a consequence of the misperception that equality is harmful to advantaged groups rather than a predictor of harm misperceptions. As such, we treated perceived fairness as an outcome, rather than a mediator, in this study to examine whether the mediation findings from Studies 1a or 1b would replicate.

We also introduce a new measure to assess policy spillover perceptions. It is possible that perceptions stem not from beliefs about how the policy will affect the resources specifically mentioned in each policy (e.g., mortgage loans in the mortgage vignette) but from beliefs that the policy could have an ancillary negative (or positive) impact on other resources not mentioned in the vignette (e.g., homeownership, jobs, education, purchasing power). To account for this, we measured spillover perceptions after each policy (e.g., How do you think this proposal will affect [advantaged group] access to resource other than mortgage loans [e.g., jobs, homes, education, salary, investment funds] over the next five years?"). Participants responded to this item using a 7-point Likert scale anchored from -3 (*greatly harm*) to +3 (*greatly improve*).

Perceived advantaged group resource access. As in Study 1a, we measured subjective and objective perceptions of advantaged group resource access change. For subjective perceptions, participants indicated how they believed the policy proposal would affect the advantaged groups' resource access with the same item used previously (e.g., "How do you think the proposed changes will affect White [Asian] employees' chances of receiving a salary increase in the next year?"). The advantaged group mentioned in this item always matched the advantaged group mentioned in the policy proposal. For objective perceptions, participants answered the same slider scale question from Study 1a.

Additional variable. We measured the same exploratory variables (e.g., common fate, symbolic threat, status threat) and ideological belief measures (e.g., SDO, JWB, zero-sum beliefs) from Studies 1a and 1b.

Analysis plan

We conducted a series of multilevel models to examine the predicted interaction between group status condition and group relevance condition, including participant and vignette as random effects in each model. Our primary outcome variables were subjective and objective perceived advantaged group resource access change. We probed the predicted interaction with a simple slopes analysis to examine the effect of group status condition across group relevance conditions. Similar to Study 1a, we operationalized misperceptions as the belief that the policies will harm the advantaged groups' access to resources when, in fact, the policies proposed not changing the advantaged groups' resource access.

Originally, we planned to conduct a moderated mediation analysis to examine whether perceived advantaged group resource access mediated the relationship between group relevance condition (entered as the predictor variable), group status condition (entered as the moderator),

and perceived of fairness (entered as the outcome variable).[12] However, because we did not find a significant interaction between group status and group relevance conditions, we opted to conduct a mediation analysis including group status as the predictor. We conducted mediation models for subjective and objective perception variables using 10,000 bootstrapped samples.

We conducted the same set of exploratory analyses as Study 1a. We also explored whether the predicted effects persisted when accounting for the same exploratory variables measured previously. We entered all measures as control variables in a separate set of multilevel models. Finally, we assessed whether there were differences between policy context (i.e., Black-White vs. Latino-White disparities) and vignette condition (see Supplement for analyses).

Results

As in Study 1a, we predicted that advantaged group members will misperceive equality-enhancing policies that increase resources to the disadvantaged group and do not change resources to the advantaged group as more harmful to the advantaged group than will disadvantaged group members. We also predicted an interaction between group relevance and group status conditions, such that group status would more strongly predict misperceptions that equality policies are more harmful to advantaged groups in the relevant group condition than in the non-relevant group condition.

Did group status and group relevance influence perceived advantaged group resource access?

Subjective perceptions. As predicted, we found a significant main effect of group status condition on perceived advantaged group resource access, $b = 0.40$, $SE = 0.09$, $t(773) = 4.71$, $p < .001$, 95% CI [0.24, 0.57]. Replicating Study 1a, advantaged group members ($M = -0.52$, $SE = 0.09$, 95% CI [-0.72, -0.31]) misperceived equality-enhancing policies as more harmful to their group than did disadvantaged group members ($M = -0.15$, $SE = 0.09$, 95% CI [-0.36, 0.06]). We also found a significant main effect of group relevance condition, $b = 0.27$, $SE = 0.08$, $t(773) = 3.26$, $p = .001$, 95% CI [0.11, 0.43]. Surprisingly, participants misperceived equality-enhancing policies in non-relevant group contexts as more harmful to the advantaged group ($M = -0.45$, $SE = 0.09$, 95% CI [-0.66, -0.24]) than policies in the relevant group context ($M = -0.21$, $SE = 0.09$, 95% CI [-0.42, -0.005]). The predicted two-way interaction between group status and group relevance was not significant, $b = -0.069$, $SE = 0.12$, $t(774) = -0.57$, $p = .568$, 95% CI [-0.31, 0.17]. See Figure 8. [13]

Objective perceptions. We found a significant main effect of group status on perceived advantaged group resource access, $b = 23.73$, $SE = 6.18$, $t(767) = 3.83$, $p < .001$, 95% CI [11.62, 35.83]. Advantaged group members ($M = -19.51$, $SE = 4.93$, 95% CI [-30.36, -8.66]) misperceived equality policies as more harmful to their group than did disadvantaged group members ($M = 5.95$, $SE = 5.05$, 95% CI [-5.05, 16.95]). We did not find a significant main effect of group relevance on perceived advantaged group resource access, $b = 9.96$, $SE = 6.01$, $t(759) =$

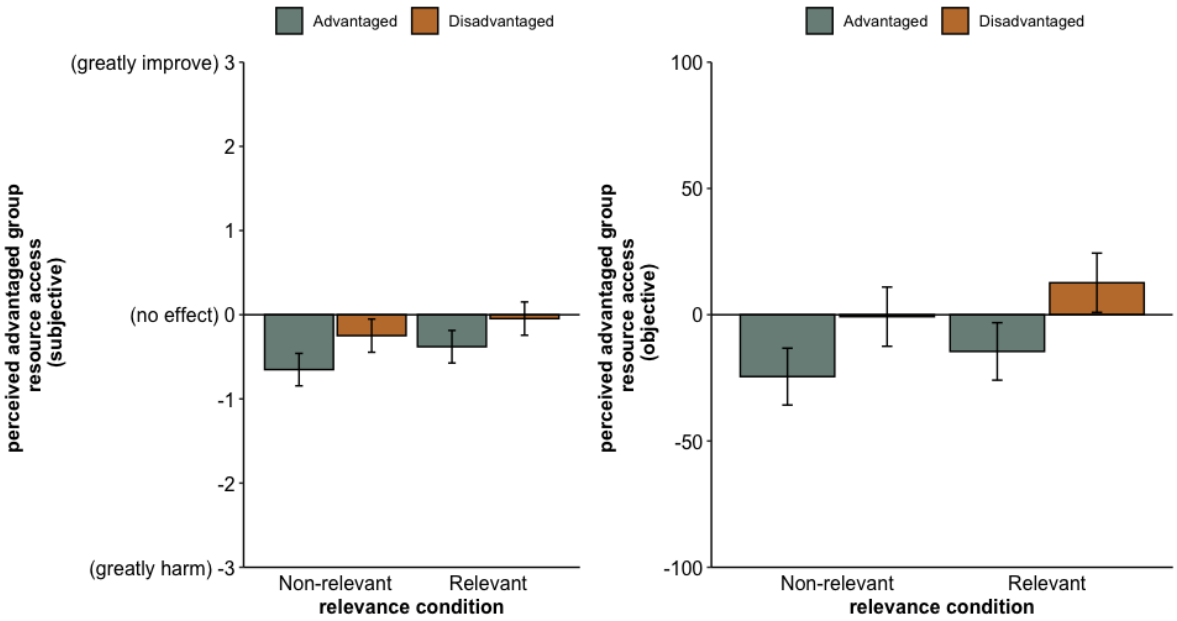
[12] We also conducted alternative models, including perceived fairness as the mediator and perceived advantaged group resource access as outcome variables. The results from this analysis are displayed in Table 1.

[13] When control variables were entered into the model, we found two significant main effects and a significant interaction between group status and group relevance on subjective perceptions of advantaged group resource access. Similar to the model without controls, results revealed a significant main effect of group status, $b = 0.13$, $SE = 0.05$, $t(732) = 2.64$, $p = .008$, 95% CI [0.03, 0.22], and a significant main effect group relevance, $b = 0.12$, $SE = 0.05$, $t(733) = 2.50$, $p = .013$, 95% CI [0.03, 0.21]. However, we also found a significant interaction between group status and group relevance, $b = -0.17$, $SE = 0.07$, $t(730) = -2.41$, $p = .016$, 95% CI [-0.31, -0.03]. See Supplemental Table S13 for regression results and Table S14 for moderation analyses.

1.66, p = .099, 95% CI [-1.81, 21.74], or a significant interaction between group relevance and group status, b = 3.47, SE = 8.78, t(769) = 0.40, p = .693, 95% CI [-13.72, 20.68]. See Figure 7.[14]

Figure 7

Perceptions how policies affect the advantaged groups' access to resources in Study 2



Note. Means are adjusted based on Participant and Vignette random effects included in the linear mixed model. Error bars indicate 95% CIs around the mean. Subjective perceptions (*left panel*), objective perceptions (*right panel*).

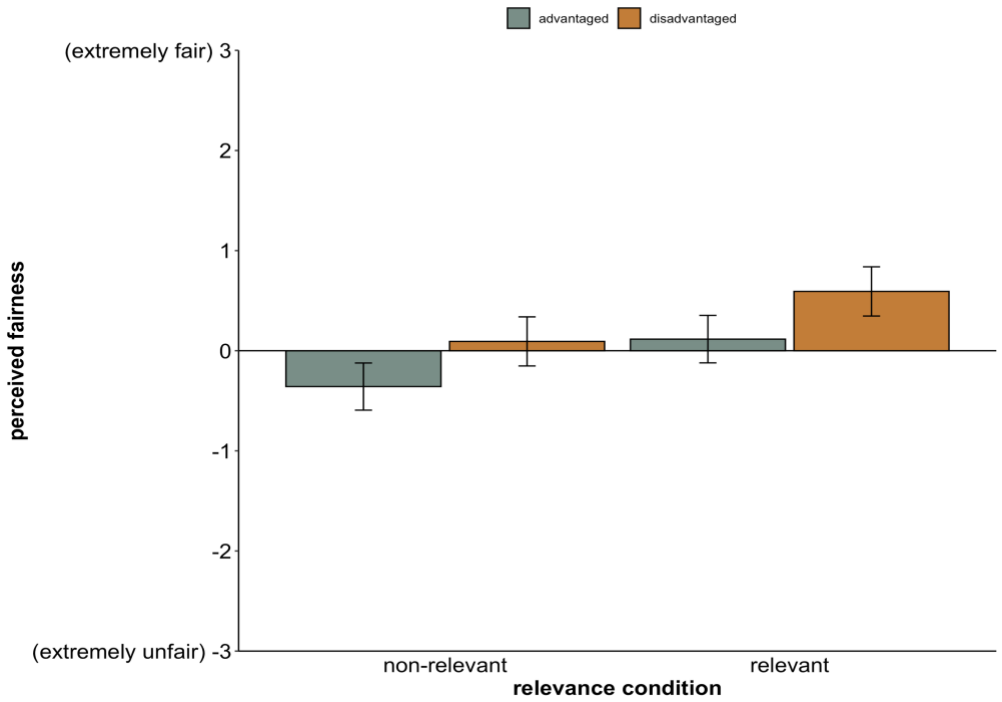
Did group status and group relevance influence perceived fairness? We found a significant main effect of group status condition on perceived fairness, b = 0.45, SE = 0.14, t(774) = 3.26, p = .001, 95% CI [0.18, 0.72]. Advantaged group members (M = -0.12, SE = 0.10, 95% CI [-0.33, 0.09]) thought the equality-enhancing policies were more unfair to their group than did disadvantaged group members (M = 0.34, SE = 0.10, 95% CI [0.13, 0.56]). Results revealed a significant main effect of group relevance condition, b = 0.47, SE = 0.13, t(774) = 3.51, p < .001, 95% CI [0.21, 0.74]. Participants believed the policies were less fair in non-relevant group contexts (M = -0.13, SE = 0.10, 95% CI [-0.35, 0.08]) than in the relevant group contexts (M = 0.35, SE = 0.10, 95% CI [0.14, 0.57]). Results revealed a non-significant two-way

[14] We found no significant main effects or interactions when control variables were added to the model with objective perceptions as the outcome variable. See supplemental Tables S13 for complete regression results. Also see Supplemental Table S15 for moderation analyses.

interaction between group status and group relevance, b = 0.026, SE = 0.20, t(774) = 0.13, p = .896, 95% CI [-0.36, 0.41]. See Figure 8.

Figure 8

The effect of group status and group relevance on perceived fairness in Study 2



Note. Means are adjusted based on Participant and Vignette random effects included in the linear mixed model. Error bars indicate 95% CIs around the mean.

Did perceived advantaged group resource access mediate the relationship between group status and perceived fairness?

Because we did not find a significant interaction between group status and group relevance conditions, we conducted a mediation analysis including group status as the predictor variable (0=advantaged group, 1=disadvantaged group), subjective and objective perceived advantaged group resource access as simultaneous mediators, and perceived fairness as the outcome variable. Mediation analyses revealed that subjective perceptions of advantaged group resource access significantly mediated the relationship between group status and perceived fairness (indirect effect: b = 0.32, SE = 0.06, z = 5.74, p < .001, 95% CI [0.21, 0.42]). [15] We also found a significant, albeit weaker, indirect effect for objective perceptions as the mediator (indirect effect: b = 0.04, SE = 0.02, z = 2.02, p = . 043, 95% CI [0.001, 0.08]. See Table 1.

[15] We also ran the reverse mediation path, including perceived fairness as the mediator and perceived advantaged group resource access as the outcome variable. Results revealed that perceived fairness significantly mediated the relationship between group status and subjective perceptions (indirect effect: b = 0.17, SE = 0.04, z = 4.47, p < .001, 95% CI [0.10, 0.25]). Perceived fairness also mediated the relationship between group status and objective perceptions (indirect effect: b = 8.72, SE = 2.05, z = 4.25, p < .001, 95% CI [4.70, 12.74]).

Discussion

In Study 2, we replicated the effect of group status on perceptions of advantaged group resources access. Advantaged group members misperceived equality-enhancing policies that did not change their groups' access to resources as more harmful than did disadvantaged group members. Interestingly, we found that misperceptions were stronger when participants viewed policies reducing disparities between two outgroups. However, the main effect of group relevance was only significant for subjective perceptions of advantaged group resource access. This pattern of results provides some evidence that the relationship between group status and perceptions of advantaged group resource access is not entirely driven by social identity-based motivations. Even when participants could not identify as an ingroup member with either group invoked in the policy, people still misperceived such policies as harmful to advantaged group members. Thus, it might be that awareness of a group's status is enough to initiate the misperception that advantaged groups are harmed by enhancing equality.

Once again, we find that our effects held when controlling for ideological beliefs and we found no evidence that ideological beliefs moderated the relationship between group status (or group relevance) and perceived advantaged group resource access. As in Studies 1a and 1b, results revealed that perceived resource access, both subjective and objective perceptions, mediated the relationship between group status and perceived fairness. This provides further evidence that perceptions of harm inform what people perceive to be fair or unfair. However, it important to note that the reverse mediation path was also significant. That is, fairness perceptions also mediated the relationship between group status and perceptions of harm.

Although the results from Study 2 help ascertain whether group-based motives affect peoples' evaluation of equality policies, it remains unclear what exactly drives these motivated perceptions—whether group status or some other factor. Discovering the source and content of these motivations is critical to understand why advantaged and disadvantaged groups perceive non-zero-sum equality-enhancing policies differently. In Study 3, we sought to address this limitation by directly manipulating participant motivations.

Chapter 3. Does manipulating group motives alter the effect of group status on perceptions of equality-enhancing policies?

In Study 3, our main goal was to experimentally manipulate group motives to understand whether different motives drive perceptions of equality policies as a function of group status. Thus far, evidence indicates that group status might motivate people to adopt mismatched perceptions of how equality-enhancing policies affect advantaged group members. Specifically, even when participants are provided the same policy information, we find that advantaged group members tend to misjudge equality policies as harmful to their group whereas disadvantaged group members view the same policies more accurately—as not harmful to advantaged groups.

Social identity and social dominance theories have also long considered group-based motivations as a lever through which individuals' attitudes, beliefs, and preferences are formed. For instance, research building from social identity theory has documented that people can be motivated to maximize the ingroup's relative advantaged over an outgroup (i.e., motivation to get ahead) or motivated to minimize the ingroup's disadvantage relative to an outgroup (i.e., motivation to not fall behind), depending on the status position of their group (Halevy et al., 2010). Also, social dominance theory (Sidanius & Pratto, 2001) argues that advantaged and disadvantaged group members often have competing motivations as it relates to the intergroup hierarchy. Whereas advantaged group members are motivated to preserve the existing social hierarchy, disadvantaged group members are often more motivated to change it in pursuit of more egalitarian outcomes (e.g., Ho et al., 2015; Kteily & Richeson, 2016).

Drawing from these literatures, we manipulated whether individuals had the goal to advocate for policies that increased equality between advantaged and disadvantaged groups—thereby changing the status quo—or had the goal to advocate for policies that maintained the status quo. We expected this goal manipulation to have a moderating influence on an individuals' perception that equality policies are harmful to advantaged groups. Specifically, we predicted that participants would perceive equality policies as less harmful to the advantaged group when holding the motivation to increase equality between groups compared to when holding the motivation to preserve the status quo. Because advantaged group members tend to have greater motivation to endorse or maintain the status quo (e.g., Brandt, 2013), we expected that advantaged group participants would more accurately perceive how equality-enhancing policies affects their group when motivated to increase equality compared to when explicitly motivated to preserve the status quo or when no specific motivations are made salient (i.e., control condition). Conversely, we predicted that disadvantaged groups will misperceive equality-enhancing policies as harmful to advantaged groups when motivated to maintain the status quo—that is, when the motivation aligns more closely with advantaged group members.

To manipulate group motivations, we adapted a paradigm developed by Melnikoff and Strohminger (2020) in which participants are randomly assigned to have the goal of defending or prosecuting a defendant in an ostensible legal trial. Prior work using this paradigm has effectively manipulated participant motivations, leading individuals to systematically bias their judgments in line with the goal they were randomly assigned (e.g., Melnikoff & Strohminger, 2020; Strohminger & Melnikoff, 2022). Additionally, we utilized win-win equality-enhancing policies that increase resources to both disadvantaged and advantaged groups but propose increasing resources to the disadvantaged group *more* than the advantaged group. Therefore, these policies benefit both groups in an absolute sense (i.e., both group have greater resource access), but provide greater relative benefit to members of the disadvantaged group. Using win-win equality policies slightly changes our interpretation of a misperception. Previously, we

defined misperceptions as anything significantly below (or above) the scale midpoint depending on which groups' resource access was *not changed*. Because the win-win equality policies in this study propose increasing resources to everyone, we define misperceptions as the reported belief that the policy does not benefit members of the advantaged group.

We preregistered our study design and predictions on OSF: https://osf.io/wn5g6.

Study 3

Method

Participants

We recruited 902 participants from Prolific to participate in this experiment in exchange for $2.90. As pre-registered, we excluded 10 participants that did not report racial demographics consistent with their Prolific prescreen ($n_{Black} = 4$; $n_{Latino} = 6$). This resulted in a final sample of 892 participants (434 women, 440 men; $M_{age} = 38.60$, $SD = 13.85$, range [18, 81]). As advantaged group members, our final sample included 311 White (non-Hispanic) participants and 151 men participants. As disadvantaged group members, our final sample included 146 Black/African-American participants, 135 Hispanic/Latino participants, and 149 women participants.

Procedure and materials

We utilized a 3 (goal condition: control vs. increase equality vs. maintain status quo) x 2 (group status: advantaged vs. disadvantaged group) between-subjects experimental design. After providing informed consent, all participants were told that they would answer questions about various social and economic policy proposals. For this study, we developed paradigm called the "debate competition" adapted from Melkinoff and Strohminger's (2020) advocacy game, which was created specifically for inducing goals to advocate for a particular position. After obtaining consent, participants assigned to the experimental goal conditions were told they would partake in this debate competition. Participants randomly assigned to the control condition were directed to view three policy proposals, without seeing any information about the debate competition.

Participants in the experimental conditions then learned that they would be asked to take a stance in a debate about policies that would enhance equality between two groups (e.g., "In 'Debate Competition,' you will be assigned a position to argue in a debate about policies that would increase equality between Black and White Americans"). As in Study 1a, we utilized three different policy contexts: (1) Black-White disparities, (2) Latino-White disparities, and (3) women-men disparities. We told participants that it is the duty of debaters to argue their given stance to the best of their ability. As our first attention check, we then asked participants to describe, in their own words, the duty of debaters. This was also used to increase engagement in the task.

Next, participants were randomly assigned to have the goal of increasing equality or maintaining the status quo. See Appendix for full text. Participants assigned to the increase equality goal condition read that they would argue in support of policies that increase social and economic equality between two groups. Participants assigned to the maintain status quo condition read that they would argue in support of maintaining existing social and economic policies. As a second attention check, we asked participants to indicate which side they were arguing. Participants who got this question wrong were excluded from analyses. Finally, across both conditions, and to increase goal activation, we told participants that they would receive a $0.50 bonus if they provided the strongest argument in support of their stance. To ensure participants were aware of this incentive structure, we included an open response item: "In your

own words, please describe what you must do in order to receive a $0.50 bonus." We provided all participants a $0.50 bonus.

Next, all participants were randomly presented three (of six total) policy vignettes. As in previous studies, participants first read about a current disparity between two groups—an advantaged (i.e., White Americans or men) and a disadvantaged group (i.e., Latino, Black Americans, or women). Each policy then proposed reducing the disparity by increasing resources to both groups, in a win-win fashion, but increasing resources to the disadvantaged group relatively more than the advantaged group. After each policy, we included a free response question, asking participants in the experimental conditions to provide their arguments in line with their assigned stance and participants in the control condition to provide their thoughts about the policy proposal. Afterwards, participants indicated how they perceived the policy would affect the advantaged groups' ability to access resources as accurately as possible—our focal dependent variable. Participants then completed measures of fairness, objective perceptions, and a final attention check to examine whether they accurately attended to how each policy proposed changing resources to each group. After viewing the three policies, participants completed a manipulation check, reported their perceptions of common fate, completed a demographics survey, and were debriefed.

Measures

Perceived advantaged group resource access (subjective measure). After each policy, we measured subjective perceptions of resource access change with a slightly adapted version of the measure we used in previous studies. Participants indicated how they think each proposal would affect the advantaged groups' resource access with the following item: "Answering as accurately as possible, how do you think the proposed changes will affect [advantaged groups' chances of receiving funding from these banks over the next five years?").[16] Participants answered items (M = -0.02, SD = 1.38) using a 7-point Likert-scale with meaningful anchors: -3 (*greatly harm*), 0 (*no effect*), and +3 (*greatly improve*).

Perceived advantaged group resource access (objective measure). Participants indicated objective perceptions of advantaged group resource access using the same slider scale from Study 1a (M = 6.35, SD = 84.84). We included this as an exploratory measure in this study.

Perceived fairness. We measured participant perceptions of fairness for each policy using the same item from Study 2 (M = 0.20, SD = 1.71).

Manipulation check. To examine whether the experimental manipulation effectively activated the intended goals—either increasing equality or maintaining status quo—we asked participants to indicate their agreement to the following two statements: "We should implement policies that increase social and economic equality between [advantaged group] and [disadvantaged group]"[17] and "We should maintain existing social and economic policies" (reverse-scored). We created a composite with the two items (M = 5.19, SD = 1.62).

Common fate. We measured common fate using the same four items from previous studies (e.g., "If [disadvantaged group] do better economically, [advantaged group] will do better economically). Participants responded to these items using a 7-point Likert scale (M = 5.10, SD = 1.20, α = 0.73).

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[16] We use the White-Black policy context as an exemplar throughout this paper for simplicity, but all policies and measures were adapted to feature the groups made salient in each policy.

[17] The advantaged and disadvantaged groups mentioned in each policy were populated for this item. For instance, participants in the survey involving Black-White disparities saw the following item: "We should implement policies that increase social and economic equality between White and Black Americans."

Analysis plan

We preregistered conducting a multilevel model to examine whether manipulating participant goals changed the effect of group status on perceptions of advantaged group resource access. We included group status condition and goal condition as interacting predictor variables in this model, also including participant and vignette as random effects. Our primary outcome variable was subjective perceived advantaged group resource access change. We probed the predicted interaction with a simple slopes analysis to examine the effect of group status condition across group goal conditions. We also conducted pairwise comparisons using the *emmeans* R package using the Tukey adjustment. We also conducted mediation analyses to investigate whether perceived advantaged group resource access mediates the relationship between group status and perceived fairness, using 10,000 bootstrapped samples. Finally, we tested whether perceptions of common fate moderated the relationship between group status and perceived advantaged group resource access. As exploratory analyses, we also conducted a series of multilevel models to investigate whether there was a significant interactive effect of group status and goal condition on objective perceptions of advantaged group resource access and perceptions of fairness.

Results and discussion

We expected that manipulating the goal to increase equality or preserve the status quo would affect participants' perceptions of equality-enhancing policies. Specifically, we predicted that participants would perceive the equality policies as less harmful to the advantaged group when holding the motivation to increase equality between groups compared to when equipped with the motive to preserve the status quo.

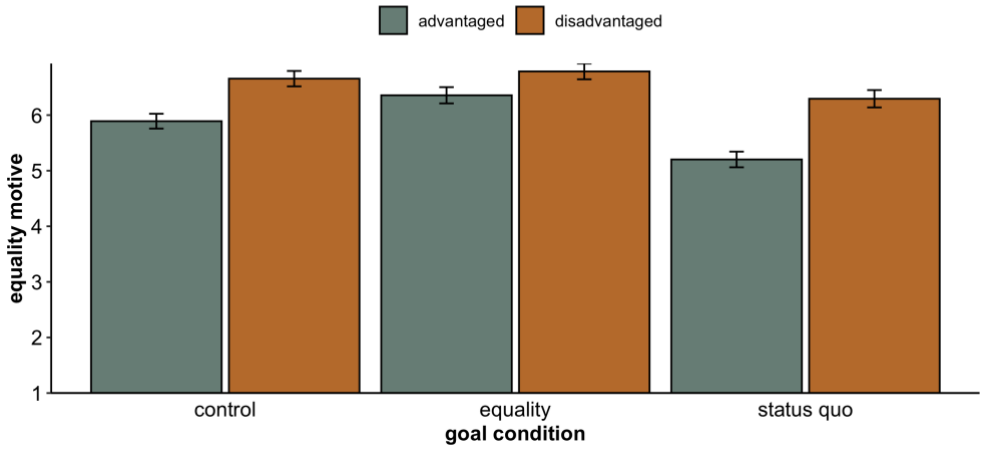
Did the goal manipulation alter motivations to promote equality vs. maintain status quo?

First, we examined whether we successfully manipulated participant motivations in our paradigm. We conducted a 2 x 3 ANOVA including group status and group condition as predictor variables and the equality motives measures (i.e., our manipulation check) as the outcome variable. Crucially, results revealed a significant main effect of goal condition on equality motives, $F(2, 2644) = 64.43$, $p < .001$. Participants in the equality motive condition indicated having greater motivations to increase equality between groups ($M = 5.57$, $SE = 0.05$) compared to participants in the control condition ($M = 5.27$, $SE = 0.05$) and status quo condition ($M = 4.75$, $SE = 0.05$). Results also revealed a significant main effect of group status, $F(1, 2644) = 161.72$, $p < .001$, and a significant two-way interaction between group status and goal condition, $F(2, 2644) = 9.85$, $p < .001$. See Figure 9.[18]

[18] See Supplemental Tables S21-S22 for EMMs and post hoc comparisons across all conditions.

Figure 9

Equality motives by group status and goal condition in Study 3



Note. Means are adjusted based on Participant and Vignette random effect included in the linear mixed model. Error bars indicate 95% CIs around the mean.

Did the group status and goal manipulation influence perceived advantaged group resource access?

As predicted, we found a significant main effect of group status condition on perceived advantaged group resource access, $b = 0.60$, $SE = 0.13$, $t(886) = 4.69$, $p < .001$, 95% CI [0.35, 0.84]. Advantaged group members ($M = -0.27$, $SE = 0.06$, 95% CI [-0.39, -0.14]) misperceived win-win equality-enhancing policies as more harmful to their group than did disadvantaged group members ($M = 0.23$, $SE = 0.06$, 95% CI [0.10, 0.38]). We also found a significant main effect of goal condition: Participants who had the explicit goal of advocating to increase equality perceived the equality-enhancing policies as more beneficial to advantaged groups than participants in the control condition, $b = 0.38$, $SE = 0.13$, $t(885) = 2.88$, $p = .004$, 95% CI [0.12, 0.63], and participants who had the goal to maintain the status quo, $b = 0.71$, $SE = 0.13$, $t(887) = 5.27$, $p < .001$, 95% CI [0.44, 0.97]. Participants who held the goal to preserve the status quo misperceived equality-enhancing policies as more harmful to advantaged groups than participants in the control condition, $b = -0.33$, $SE = 0.13$, $t(886) = -2.56$, $p = .01$, 95% CI [-0.58, -0.08]. [19]

Results revealed no significant two-way interactions between group status and goal manipulation conditions, suggesting the effect of group status on perceived advantaged group resource access is not dependent on the goal to increase equality or maintain the status quo. See Supplemental Table S16 for full regression results. Nevertheless, post hoc comparisons between conditions reveal that the goal manipulation effectively manipulated participant goals as a function of group status.

For advantaged groups, we theorized that advantaged group members might misperceive equality-enhancing policies as harmful to their group because they are more motivated to maintain the status quo, thereby preserving their relative advantage over other groups. As a

[19] See Supplemental Tables S17-18 for regression results across policy context and policy vignettes. Also see Figures S18 and S19 for bar plots.

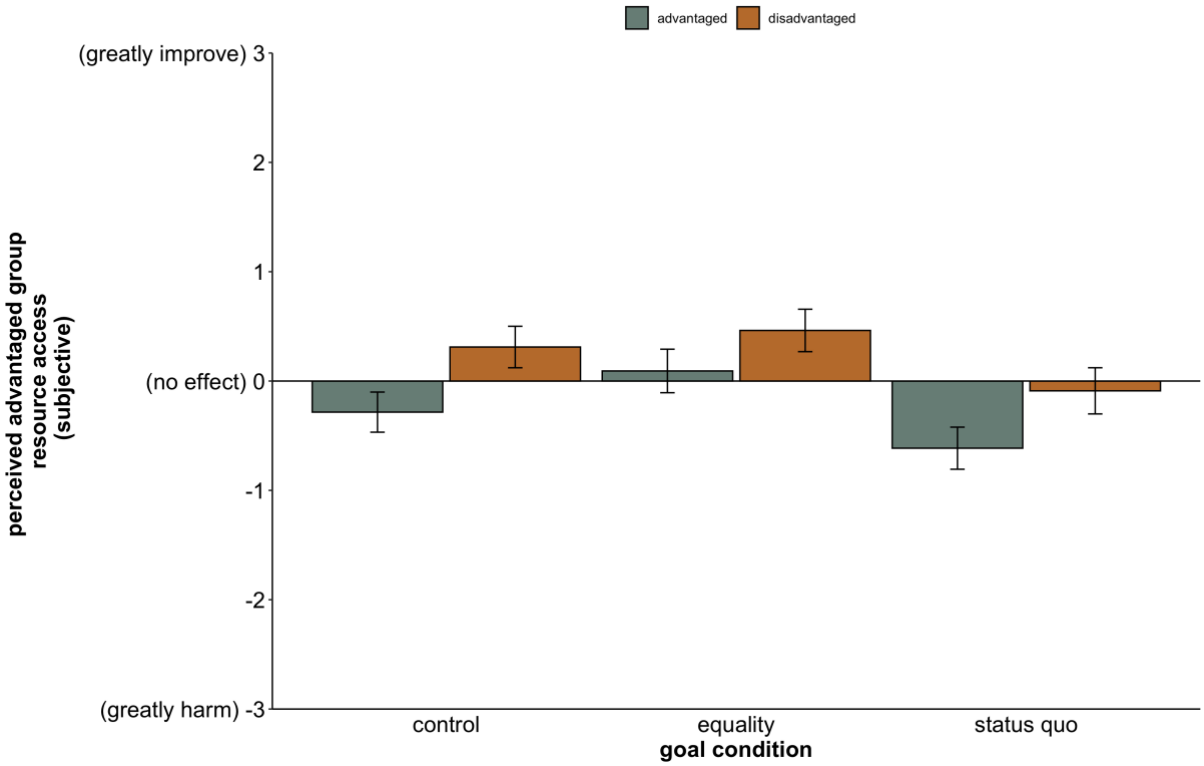
result, we expected that advantaged group members endowed with the goal to maintain the status quo would perceive equality-enhancing policies similar to advantaged group members without any particular goal (i.e., control condition). Results revealed no significant differences in how advantaged group members in the control condition (M = -0.28, SE = 0.09, 95% CI [-0.47, -0.10]) and advantaged group members with the status quo goal misperceived equality-enhancing policies as harmful to their group (M = -0.61, SE = 0.10, 95% CI [-0.81, -0.42]), $t(886) = 2.56$, $p = .10$. Post hoc comparisons revealed that equipping advantaged groups with the motivation to promote equality resulted in greater accuracy: Advantaged group members with the equality motive (M = 0.09, SE = 0.10, 95% CI [-0.11, 0.29]) perceived equality-enhancing policies as more beneficial to their group compared to those in the control condition, $t(885) = -2.88$, $p = .05$, and those with the status quo motive, $t(886) = 5.27$, $p < .001$. Furthermore, advantaged group members who had the goal to promote equality perceived equality-enhancing policies no differently than disadvantaged group members in the control condition, $t(886) = 1.65$, $p = .57$.

For disadvantaged group members, we theorized that disadvantaged groups might perceive equality-enhancing policies more accurately because they have a default motivation to increase equality between groups, and thus may be more willing to acknowledge mutually beneficial outcomes from equality policies. Results revealed no significant difference between disadvantaged group's perceptions of how equality policies affected the advantaged group across control (M = 0.31, SE = 0.10, 95% CI [0.12, 0.50]) and equality motive conditions (M = 0.46, SE = 0.10, 95% CI [0.27, 0.66]), $t(885) = -1.16$, $p = .86$. As expected, we found a significant difference between the equality condition and status quo motive condition (M = -0.09, SE = 0.11, 95% CI [-0.30, 0.12]), $t(886) = 3.96$, $p = .001$. Additionally, we found a significant difference in disadvantaged group members' perceptions between control and status quo conditions, $t(887) = 2.91$, $p = .04$. See Figure 10, Table 2 for estimated marginal means across conditions, and Table 3 for all post hoc comparisons.

Together, this pattern of results suggests that advantaged group members' misperception that equality harms their groups' access to resources may result, at least in part, because of their motivation to preserve maintain the status quo. Conversely, disadvantaged group members' accurate perceptions—or willingness to acknowledge that equality does not inherently cause harm to advantaged groups' resource access—seems better aligned with motivations to promote equality. While this provides some evidence in support of a group status-based motivated reasoning perspective, the lack of significant interactions between group status and goal conditions suggests that these two factors are still distinct in some capacity.

Figure 10

Perceptions how policies affect the advantaged groups' access to resources across conditions in Study 3



Note. Means are adjusted based on Participant and Vignette random effects included in the linear mixed model. Error bars indicate 95% CIs around the mean.

Table 2

Perceptions how policies affect the advantaged groups' access to resources across conditions in Study 3

Group status	Group condition	*EMM*	*SE*	*df*	*LCI*	*UCI*
Advantaged	Control	-0.28	0.09	181	-0.47	-0.10
Disadvantaged	Control	0.31	0.10	202	0.12	0.50
Advantaged	Equality motive	0.09	0.10	235	-0.11	0.29
Disadvantaged	Equality motive	0.46	0.10	217	0.27	0.66
Advantaged	Status quo motive	-0.61	0.10	212	-0.81	-0.42
Disadvantaged	Status quo motive	-0.09	0.11	280	-0.30	0.12

Note. EMM = estimated marginal means. Means are adjusted based on Participant and Vignette random effect included in the linear mixed model. Means computed using the *emmeans* R package.

Table 3

Post hoc comparisons of groups status and goal condition on subjective perceived advantaged group resource access in Study 3

Contrast			*Estimate*	*SE*	*df*	*t*	*p*
Advantaged group, Control	–	Disadvantaged group, Control	-0.60	0.13	885	-4.69	<.001
Advantaged group, Control	–	Advantaged group, Equality motive	-0.38	0.13	885	-2.88	.047
Advantaged group, Control	–	Disadvantaged group, Equality motive	-0.75	0.13	884	-5.81	<.001
Advantaged group, Control	–	Advantaged group, Status quo motive	0.33	0.13	886	2.58	.105
Advantaged group, Control	–	Disadvantaged group, Status quo motive	-0.20	0.14	886	-1.44	.704
Advantaged group, Equality motive	–	Disadvantaged group, Equality motive	-0.37	0.14	885	-2.75	.066
Advantaged group, Equality motive	–	Advantaged group, Status quo motive	0.71	0.13	886	5.27	<.001
Advantaged group, Equality motive	–	Disadvantaged group, Status quo motive	0.18	0.14	887	1.29	.792
Advantaged group, Status quo motive	–	Disadvantaged group, Status quo motive	-0.53	0.14	888	-3.78	.002
Disadvantaged group, Control	–	Advantaged group, Equality motive	0.22	0.13	886	1.65	.567
Disadvantaged group, Control	–	Disadvantaged group, Equality motive	-0.15	0.13	885	-1.16	.857
Disadvantaged group, Control	–	Advantaged group, Status quo motive	0.93	0.13	887	7.10	<.001
Disadvantaged group, Control	–	Disadvantaged group, Status quo motive	0.40	0.14	887	2.91	.043
Disadvantaged group, Equality motive	–	Advantaged group, Status quo motive	1.08	0.13	886	8.15	<.001
Disadvantaged group, Equality motive	–	Disadvantaged group, Status quo motive	0.55	0.14	886	3.96	.001

Note. Post hoc comparisons calculated using the Tukey adjustment with the *emmeans* R package.

Did the goal manipulation influence the effect of group status on objective perceived advantaged group resource access (exploratory)? We found a significant main effect of group status condition on objective perceived resource access, $b = 28.60$, $SE = 7.76$, $t(883) = 3.68$, $p < .001$, 95% CI [13.42, 43.79]. Advantaged group members misperceived the equality policies as more harmful to their groups resources ($M = -8.51$, $SE = 3.41$, 95% CI [-15.30, -1.75]) than did disadvantaged group members ($M = 21.91$, $SE = 3.54$, 95% CI [14.90, 28.92]). We found no significant main effects of goal condition or significant two-way interactions. See Supplemental Table S16 for regression results.

Did perceived advantaged group resource access mediate the relationship between group status and perceived fairness?

Because we found a non-significant interaction between group status and goal conditions, we conducted a mediation analysis including group status as the predictor variable (0=advantaged group, 1=disadvantaged group), subjective and objective perceived advantaged group resource access as simultaneous mediators, and perceived fairness as the outcome variable.[20] Mediation analyses revealed that subjective perceptions of advantaged group resource access significantly mediated the relationship between group status and perceived fairness (indirect effect: $b = 0.40$, $SE = 0.06$, $z = 6.47$, $p < .001$, 95% CI [0.28, 0.52]). We also found a significant, indirect effect for objective perceptions as the mediator (indirect effect: $b = 0.05$, $SE = 0.02$, $z = 2.62$, $p = .009$, 95% CI [0.01, 0.08]. See Table 1.

Did common fate perceptions moderate the relationship between group status and perceived advantaged group resource access? Results revealed no significant two-way or three-way interactions between common fate, group status condition, and goal condition. See Supplemental Table S19 for full moderation analyses.

[20] We also ran the reverse mediation path, including perceived fairness as the mediator and perceived advantaged group resource access as the outcome variable. Results revealed that perceived fairness significantly mediated the relationship between group status and subjective perceptions (indirect effect: $b = 0.37$, $SE = 0.06$, $z = 6.62$, $p < .001$, 95% CI [0.26, 0.48]). Perceived fairness also mediated the relationship between group status and objective perceptions (indirect effect: $b = 15.37$, $SE = 2.51$, $z = 6.12$, $p < .001$, 95% CI [10.45, 20.30]).

General Discussion

While most Americans believe the United States must take steps to achieve greater equality, policies meant to do just that are often construed as discriminatory or threatening to members of the advantaged group (Horowitz et al., 2021). Unfortunately, these objections persist despite evidence that the pursuit of equality need not be zero-sum; equality can, and often does, buoy the fates of all members of a society (McGhee, 2021). The present research helps to identify not only what may be a primary roadblock in creating a more equitable society but the factors causing this psychological misconception to persist.

In the current research, we examined whether one reason that inequality pervades is due to misperceptions that equality inherently harms advantaged groups' access to resources and benefit disadvantaged groups' access to resources, even when the policies do no such thing. We theorized that while individuals may fundamentally misjudge relative gains and losses as concur with absolute gains and losses, this process is motivated by the status position of one's social group. Across a pilot study and four experiments, we found general support for this theory. We identify this tendency for this misperception across various inequality contexts (e.g., mortgage lending, salary, hiring), various group boundaries (e.g., race, gender), and different types of resource disparities (e.g., monetary and representational disparities).

Specifically, we found that people—both advantaged and disadvantaged group members––perceived non-zero-sum equality-enhancing policies as harmful to advantaged groups (Pilot Study, Studies 1a, 2-3). Yet, we found that disadvantaged group members (e.g., Black Americans, Latino Americans, women) more accurately perceived the effects of such policies across studies. We observed a similar pattern of results when we asked participants to consider equality-enhancing policies between two non-relevant groups (Study 2). Only when directly incentivized to have the goal to increase equality between groups were advantaged group members willing to acknowledge that equality-enhancing policies did not harm their groups access to resources (Study 3).

Crucially, our effects were not explained by self-reported ideological beliefs around politics, intergroup hierarchy, group identification, symbolic and status threat, and system justification. We also found consistent evidence that advantaged group members misperceived equality policies as more harmful than disadvantaged groups when controlling for self-reported ideological measures (Studies 1a-3). Together, this pattern of results confirms our theoretical perspective that group status, itself, adds a unique layer of motivation that drive individuals' perception of equality-enhancing policies. When providing advantaged and disadvantaged group members with the same exact information about equality policies, they come to different conclusions about the policy's intended impact.

Although we find evidence in support of our predictions when equality policies were framed as increasing resources to disadvantaged groups and not changing resources to advantaged groups, this effect did was not robust to different equality policy framings. Group status did not predict perceptions of resource access when policies were framed as decreasing resources to advantaged group members and not changing resources to disadvantaged group members (Study 1b): Advantaged and disadvantaged group members perceived such policies as necessarily beneficial to the disadvantaged group.

Beyond understanding whether group status predicts differences in perceptions of equality policies, we also sought out causal evidence to explain *why* this effect occurs. In particular, we explored whether one possible explanation for the relationship between group status and perceptions of resource access are people's perceptions of policy fairness. To the

extent that participants perceived equality policies as more (or less), we reasoned, they would exhibit more (or less) motivation to perceive policies accurately. However, results suggested that fairness perceptions did not mediate the relationship between group status and perceptions of resource access. Instead, perceptions of advantaged group resource access mediated the relationship between group status and fairness (Study 1a, Study 2). This suggests that participants' biased perceptions of how equality affects resource access might shape fairness judgments (cf. Starmans et al., 2017). Thus, it seems that people might adopt ideological beliefs to match misjudgments of a policies expected effect on access to resources. This is consistent with work showing that people's attitudes towards equality—in this case, racial progress—led participants to adopt more politically conservative views (Craig & Richeson, 2014b). In future work, we will continue exploring whether people adjust ideological beliefs, such as social dominance, political orientation, and beliefs in a just world, in response to non-zero-sum equality-enhancing policies.

Group Status and the Perception of Equality Policies: Theoretical Implications

The present research is poised to shed new light on foundational theories of social psychology and organizational behavior. Social identity theory posits that people tend to prefer relatively greater amounts of resources be allocated to their ingroup than to an outgroup (e.g., Tajfel et al., 1971). The studies systematically investigate a novel explanation for why societally advantaged individuals are motivated to protect and maintain their ingroup's dominant position in society (Kteily & Richeson, 2016; Sidanius & Pratto, 2001). Advantaged group members not only feel the threat of losing superior status, but they may also misperceive that equality reduces their access to resources even when access explicitly goes unchanged or even increases (Brown et al., 2022). These findings may be a key reason why ingroup favoritism proves so pernicious, both in the lab and real world.

These results comport with the theory that being a member of an advantaged group increases the impetus to preserve one's advantages (Kteily & Richeson, 2016). Mere identification with an advantaged group increases one's favoring of consistently superior outcomes for that group (Tajfel & Turner, 1979). Simultaneously, higher standing within the social hierarchy increases one's motivation to maintain the existing social order (Richeson & Sommers, 2016; Unzueta & Lowery, 2008). Advantaged group membership also predicts perceptions of inequality in ways that may make support for equalizing policies less likely. For example, White Americans are motivated to overestimate the extent to which society has achieved racial and economic equality (Kraus et al., 2017; 2019; Onyeador et al., 2021). These misperceptions of inequality in turn predict decreased support for redistributive policies (Jackson & Payne, 2020). It therefore may be that members of dominant groups (i.e., White Americans, men) are more likely than members of non-dominant groups (i.e., Black, Latinx, women) to underestimate extant disparities in educational opportunities, to misperceive policies that would rectify these disparities as undercutting existing advantages, and to be more likely to subsequently oppose them (e.g., Brown et al., 2022).

Our investigation into the motivations that might drive societally disadvantaged group members' perception of equality-enhancing policies can offer theoretical contributions to research on intergroup hierarchy and zero-sum thinking. While some research indicates that everyone is susceptible to perceiving the world through a zero-sum lens (Różycka-Tran et al., 2015; Kay & Jost, 2003), we explore whether disadvantaged group members are more willing to acknowledge or construe equality-enhancing policies as non–zero-sum. Recent work shows that, while White Americans believe that they are hurt by university diversity policies that mutually

benefit White and non-White applicants, Black Americans accurately see these polices as helping everyone (Brown & Jacoby-Senghor, 2022). This divergence may have something to do with the fact that people frequently believe that others gain at one's own expense but that one's own gains do not come at the expense of others (Wilkins et al., 2015; Roberts & Davidai, 2022). In the current work, we identify that disadvantaged group members tend to hold more accurate perceptions of equality policies compared to disadvantaged group members. When policies expanded societal resources and increased equality, their policy perceptions were accurate when advantaged groups were inaccurate. Disadvantaged groups also viewed policies that reduced societal resource but increased equality more accurately, although the group status difference did not reach statistical significance. This pattern of results indicates that disadvantaged groups, like advantaged groups, attend to changes in relative advantage, suggesting that perverse policy incentives may also exist for people at the bottom rungs of society. Thus, while zero-sum thinking is likely a general phenomenon, group status may shape the circumstances under which this lens is applied.

Our findings align with recent evidence that the effects of advantaged group membership on social perceptions can occur orthogonally to the influence of one's self-reported ideological leanings (Ballinger & Crocker, 2021, cf. Plaut et al., 2011; Wetherell et al., 2013). For example, Dover and colleagues (2016) showed that majority group members were threatened by diversity policies irrespective of their self-reported prejudice, group status threat, social dominance, racial/ethnic identification, or political orientation. Now, this is not to imply that ideological beliefs do not matter. On the contrary, there is a robust literature illustrating that ideologies powerfully shape perceptions of inequality and policies intended to curtail it (e.g., Davidai & Ongis, 2020; Federico & Sidanius, 2002; Kteily et al., 2017; Lowery et al., 2012; Phillips & Lowery, 2020; Plaut et al., 2011; Walker et al., 2007). Likewise, our participants' stated ideologies often strongly correlated with their perceptions of how equality policies would affect advantaged and disadvantaged groups' access to resources. For example, participants higher in social dominance, anti-Black attitudes, anti-diversity attitudes, and political conservatism perceived equality policies as more harmful to advantaged groups and more beneficial to disadvantaged groups. Yet our findings revealed that even people who expressed pro-egalitarian beliefs—politically liberal, low on social dominance orientation, or pro-Black, for instance—still misperceived equality policies as harmful to advantaged group members, just like those with anti-egalitarian beliefs. It remains an open question, of course, whether unmeasured ideologies causally explain our effect. Furthermore, we measured all ideological variables via self-report, making them susceptible to self-presentational concerns. Such concerns may have led participants to downplay their inegalitarianism (e.g., Crandall et al., 2002; Dovidio & Gaertner, 2000), reducing construct validity and hindering our ability to test how ideologies related to our results. Nonetheless, after utilizing a wide variety of measures that are highly predictive of equality policy perceptions, we find that egalitarian attitudes do not simply undo the effect of advantaged group membership.

We also note that we found some evidence that equality policy perceptions may depend on perceptions of common fate. We found that the more participants believed that the interests of disadvantaged and advantaged groups were tied together (e.g., "if Black Americans do better economically, White Americans will do better economically") the more accurate they perceived the effect equality policies would have on advantaged group members' ability to access resources. Importantly, the effect of common fate perceptions on perceived advantaged group resource access was stronger for advantaged group members than disadvantaged group members

(see Figures 2-3). Advantaged group participants that held greater perceptions of common fate with disadvantaged groups were more likely to acknowledge that advantaged groups would not be harmed by equality-enhancing policies. Results also revealed that perceived fairness moderated the relationship between group status and perceptions of harm, such that the fairer they believed the policies were, the more accurate they were about the policy's effect on advantaged groups. Like common fate perceptions, this effect was stronger for advantaged group members. While this result is reminiscent of existing evidence that advantaged group members are inherently unfair (Gu et al., 2014; Hideg & Ferris, 2017; Leslie, 2019), it also provides some promise. To the extent that we can shift advantaged groups' fairness judgments surrounding equality-enhancing policies, we might be able to improve accuracy. Future work is needed to understand Future work is also needed to systematically examine how and when group status and ideology together produce impactful interactive effects.

Considering our results and the existing literature together, we argue it is a mistake to principally focus on ideological opposition to predict individuals' perception of equality policies (e.g., political conservatism, SDO, explicit prejudice, system justifying beliefs) in order to explain why progress towards greater equality is stymied. Attributing the failures of efforts to increase equality to ideologically opposed individuals implies that ideologically supportive individuals are not responsible when progress flags (Daumeyer et al., 2019). Our results fit within a growing body of work showing that people with self-avowed egalitarian beliefs also engage in inegalitarian tendencies (e.g., Dover et al., 2016; Dupree & Fiske, 2019; Jacoby-Senghor et al., 2021; Rosenblum et al., 2022). Outside of psychology, philosophers and economists have remarked that even "good" White people play a role in defending the status quo (Sullivan, 2014) and that those who are best off often "hoard" the opportunities that others lack (Reeves, 2017). From historical civil rights leaders (King, 1963, pp. 9-10) to present-day law and sociology scholars (e.g., Alexander, 2020; Morris, 2020), there is an enduring dialogue about the failure of White allies to do more than espouse egalitarian ideals and directly redress the inequalities that minority groups face. We hope researchers are encouraged to explore the possibility that people who hold seemingly egalitarian ideological beliefs can nonetheless perpetuate systems of inequality, wherein ubiquitous principles of equality and equality opportunity remain an unremitting challenge.

Practical Implications: Implementation of Equality Policies

Practically, our findings speak to how remarkably widespread misperceptions of inequality are in, and perhaps beyond, American society. Past work has shown that historically advantaged group members have negative perceptions of particular policies or specific societal changes. For example, researchers have shown that White Americans see losing majority status as threatening and anxiety-inducing (Anicich et al., 2021; Danbold & Huo, 2015) or that White Americans report that diminishing anti-Black bias is associated with greater anti-white bias (Norton & Sommers, 2011). Ours suggests that these findings may flow from a common source: the persistent and pernicious misbelief that equality itself is inherently zero-sum. This interpretation dovetails with growing evidence that individuals misperceive other aspects of inequality as well. For instance, Americans vastly underestimate racial economic inequality, optimistically perceiving the Black-White wealth gap as smaller than it actually is (Kraus et al., 2017; Onyeador et al., 2021). Together, this emerging body of work suggests that inequality may endure primarily because people fundamentally misunderstand the reality of the disparities weighing down their society.

Furthermore, our results suggest that the architects of equality-enhancing policies must rely on more than stated support within their communities as they attempt to institute changes that can create progress. To the extent that advantaged group members focus on how equality will affect them relative to others, instead of the absolute advantaged their group will still possess, policymakers might consider making the benefits provided to advantaged group members more salient (Marques, 2008; Molnar et al., 2016). Future work should also explore the barriers inherent to realizing when a policy is zero-sum versus when a policy genuinely is not. In particular, practitioners would benefit from understanding whether advantaged group members might at times prefer policies that advantage one's group at the expense of others, as opposed to policies that benefit one group without affecting another or policies that make all groups better off. Integrating models from the negotiations literature that are specifically designed to circumvent the trap of zero-sum thinking (e.g., Katz-Navon & Goldschmidt, 2009; Weingart et. al., 1996) might be particularly effective in this pursuit. In sum, researchers and practitioners alike should consider the possibility that effective policy may generally be viewed negatively by society's most advantaged groups.

Limitations and Future Directions

Despite the contributions presented from the current work, various important questions remain unanswered. Importantly, most of the work documenting advantaged group members' misjudgment that equality-enhancing policies are harmful to their group has been conducted with online samples (e.g., Prolific). In order to develop theory that is both generalizable and germane, it would be worthwhile for future research to investigate whether the patterns observed here exist in field settings (Chatman & Flynn, 2005). For instance, future work would benefit from understanding whether advantaged (or majority) group members misperceive equality-enhancing policies proposed being implemented within communities and organizations. For instance, future work could experimentally manipulate equality policy framings (e.g., zero-sum vs. non-zero-sum) and to examine whether people misperceive the effects of such policies and the relationship these perceptions would have for political engagement and voting behaviors.

A critical next step for future research concerns how the negative effects of zero-sum equality perceptions can be averted or how we can make progress toward equality despite these misperceptions (Lewis, 2021). Research on intergroup conflict and coalition building may provide a path forward. For instance, depending on others to achieve a common goal can strengthen cooperation between groups (Halevy et al., 2008; Sherif et al., 1961). Related work in negotiations illustrates that coalitions lead negotiators to identify compatible interests more readily (Polzer et al., 1998). However, social inequality involves the critical complication of building coalitions between groups with unequal status, power, and dominance in society (Lijphart, 1977; Tropp & Barlow, 2018). Future research must therefore examine how advantaged groups can be convinced to relinquish their relative advantages even as doing so inherently feels similar to a material concession. Future research can thereby highlight new ways to capitalize on, rather than merely cope with, increasing societal progress.

Theoretically, it would be important for future work to better understand the motivations that stem from group status (i.e., motivations from being advantaged or disadvantaged) compared to group membership (i.e., motivations from identifying ingroups and outgroups). There is a lot of work from research on social identity (Tajfel et al., 1971) and social value orientation (Murphy & Ackermann, 2014) literatures illustrating that people are often more motivated to maximize the outcomes of ingroup members (i.e., ingroup favoritism) rather than actively minimizing the outcomes of outgroups (i.e., outgroup derogation; Balliet et al., 2014;

Halevy et al., 2008). Such motives have been widely demonstrated to predict individuals' *preferences* towards certain resource distributions, but as the current work demonstrates this might not necessarily predict peoples' *perception* of equality policies (also see Brown & Jacoby-Senghor, 2022; Brown et al., 2022). Future work would benefit from more clearly disentangling these two motivations theoretically and experimentally (e.g., Wellman et al., 2019).

Furthermore, more work is needed to understand the causal mechanisms that can explain why this misperception occurs and why advantaged group members tend to perceive equality-enhancing policies more inaccurately than disadvantaged groups. In the current work, we explored whether perceptions of fairness explained the relationship between group status and perceptions of resource access change. Our results, however, provided mixed evidence in support of perceived fairness as a viable mechanism that explains why our effects occur. In Study 1a, for instance, we found that perceived advantaged group resource access mediated the relationship between group status and perceived fairness as opposed to fairness perceptions serving as a mediator. In Study 1b, we found no evidence of mediation for either pathway. In Studies 2 and 3, we find significant indirect effects for both pathways—that is, we find evidence suggesting that that perceived fairness could be a cause (i.e., mediator) and a consequence (i.e., outcome) of the misperception that equality harms advantaged groups. Instead of fairness perceptions, our results seem to point towards a mechanism that better aligns with group status-based motives. It is possible our pattern of results occurs because people are more interested in enhancing equality when their group is made salient in a policy, compared to when policies do not involve ingroup members (Study 2). This means that people might perceive equality-enhancing policies as less harmful when they are more motivated to do so and more harmful (and more inaccurately) when they are motivated to do so (Study 3). It would be beneficial for future work to systematically investigate the motives underlying advantaged and disadvantaged groups' perceptions of equality, and the degree to which individuals are consciously aware of how these motives affect their perceptions towards equality policies (see Phillips et al., 2020).

Finally, future research should explore whether the tenacity of this misperception could be the cause of some familiar forms of backlash, where progress outstrips public sentiment. In Silicon Valley, for example, diversity efforts have been increasingly implemented but have also been met with outcries from predominantly white employees that such policies are discriminatory toward them (Wakabayashi & Bowles, 2021). This harm perception may also explain the prevalence of "window-dressing" policies. Organizations and policy-makers often brand themselves as valuing equality while simultaneously adopting policies that are merely symbolic and do little more than preserve the status quo (Wilton et al., 2020). For instance, while legislation to protect the right to vote for historically dis- enfranchised groups—especially Black Americans—continues to stall in Washington D.C., symbolic concessions, such as making Juneteenth a federal holiday, were broadly supported and swiftly passed (Alemany, 2021). In effect, outspoken support for equality was more present than the mettle to actually increase it. Our final study adds perspective to these historical passages. Even when advantaged group members are presented with two available options for achieving equality—either lifting up those at the bottom (at no cost) or dragging down those at the top—they stubbornly view either option as a sacrifice. So long as the interests of the advantaged group are held in higher consideration than the well-being of the disadvantaged, our studies suggest that existing levels of intergroup inequality are unlikely to be effectively addressed.

Conclusion

The current research provides a sobering insight into the prevalence and consequences of misperceiving equality as zero-sum. As inequality in America, and around the world, continues to constrain the economic, psychological, and physical wellbeing of both the fortunate and unfortunate, we identify a reason why it persists—advantaged group members' misperception that equality necessarily harms them and inequality necessarily benefits them. Ultimately, we hope this work research prompts us to grapple with the enduring moral quandary echoing unresolved within America: "If you can only be tall because somebody's on their knees, then you have a serious problem" (Morrison, 1993).

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My research explores the challenges that stifle efforts to reduce inequality. In particular, I study how diversity, prejudice, nonverbal behavior, and hierarchy shape how we interact with study and the increasingly diverse society around us. I graduated from Rice University with a B.A. in Psychology in 2016 and from Portland State University with a M.S. in Industrial-Organizational Psychology in 2018.

APPENDIX

Measures

Subjective perceived resource access [salary vignette as example]
How do you think this proposal will affect each groups' chances of getting a pay increase at these firms over the next five years? -3 = *greatly harm*, 0 = *no effect*, +3 = *greatly improve*

- White [men] employees
- Black [Latino] [women] employees

Subjective perceived resource access (Study 3)
Answering as accurately as possible, how do you think this proposal will affect each groups' chances of getting a pay increase at these firms over the next five years? (-3 = *greatly harm*, 0 = *no effect*, +3 = *greatly improve*)

- White [men] employees
- Black [Latino] [women] employees

Objective perceived resource access [salary vignette as example]
By what percentage do you think this proposal will change each groups' chances of getting a pay increase over the next five years?
Please use the slider scale to indicate percent (%) increase or decrease. Negative numbers (e.g., -X) indicate you think the policy will decrease that groups' chances of a pay raise by X%. Positive numbers (e.g., +Y) indicate you think the policy will increase that groups' chances of a pay raise by Y%.

- Slider scale anchored from -300 to +300

Attention check (policy) [salary vignette as example]
By what amount does this policy plan to change the cumulative pay to each group? Enter only a number in the text boxes below.
Enter numbers in billions of dollars (e.g., 1 = 1 billion; 0.14 = 140 million). Negative numbers (e.g., -X) indicate you think this policy will decrease that groups' pay by X billion. Positive numbers (e.g., +Y) indicate you think this policy will increase that groups' pay by Y billion.

Just world beliefs (JWB; 7 items)

Used from: Kraus, M. W., Rucker, J. M., & Richeson, J. A. (2017). Americans misperceive racial economic equality. *Proceedings of the National Academy of Sciences, 114*(39), 10324-10331. https://doi.org/10.1073/pnas.1707719114

Adapted from: Lipkus, I. (1991). The construction and preliminary validation of a global belief in a just world scale and the exploratory analysis of the multidimensional belief in a just world scale. *Personality and Individual Differences, 12*(11), 1171-1178. https://doi.org/10.1016/0191-8869(91)90081-L

1. I feel that people get what they are entitled to have.
2. I feel that a person's efforts are noticed and rewarded.
3. I feel that people earn the rewards and punishments they get.
4. I feel that people who meet with misfortune have brought it on themselves.

5. I feel that people get what they deserve.
6. I feel that rewards and punishments are fairly given.
7. I basically feel that the world is a fair place.

Social dominance orientation ($SDO7_s$; 8 items)

Used from: Ho, A. K., Sidanius, J., Kteily, N., Sheehy-Skeffington, J., Pratto, F., Henkel, K. E., Foels, R., & Stewart, A. L. (2015). The nature of social dominance orientation: Theorizing and measuring preferences for intergroup inequality using the new SDO_7 scale. *Journal of Personality and Social Psychology, 109*(6), 1003-1028. https://doi.org/10.1037/pspi0000033

1. An ideal society requires some groups to be on top and others to be on the bottom.
2. Some groups of people are simply inferior to other groups.
3. No one group should dominate in society. (R)
4. Groups at the bottom are just as deserving as groups at the top. (R)
5. Group equality should not be our primary goal.
6. It is unjust to try to make groups equal.
7. We should do what we can to equalize conditions for different groups. (R)
8. We should work to give all groups an equal chance to succeed. (R)

Zero-sum beliefs

Used from: Andrews Fearon, P., Götz, F. M., Serapio-Garcia, G., & Good, D. (2021). Zero-sum mindset and its discontents (No. SM-WP-2021-001). https://www.bsg.ox.ac.uk/research/publications/zero-sum-mindset-and-its-discontents

1. The success of one person is usually the failure of another person.
2. Life is such that when one person gains, someone else has to lose.
3. When someone does much for others, they lose.
4. One person's success in NOT another person's failure (R)
5. Life is like a football game—A person wins only when another person loses.
6. In most situations, different people's interests are incompatible.
7. When one person is winning, it does NOT mean that someone else is losing (R)

Explicit Prejudice (1 item)

Adapted from: Axt, J. R. (2018). The best way to measure explicit racial attitudes is to ask about them. *Social Psychological and Personality Science, 9*(8), 896-906. https://doi.org/10.1177/1948550617728995

Question prompt: Which statement best describes you?
-3 = I strongly prefer White Americans [men] to Black Americans [Latino Americans] [women]
-2 = I prefer White Americans [men] to Black Americans [Latino Americans] [women]
-1 = I slightly prefer White Americans [men] to Black Americans [Latino Americans] [women]
0 = I like White Americans [men] and Black Americans [Latino Americans] [women]equally,
+1 = I slightly Black Americans [Latino Americans] [women] to White Americans [men]

+2 = I prefer Black Americans [Latino Americans] [women] to White Americans [men]
+3 = I strongly prefer Black Americans [Latino Americans] [women] to White Americans [men]

Political orientation (3 items)

- *Overall political orientation:* In general, how conservative or liberal do you consider yourself to be?
- *Social political orientation:* When it comes to social policy, how conservative or liberal do you consider yourself to be?
- Economic political orientation: When it comes to economic policy, how conservative or liberal do you consider yourself to be?

Perceived fairness (3 items; Studies 1a-1b)

Advantaged group: White Americans
Disadvantaged group: Latino Americans

1. The policy will result in fair outcomes for White and Latino Americans.
2. The policy will result in justifiable outcomes for White and Latino Americans.
3. The policy will result in acceptable outcomes for White and Latino Americans.

Advantaged group: White Americans
Disadvantaged group: Black Americans

1. The policy will result in fair outcomes for White and Black Americans.
2. The policy will result in justifiable outcomes for White and Black Americans.
3. The policy will result in acceptable outcomes for White and Black Americans.

Advantaged group: men
Disadvantaged group: women

1. The policy will result in fair outcomes for men and women.
2. The policy will result in justifiable outcomes for men and women.
3. The policy will result in acceptable outcomes for men and women.

Perceived fairness (1 item, measured after each policy; Studies 2-3) [salary vignette as example]
To what extent do you think this proposal is fair or unfair to each group? 1 = *extremely unfair*, 7 = *extremely fair*

- White [men] employees
- White [Latino] [Black] employees

Group status threat (3 items)

Adapted from: Bai, H., & Simon, J. C. (2020). The threat of symbolic incompatibility looms larger than the threat of status rivalry: Symbolic threat from others determines feelings for them more than status threat. *PsyArXiv.* https://psyarxiv.com/7wux6/

Advantaged group: White Americans
Disadvantaged group: Latino Americans

1. If Latino Americans increase in status, they are likely to reduce the influence of White Americans in society.
2. If Latino Americans attain higher status, it will be good for White Americans. (R)
3. White Americans will have less economic power and political power if Latino Americans gain economic and political power.

Advantaged group: White Americans
Disadvantaged group: Black Americans

1. If Black Americans increase in status, they are likely to reduce the influence of White Americans in society.
2. If Black Americans attain higher status, it will be good for White Americans. (R)
3. White Americans will have less economic power and political power if Black Americans gain economic and political power.

Advantaged group: men
Disadvantaged group: women

1. If women increase in status, they are likely to reduce the influence of men in society.
2. If women attain higher status, it will be good for men. (R)
3. Men will have less economic power and political power if women gain economic and political power.

Symbolic threat (3 items)

Adapted from: Bai, H., & Simon, J. C. (2020). The threat of symbolic incompatibility looms larger than the threat of status rivalry: Symbolic threat from others determines feelings for them more than status threat. *PsyArXiv.* https://psyarxiv.com/7wux6/

Advantaged group: White Americans
Disadvantaged group: Latino Americans

1. The values and beliefs of Latino Americans regarding moral issues are not compatible with the values and beliefs of White Americans.
2. The societal progress of the Latino American population is undermining American culture.
3. The values and beliefs of Latino Americans regarding work are not compatible with the values and beliefs of White Americans.

Advantaged group: White Americans
Disadvantaged group: Black Americans

1. The values and beliefs of Black Americans regarding moral issues are not compatible with the values and beliefs of White Americans.
2. The societal progress of the Black American population is undermining American culture.
3. The values and beliefs of Black Americans regarding work are not compatible with the values and beliefs of White Americans.

Advantaged group: men
Disadvantaged group: women

1. The values and beliefs of women regarding moral issues are not compatible with the values and beliefs of men.
2. The societal progress of women is undermining American culture.
3. The values and beliefs of women regarding work are not compatible with the values and beliefs of men.

Group identification (4 items)

Adapted from: Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. Personality and Social Psychology Bulletin, 18(3), 302-318. https://doi.org/10.1177/0146167292183006

Advantaged group: White Americans
Disadvantaged group: Latino Americans | Black Americans

1. Overall, my racial/ethnic group membership has very little to do with how I feel about myself. (R)
2. The racial/ethnic group I belong to is an important reflection of who I am.
3. The racial/ethnic group I belong to is unimportant to my sense of what kind of person I am. (R)
4. In general, belonging to my racial/ethnic group is an important part of my self-image.

Advantaged group: men
Disadvantaged group: women

1. Overall, my gender has very little to do with how I feel about myself. (R)
2. The gender group I belong to is an important reflection of who I am.
3. The gender group I belong to is unimportant to my sense of what kind of person I am. (R)
4. In general, belonging to my gender group is an important part of my self-image.

Policy vignette (Pilot Study)

In this section, you are going to read about proposals and will be asked your opinion.

Reducing Racial Wage Gap during Post-COVID Recovery
The Economic Policy Institute recently reported that, in 2020, Black employees in the U.S. were paid 77% of what White (non-Hispanic) employees in comparable positions were paid. Hispanic employees in the U.S. were paid 73% of what White (non-Hispanic) employees in comparable positions were paid. As part of the nation's post-COVID recovery plan, public officials across the U.S. are considering new policies to eliminate this racial wage gap.

A current proposal would be to increase wages to Black and Hispanic employees and not change wages to White (non-Hispanic) employees, until average wages are equal.

If this proposal were on the ballot during the next election, would you vote in favor or against—that is, would you vote in favor or against increasing wages to Black and Hispanic employees and not changing wages to White (non-Hispanic) employees, until average wages are equal?

Perceived group resource access (7-point Likert scale; -3=*greatly harm*, +3=*greatly improve*)
How would this proposal affect earnings in the following year for members of each group?

A. Black and Hispanic employees
B. White (non-Hispanic) employees

Policy vignettes (Study 1a)

Advantaged group: White Americans
Disadvantaged group: Black Americans

Salary. This week, a joint report from the top 20 tech firms in the United States revealed that Black employees across the industry cumulatively earn $13.7 billion compared to White employee counterparts who earn an estimated cumulative $226 billion. Leaders across these tech firms propose increasing the pay to Black employees by $5.98 billion and not changing the pay to White employees over the next five years. Industry leaders expect that this proposal will reduce the racial pay gap.

Mortgage lending. According to a recent report, in 2021 White homebuyers received roughly $1.63 trillion in mortgage loans from banks while Black homebuyers only received around $176.3 billion in mortgage loans overall. Several banks propose increasing the total amount of mortgage loans to Black homebuyers by $252.3 billion and not changing the total amount of mortgage loan funding to White homebuyers over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between Black and White homebuyers.

Start-up funding. Recent data from Crunchbase detailed that Black entrepreneurs receive significantly less funding—an estimated $2.25 billion—to start their businesses compared to White entrepreneurs, who received an estimated $151.1 billion in 2021. Several venture capital firms propose increasing their total investments in startups founded by Black entrepreneurs by $2.72 billion and not changing their total investments in startups founded by White entrepreneurs over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in Black- and White-founded startups.

Employment. According to the Bureau of Labor Statistics, there were 124.1 million White Americans employed in the U.S. workforce in 2021 and only 20.5 million Black American employed. Several policymakers have proposed a policy to increase the number of Black employees in the workforce by 1.44 million and not change the number of White employees in the workforce over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between Black and White Americans.

MBA Program Admissions. According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 40,800 White students enrolled in MBA programs across the U.S. and only 7,200 Black students enrolled in MBA programs. Business schools have announced a policy to increase the number of Black students enrolled in MBA programs by 3,000 and not change the number of White students enrolled in MBA programs over the next five years. Business school leaders expect this policy to reduce the enrollment gap between Black and White students.

Research grant funding. According to recent data from the National Institute of Health (NIH), a total of 1,700 Black researchers received NIH grant funding while 35,000 White researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to

4,900 additional Black researchers over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between Black and White researchers.

Advantaged group: White Americans
Disadvantaged group: Latinx Americans

Salary. This week, a joint report from the top 20 tech firms in the United States revealed that Hispanic/Latino employees across the industry cumulatively earn $21.6 billion compared to non-Hispanic White employee counterparts who earn an estimated cumulative $226 billion. Leaders across these tech firms propose increasing the pay to Latino employees by $7.12 billion and not changing the pay to White employees over the next five years. Industry leaders expect that this proposal will reduce the racial pay gap.

Mortgage lending. According to a recent report, in 2021 non-Hispanic White homebuyers received roughly $1.63 trillion in mortgage loans from banks while Hispanic/Latino homebuyers only received around $261.4 billion in mortgage loans overall. Several banks propose increasing the total amount of mortgage loans to Latino homebuyers by $334.3 billion and not changing the total amount of mortgage loan funding to White homebuyers over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between Latino and non-Hispanic White homebuyers.

Employment. According to the Bureau of Labor Statistics, there were roughly 124.1 million non-Hispanic White Americans employed in the U.S. workforce in 2021 and only about 25.8 million Hispanic/Latino Americans employed. Several policymakers have proposed a policy to increase the number of Latino employees in the workforce by 4.67 million and not change the number of White employees in the workforce over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between Latino and White Americans.

Startup funding. Recent data from Crunchbase detailed that Hispanic/Latino entrepreneurs receive significantly less funding—an estimated $6.8 billion—to start their businesses compared to White entrepreneurs, who received an estimated $151.1 billion in 2021. Several venture capital firms propose increasing their total investments in startups founded by Latino entrepreneurs by $2.8 billion and not changing their total investments in startups founded by White entrepreneurs over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in Latino- and White-founded startups.

MBA program admissions. According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 40,800 non-Hispanic White students enrolled in MBA programs across the U.S. and only 9,500 Hispanic/Latino students enrolled in MBA programs. Business schools have announced a policy to increase the number of Latino students enrolled in MBA programs by 2,900 and not change the number of White students enrolled in MBA programs over the next five years. Business school leaders expect this policy to reduce the enrollment gap between Latino and non-Hispanic White students.

Research grant funding

According to recent data from the National Institute of Health (NIH), a total of 3,100 Hispanic/Latino researchers received NIH grant funding while 35,000 non-Hispanic White researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to 5,000 additional Latino researchers and not change the number of White researchers who receive funding over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between Latino and White researchers.

Advantaged group: Men
Disadvantaged group: Women

Salary. This week, a joint report from the top 20 tech firms in the United States revealed that women employees across the industry cumulatively earn $109 billion compared to men employee counterparts who earn an estimated cumulative $281 billion. Leaders across these tech firms propose increasing the pay to women employees by $24.3 billion and not changing the pay to men employees over the next five years. Industry leaders expect that this proposal will reduce the gender pay gap.

Mortgage lending. According to a recent report, in 2021 men homebuyers received roughly $877.4 billion in mortgage loans from banks while women homebuyers only received around $482.9 billion in mortgage loans overall. Several banks propose increasing the total amount of mortgage loans to women homebuyers by $284.3 billion and not changing the total amount of mortgage loan funding to men homebuyers over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between women and men homebuyers.

Employment. According to the Bureau of Labor Statistics, there were roughly 85.5 million men employed in the U.S. workforce in 2021 and only about 75.7 million women employed. Several policymakers have proposed a policy to increase the number of women in the workforce by 5.71 million and not change the number of men in the workforce over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between men and women.

Startup funding. Recent data from Crunchbase detailed that women entrepreneurs receive significantly less funding—an estimated $4.5 billion—to start their businesses compared to men entrepreneurs, who received an estimated $233.8 billion in 2021. Several venture capital firms propose increasing their total investments in startups founded by women entrepreneurs by $12.1 billion and not changing their total investments in startups founded by men entrepreneurs over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in women- and men-founded startups.

MBA program admissions. According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 43,000 men enrolled in MBA programs across the U.S. and only 32,000 women enrolled in MBA programs. Business schools have announced a policy to increase the number of women enrolled in MBA programs by 5,500 and

not change the number of men enrolled in MBA programs over the next five years. Business school leaders expect this policy to reduce the enrollment gap between men and women.

Research grant funding. According to recent data from the National Institute of Health (NIH), a total of 20,500 women researchers received NIH grant funding while 30,300 men researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to 5,100 additional women researchers and not change the number of men researchers who receive funding over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between men and women researchers.

Policy vignettes (Study 1b)

Advantaged group: White Americans
Disadvantaged group: Black Americans

Salary. This week, a joint report from the top 20 tech firms in the United States revealed that Black employees across the industry cumulatively earn $13.7 billion compared to White employee counterparts who earn an estimated cumulative $226 billion. Leaders across these tech firms propose decreasing the pay to White employees by $5.98 billion and not changing the pay to Black employees over the next five years. Industry leaders expect that this proposal will reduce the racial pay gap.

Mortgage lending. According to a recent report, in 2021 White homebuyers received roughly $1.63 trillion in mortgage loans from banks while Black homebuyers only received around $176.3 billion in mortgage loans overall. Several banks propose decreasing the total amount of mortgage loans to White homebuyers by $252.3 billion and not changing the total amount of mortgage loan funding to Black homebuyers over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between Black and White homebuyers.

Employment. Recent data from Crunchbase detailed that Black entrepreneurs receive significantly less funding—an estimated $2.25 billion—to start their businesses compared to White entrepreneurs, who received an estimated $151.1 billion in 2021. Several venture capital firms propose decreasing their total investments in startups founded by White entrepreneurs by $2.72 billion and not changing their total investments in startups founded by Black entrepreneurs over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in Black- and White-founded startups.

Startup funding. According to the Bureau of Labor Statistics, there were roughly 124.1 million White Americans employed in the U.S. workforce in 2021 and only about 20.5 million Black Americans employed. Several policymakers have proposed a policy to decrease the number of White employees in the workforce by 1.44 million and not change the number of Black employees in the workforce. Policymakers predict that this proposal will greatly reduce the employment gap between Black and White Americans.

MBA program admissions. According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 40,800 White students enrolled in MBA programs across the U.S. and only 7,200 Black students enrolled in MBA programs. Business schools have announced a policy to decrease the number of White students enrolled in MBA programs by 3,000 and not change the number of Black students enrolled in MBA programs over the next five years. Business school leaders expect this policy to reduce the enrollment gap between Black and White students.

Research grant funding. According to recent data from the National Institute of Health (NIH), a total of 1,700 Black researchers received NIH grant funding while 35,000 White researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to

4,900 fewer White researchers and not change the number of Black researchers who receive funding over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between Black and White researchers.

Advantaged group: White Americans
Disadvantaged group: Latino Americans

Salary. This week, a joint report from the top 20 tech firms in the United States revealed that Hispanic/Latino employees across the industry cumulatively earn $21.6 billion compared to non-Hispanic White employee counterparts who earn an estimated cumulative $226 billion. Leaders across these tech firms propose decreasing the pay to White employees by $7.12 billion and not changing the pay to Latino employees over the next five years. Industry leaders expect that this proposal will reduce the racial pay gap.

Mortgage lending. According to a recent report, in 2021 non-Hispanic White homebuyers received roughly $1.63 trillion in mortgage loans from banks while Hispanic/Latino homebuyers only received around $261.4 billion in mortgage loans overall. Several banks propose decreasing the total amount of mortgage loans to White homebuyers by $334.3 billion and not changing the total amount of mortgage loan funding to Latino homebuyers over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between Latino and non-Hispanic White homebuyers.

Employment. According to the Bureau of Labor Statistics, there were roughly 124.1 million non-Hispanic White Americans employed in the U.S. workforce in 2021 and only about 25.8 million Hispanic/Latino Americans employed. Several policymakers have proposed a policy to decrease the number of White employees in the workforce by 4.67 million and not change the number of Latino employees in the workforce over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between Latino and White Americans.

Startup funding. Recent data from Crunchbase detailed that Hispanic/Latino entrepreneurs receive significantly less funding—an estimated $6.8 billion—to start their businesses compared to White entrepreneurs, who received an estimated $151.1 billion in 2021. Several venture capital firms propose decreasing their total investments in startups founded by White entrepreneurs by $2.8 billion and not changing their total investments in startups founded by Latino entrepreneurs over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in Latino- and White-founded startups.

MBA program admissions. According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 40,800 non-Hispanic White students enrolled in MBA programs across the U.S. and only 9,500 Hispanic/Latino students enrolled in MBA programs. Business schools have announced a policy to decrease the number of White students enrolled in MBA programs by 2,900 and not change the number of Latino students enrolled in MBA programs over the next five years. Business school leaders expect this policy to reduce the enrollment gap between Latino and non-Hispanic White students.

Research grant funding . According to recent data from the National Institute of Health (NIH), a total of 3,100 Hispanic/Latino researchers received NIH grant funding while 35,000 non-Hispanic White researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to 5,000 fewer White researchers and not change the number of Latino researchers who receive funding over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between Latino and White researchers.

Advantaged group: Men
Disadvantaged group: Women

Salary. This week, a joint report from the top 20 tech firms in the United States revealed that women employees across the industry cumulatively earn $109 billion compared to men employee counterparts who earn an estimated cumulative $281 billion. Leaders across these tech firms propose decreasing the pay to men employees by $24.3 billion and not changing the pay to women employees over the next five years. Industry leaders expect that this proposal will reduce the gender pay gap.

Mortgage lending. According to a recent report, in 2021 men homebuyers received roughly $877.4 billion in mortgage loans from banks while women homebuyers only received around $482.9 billion in mortgage loans overall. Several banks propose decreasing the total amount of mortgage loans to men homebuyers by $284.3 billion and not changing the total amount of mortgage loan funding to women homebuyers over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between women and men homebuyers.

Employment. According to the Bureau of Labor Statistics, there were roughly 85.5 million men employed in the U.S. workforce in 2021 and only about 75.7 million women employed. Several policymakers have proposed a policy to decrease the number of men in the workforce by 5.71 million and not change the number of women in the workforce over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between men and women.

Startup funding. Recent data from Crunchbase detailed that women entrepreneurs receive significantly less funding—an estimated $4.5 billion—to start their businesses compared to men entrepreneurs, who received an estimated $233.8 billion in 2021. Several venture capital firms propose decreasing their total investments in startups founded by men entrepreneurs by $12.1 billion and not changing their total investments in startups founded by women entrepreneurs over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in women- and men-founded startups.

MBA program admissions. According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 43,000 men enrolled in MBA programs across the U.S. and only 32,000 women students enrolled in MBA programs. Business schools have announced a policy to decrease the number of men enrolled in MBA programs by 5,500 and not change the number of women enrolled in MBA programs over the next five years.

Business school leaders expect this policy to reduce the enrollment gap between men and women.

Research grant funding. According to recent data from the National Institute of Health (NIH), a total of 20,500 women researchers received NIH grant funding while 30,300 men researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to 5,100 fewer men researchers and not change the number of women researchers who receive funding over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between men and women researchers.

Policy vignettes (Study 2)

Advantaged group: White Americans
Disadvantaged group: Black Americans

Salary
<< relevant group>>
This week, a joint report from the top 20 tech firms in the United States revealed that Black employees across the industry cumulatively earn $13.7 billion compared to White employee counterparts who earn an estimated cumulative $226 billion. Leaders across these tech firms propose increasing the pay to Black employees by $5.98 billion and not changing the pay to White employees over the next five years. Industry leaders expect that this proposal will reduce the racial pay gap.

<<non-relevant group>>
This week, a joint report from the top 20 tech firms in the United States revealed that Hispanic/Latino employees across the industry cumulatively earn $13.7 billion compared to Asian employee counterparts who earn an estimated cumulative $226 billion. Leaders across these tech firms propose increasing the pay to Latino employees by $5.98 billion and not changing the pay to Asian employees over the next five years. Industry leaders expect that this proposal will reduce the racial pay gap.

Mortgage lending
<< relevant group>>
According to a recent report, in 2021 White homebuyers received roughly $1.63 trillion in mortgage loans from banks while Black homebuyers only received around $176.3 billion in mortgage loans overall. Several banks propose increasing the total amount of mortgage loans to Black homebuyers by $252.3 billion and not changing the total amount of mortgage loan funding to White homebuyers over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between Black and White homebuyers.

<<non-relevant group>>
According to a recent report, in 2021 Asian homebuyers received roughly $1.63 trillion in mortgage loans from banks while Hispanic/Latino homebuyers only received around $176.3 billion in mortgage loans overall. Several banks propose increasing the total amount of mortgage loans to Latino homebuyers by $252.3 billion and not changing the total amount of mortgage loan funding to Asian homebuyers over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between Latino and Asian homebuyers.

Employment
<< relevant group>>
According to the Bureau of Labor Statistics, there were roughly 124.1 million White Americans employed in the U.S. workforce in 2021 and only 20.5 million Black Americans employed. Several policymakers have proposed a policy to increase the number of Black employees in the workforce by 1.44 million and not change the number of White employees in the workforce over

the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between Black and White Americans.

<<non-relevant group>>
According to the Bureau of Labor Statistics, there were roughly 124.1 million Asian/Asian-Americans employed in the U.S. workforce in 2021 and only 20.5 million Hispanic/Latino Americans employed. Several policymakers have proposed a policy to increase the number of Latino employees in the workforce by 1.44 million and not change the number of Asian employees in the workforce over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between Latino and Asian Americans.

Startup funding
<< relevant group>>
Recent data from Crunchbase detailed that Black entrepreneurs receive significantly less funding—an estimated $2.25 billion—to start their businesses compared to White entrepreneurs, who received an estimated $151.1 billion in 2021. Several venture capital firms propose increasing their total investments in startups founded by Black entrepreneurs by $2.72 billion and not changing their total investments in startups founded by White entrepreneurs over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in Black- and White-founded startups.

<<non-relevant group>>
Recent data from Crunchbase detailed that Hispanic/Latino entrepreneurs receive significantly less funding—an estimated $2.25 billion—to start their businesses compared to Asian entrepreneurs, who received an estimated $151.1 billion in 2021. Several venture capital firms propose increasing their total investments in startups founded by Latino entrepreneurs by $2.72 billion and not changing their total investments in startups founded by Asian entrepreneurs over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in Latino- and Asian-founded startups.

MBA program admissions
<< relevant group>>
According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 40,800 White students enrolled in MBA programs across the U.S. and only 7,200 Black students enrolled in MBA programs. Business schools have announced a policy to increase the number of Black students enrolled in MBA programs by 3,000 and not change the number of White students enrolled in MBA programs over the next five years. Business school leaders expect this policy to reduce the enrollment gap between Black and White students.

<<non-relevant group>>
According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 40,800 Asian students enrolled in MBA programs across the U.S. and only 7,200 Hispanic/Latino students enrolled in MBA programs. Business schools have announced a policy to increase the number of Latino students enrolled in MBA programs by 3,000 and not change the number of Asian students enrolled in MBA programs over the next five years.

Business school leaders expect this policy to reduce the enrollment gap between Latino and Asian students.

Research grant funding
<< relevant group>>
According to recent data from the National Institute of Health (NIH), a total of 1,700 Black researchers received NIH grant funding while 35,000 White researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to 4,900 additional Black researchers over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between Black and White researchers.

<<non-relevant group>>
According to recent data from the National Institute of Health (NIH), a total of 1,700 Hispanic/Latino researchers received NIH grant funding while 35,000 Asian researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to 4,900 additional Latino researchers over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between Latino and Asian researchers.

Advantaged group: White Americans
Disadvantaged group: Latino Americans

Salary
<<relevant group>>
This week, a joint report from the top 20 tech firms in the United States revealed that Hispanic/Latino employees across the industry cumulatively earn $21.6 billion compared to non-Hispanic White employee counterparts who earn an estimated cumulative $226 billion. Leaders across these tech firms propose increasing the pay to Latino employees by $7.12 billion and not changing the pay to White employees over the next five years. Industry leaders expect that this proposal will reduce the racial pay gap.

<<non-relevant group>>
This week, a joint report from the top 20 tech firms in the United States revealed that Black employees across the industry cumulatively earn $21.6 billion compared to Asian employee counterparts who earn an estimated cumulative $226 billion. Leaders across these tech firms propose increasing the pay to Black employees by $7.12 billion and not changing the pay to Asian employees over the next five years. Industry leaders expect that this proposal will reduce the racial pay gap.

Mortgage lending
<< relevant group>>
According to a recent report, in 2021 non-Hispanic White homebuyers received roughly $1.63 trillion in mortgage loans from banks while Hispanic/Latino homebuyers only received around $261.4 billion in mortgage loans overall. Several banks propose increasing the total amount of mortgage loans to Latino homebuyers by $334.3 billion and not changing the total amount of mortgage loan funding to White homebuyers over the next five years. Ultimately, these banks

predict that this proposal will narrow the gap in mortgage loans between Latino and non-Hispanic White homebuyers.

<<non-relevant group>>
According to a recent report, in 2021 Asian homebuyers received roughly $1.63 trillion in mortgage loans from banks while Black homebuyers only received around $261.4 billion in mortgage loans overall. Several banks propose increasing the total amount of mortgage loans to Black homebuyers by $334.3 billion and not changing the total amount of mortgage loan funding to Asian homebuyers over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between Black and Asian homebuyers.

Employment
<<relevant group>>
According to the Bureau of Labor Statistics, there were roughly 124.1 million non-Hispanic White Americans employed in the U.S. workforce in 2021 and only about 25.8 million Hispanic/Latino Americans employed. Several policymakers have proposed a policy to increase the number of Latino employees in the workforce by 4.67 million and not change the number of White employees in the workforce over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between Latino and White Americans.

<<non-relevant group>>
According to the Bureau of Labor Statistics, there were roughly 124.1 million Asian/Asian-Americans employed in the U.S. workforce in 2021 and only about 25.8 million Black Americans employed. Several policymakers have proposed a policy to increase the number of Black employees in the workforce by 4.67 million and not change the number of Asian employees in the workforce over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between Black and Asian/Asian-Americans.

Startup funding
<< relevant group>>
Recent data from Crunchbase detailed that Hispanic/Latino entrepreneurs receive significantly less funding—an estimated $6.8 billion—to start their businesses compared to White entrepreneurs, who received an estimated $151.1 billion in 2021. Several venture capital firms propose increasing their total investments in startups founded by Latino entrepreneurs by $2.8 billion and not changing their total investments in startups founded by White entrepreneurs over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in Latino- and White-founded startups.

<<non-relevant group>>
Recent data from Crunchbase detailed that Black entrepreneurs receive significantly less funding—an estimated $6.8 billion—to start their businesses compared to Asian entrepreneurs, who received an estimated $151.1 billion in 2021. Several venture capital firms propose increasing their total investments in startups founded by Black entrepreneurs by $2.8 billion and not changing their total investments in startups founded by Asian entrepreneurs over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in Black- and Asian-founded startups.

MBA program admissions

<< relevant group>>

According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 40,800 non-Hispanic White students enrolled in MBA programs across the U.S. and only 9,500 Hispanic/Latino students enrolled in MBA programs. Business schools have announced a policy to increase the number of Latino students enrolled in MBA programs by 2,900 and not change the number of White students enrolled in MBA programs over the next five years. Business school leaders expect this policy to reduce the enrollment gap between Latino and non-Hispanic White students.

<<non-relevant group>>

According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 40,800 Asian students enrolled in MBA programs across the U.S. and only 9,500 Black students enrolled in MBA programs. Business schools have announced a policy to increase the number of Black students enrolled in MBA programs by 2,900 and not change the number of Asian students enrolled in MBA programs over the next five years. Business school leaders expect this policy to reduce the enrollment gap between Black and Asian students.

Research grant funding

<< relevant group>>

According to recent data from the National Institute of Health (NIH), a total of 3,100 Hispanic/Latino researchers received NIH grant funding while 35,000 non-Hispanic White researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to 5,000 additional Latino researchers and not change the number of White researchers who receive funding over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between Latino and White researchers.

<<non-relevant group>>

According to recent data from the National Institute of Health (NIH), a total of 3,100 Black researchers received NIH grant funding while 35,000 Asian researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to 5,000 additional Black researchers and not change the number of Asian researchers who receive funding over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between Black and Asian researchers.

Policy vignettes (Study 3)

Advantaged group: White Americans
Disadvantaged group: Black Americans

Salary. This week, a joint report from the top 20 tech firms in the United States revealed that Black employees across the industry cumulatively earn $13.7 billion compared to White employees who earn an estimated cumulative $226 billion. Leaders across these tech firms propose increasing the pay to Black employees by $5.98 billion and the pay to White employees by $1.19 billion over the next five years. Industry leaders expect that this proposal will reduce the racial pay gap.

Mortgage lending. According to a recent report, in 2021 White homebuyers received roughly $1.63 trillion in mortgage loans from banks while Black homebuyers only received around $176.3 billion in mortgage loans overall. Several banks propose increasing the total amount of mortgage loans to Black homebuyers by $252.3 billion and increasing the total amount of mortgage loan funding to White homebuyers by $45.4 billion over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between Black and White homebuyers.

Start-up funding. Recent data from Crunchbase detailed that Black entrepreneurs receive significantly less funding—an estimated $2.25 billion—to start their businesses compared to White entrepreneurs, who received an estimated $151.1 billion in 2021. Several venture capital firms propose increasing their total investments in startups founded by Black entrepreneurs by $2.72 billion and increasing their total investments in startups founded by White entrepreneurs by $408 million over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in Black- and White-founded startups.

Employment. According to the Bureau of Labor Statistics, there were 124.1 million White Americans employed in the U.S. workforce in 2021 and only 20.5 million Black Americans employed. Several policymakers have proposed a policy to increase the number of Black employees in the workforce by 1.44 million and increase the number of White employees in the workforce by 230,400 over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between Black and White Americans.

MBA Program Admissions. According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 40,800 White students enrolled in MBA programs across the U.S. and only 7,200 Black students enrolled in MBA programs. Business schools have announced a policy to increase the number of Black students enrolled in MBA programs by 3,000 and increase the number of White students enrolled in MBA programs by 540 over the next five years. Business school leaders expect this policy to reduce the enrollment gap between Black and White students.

Research grant funding. According to recent data from the National Institute of Health (NIH), a total of 1,700 Black researchers received NIH grant funding while 35,000 White researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to

4,900 additional Black researchers over the next five years and provide grant funding to 780 additional White researchers over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between Black and White researchers.

Advantaged group: White Americans
Disadvantaged group: Latinx Americans

Salary. This week, a joint report from the top 20 tech firms in the United States revealed that Hispanic/Latino employees across the industry cumulatively earn $21.6 billion compared to non-Hispanic White employees who earn an estimated cumulative $226 billion. Leaders across these tech firms propose increasing the pay to Latino employees by $7.12 billion and the pay to White employees by $1.42 billion over the next five years. Industry leaders expect that this proposal will reduce the racial pay gap.

Mortgage lending. According to a recent report, in 2021 non-Hispanic White homebuyers received roughly $1.63 trillion in mortgage loans from banks while Hispanic/Latino homebuyers only received around $261.4 billion in mortgage loans overall. Several banks propose increasing the total amount of mortgage loans to Latino homebuyers by $334.3 billion and increasing the total amount of mortgage loan funding to White homebuyers by $60.2 billion over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between Latino and non-Hispanic White homebuyers.

Employment. According to the Bureau of Labor Statistics, there were roughly 124.1 million non-Hispanic White Americans employed in the U.S. workforce in 2021 and only about 25.8 million Hispanic/Latino Americans employed. Several policymakers have proposed a policy to increase the number of Latino employees in the workforce by 4.67 million and increase the number of White employees in the workforce by 747,200 over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between Latino and White Americans.

Startup funding. Recent data from Crunchbase detailed that Hispanic/Latino entrepreneurs receive significantly less funding—an estimated $6.8 billion—to start their businesses compared to White entrepreneurs, who received an estimated $151.1 billion in 2021. Several venture capital firms propose increasing their total investments in startups founded by Latino entrepreneurs by $2.8 billion and increasing their total investments in startups founded by White entrepreneurs by $420 million over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in Latino- and White-founded startups.

MBA program admissions. According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 40,800 non-Hispanic White students enrolled in MBA programs across the U.S. and only 9,500 Hispanic/Latino students enrolled in MBA programs. Business schools have announced a policy to increase the number of Latino students enrolled in MBA programs by 2,900 and increase the number of White students enrolled in MBA programs by 525 over the next five years. Business school leaders expect this policy to reduce the enrollment gap between Latino and non-Hispanic White students.

Research grant funding. According to recent data from the National Institute of Health (NIH), a total of 3,100 Hispanic/Latino researchers received NIH grant funding while 35,000 non-Hispanic White researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to 5,000 additional Latino researchers and provide grant funding to 800 additional White researchers over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between Latino and White researchers.

Advantaged group: Men
Disadvantaged group: Women

Salary. This week, a joint report from the top 20 tech firms in the United States revealed that women employees across the industry cumulatively earn $109 billion compared to men employee counterparts who earn an estimated cumulative $281 billion. Leaders across these tech firms propose increasing the pay to women employees by $24.3 billion and the pay to men employees by $4.86 billion over the next five years. Industry leaders expect that this proposal will reduce the gender pay gap.

Mortgage lending. According to a recent report, in 2021 men homebuyers received roughly $877.4 billion in mortgage loans from banks while women homebuyers only received around $482.9 billion in mortgage loans overall. Several banks propose increasing the total amount of mortgage loans to women homebuyers by $284.3 billion and increasing the total amount of mortgage loan funding to men homebuyers by $51.2 billion over the next five years. Ultimately, these banks predict that this proposal will narrow the gap in mortgage loans between women and men homebuyers.

Employment. According to the Bureau of Labor Statistics, there were roughly 85.5 million men employed in the U.S. workforce in 2021 and only about 75.7 million women employed. Several policymakers have proposed a policy to increase the number of women in the workforce by 5.71 million and increase the number of men in the workforce by 913,600 over the next five years. Policymakers predict that this proposal will greatly reduce the employment gap between men and women.

Startup funding. Recent data from Crunchbase detailed that women entrepreneurs receive significantly less funding—an estimated $4.5 billion—to start their businesses compared to men entrepreneurs, who received an estimated $233.8 billion in 2021. Several venture capital firms propose increasing their total investments in startups founded by women entrepreneurs by $12.1 billion and increasing their total investments in startups founded by men entrepreneurs by $1.82 billion over the next five years. Ultimately, these firms predict that this proposal will narrow the investment gap in women- and men-founded startups.

MBA program admissions. According to data from the Association to Advance Collegiate Schools of Business (AACSB), in 2021 there were 43,000 men enrolled in MBA programs across the U.S. and only 32,000 women enrolled in MBA programs. Business schools have announced a policy to increase the number of women enrolled in MBA programs by 5,500 and increase the number of men enrolled in MBA programs by 1,000 over the next five years.

Business school leaders expect this policy to reduce the enrollment gap between men and women.

Research grant funding. According to recent data from the National Institute of Health (NIH), a total of 20,500 women researchers received NIH grant funding while 30,300 men researchers received funding in 2022. NIH leaders have announced a new policy to provide grant funding to 5,100 additional women researchers provide grant funding to 920 additional men researchers over the next five years. NIH leaders expect this new policy to greatly reduce the funding gap between men and women researchers.

Goal manipulation (Study 3)

Adapted from: Strohminger, N., & Melnikoff, D. (2022, August 24). Breaking reality's constraints on motivated cognition. https://doi.org/10.31234/osf.io/qnda3

[Control condition]
Introduction

Thank you! Today you will answer various questions about several social and economic policy proposals. We will ask you to evaluate the policies as accurately as possible.

[Goal manipulation conditions]
Increase equality [*maintain status quo*]

Introduction

Thank you! Today you will play a game called "Debate Competition." In order to win the game, you must make the strongest arguments about various several social and economic policy proposals from your assigned position and then evaluate the policies as accurately as possible.

<<page break>>

In "Debate Competition," you will be assigned a position to argue in a debate about policies that would increase equality between Hispanic/Latino [Black] [women] and non-Hispanic White Americans [men].

In debate competitions, it is the duty of the debater to argue a stance to the best of their ability. This means that regardless of the stance, people hear arguments from both perspectives. The competition judges then consider the strength of the arguments and decide which debater wins.

You will soon find out which position you will argue.

Attention check: In your own words, what is the duty of the debater? [free response]

<<page break>>

You will argue in support of policies that increase social and economic equality between non-Hispanic White and Hispanic/Latino Americans [*maintaining existing social and economic policies*]. You will argue this position in three different policy contexts. Remember it is the duty of the debater to argue a stance to the best of their ability; regardless of how the policy impacts different groups, debaters must make their best arguments. The judges will hear the arguments for supporting policies that increase social and economic equality from your side, and counter-arguments in support of maintaining existing social and economic policies [*maintaining current social and economic policies from your side, and counter-arguments in support of policies that increase equality between non-Hispanic White and Hispanic/Latino Americans*] from the opposing side. The judges will consider all arguments to decide which side wins.

Your job is to win the competition. You will do this by providing the strongest arguments in support of policies that increase social and economic equality between non-Hispanic White and Hispanic/Latino Americans and against maintaining current social and economic policies [*policies that maintain current social and economic policies and against policies that increase social and economic equality between non-Hispanic White and Hispanic/Latino Americans*]. The strength of your arguments is ultimately the decision of the judges. Your only job is to provide a strong case for your side.

As an extra incentive, if you win the debate we will give you a $0.50 bonus! Specifically, if the judges think your arguments are stronger, you will be paid $0.50 in addition to your full payment. If the judges find the opposing sides' argument stronger, you will just receive the standard payment.

Attention check: What side are your arguing for? [multiple choice option]

- In support for policies that increase social and economic equality between non-Hispanic White and Hispanic/Latino Americans
- In support of maintaining existing social and economic policies

Attention check: In your own words, please describe what you must do in order to receive a bonus. [free response]

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