Empirical Research Paper

Evidence for a Curvilinear Effect of Psychological Discomfort on Dominant Group Members' Engagement in Allyship

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Abstract

Psychological discomfort can motivate, demotivate, or even backfire upon efforts to encourage allyship. We consider the *intensity* of such discomfort to test curvilinear relationships between psychological discomfort and Whites' engagement in equity efforts. Across four pre-registered studies (N = 4,563), we find support for our curvilinear model. First, we explore the relationship between collective discomfort and allyship intentions. While we find that collective discomfort is linearly associated with greater allyship, we find little evidence of diminishing returns. Second, we find a curvilinear relationship between collective discomfort and defensive reactions: Both low and high discomfort was associated with increasing defensive reactions to evidence of racial inequity (victimhood claiming, stigma reversal) than moderate discomfort. Thus, we provide empirical support for the idea that dominant group members who experience high (vs. moderate) discomfort in the face of social inequality may be less likely to support equity. We offer insights on how to manage this issue

Keywords

privilege, race, allyship, inequality, guilt

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> *"We acknowledge that systemic racism and white supremacy are ugly poisons that have long plagued the United States [. . .] Under my Administration, the United States will lead the conversation on these painful issues [. . .] we will not shy away from engaging in the hard work."*
>
> Statement by President Biden on the International Day for the Elimination of Racial Discrimination, March 2021

> *"Federal contractors will not be permitted to inculcate such views in their employees . . .. [that] any individual should feel discomfort, guilt, anguish, or any other form of psychological distress on account of his or her race or sex"*
>
> Executive Order on Combating Race and Sex Stereotyping, September 2020

The multiple public murders of Black Americans in the summer of 2020 led to a resurgence of attention to social and racial inequality (Pew Research Center, 2020). Particularly notable was the shift in focus of these efforts; rather than discussing implicit biases or explicit discrimination faced by marginalized groups, the social conversation turned to evaluation of structural privilege. Many saw this as an important shift. Indeed, a major barrier preventing dominant group members' allyship is denial of structural inequity—whether its existence or their responsibility for it (Chrobot-Mason et al., 2020; Craig et al., 2020). This logic suggests that once those with privilege recognize both the existence of systemic disparities based on group membership and their position as someone who benefits from those disparities (Phillips & Lowery, 2018), they will be more likely to engage in efforts to reduce inequity through *allyship* (the efforts of an individual to advocate on behalf of marginalized groups that they are not a member of to achieve greater social equity; Ashburn-Nardo, 2018; K. T. Brown & Ostrove, 2013; Edwards, 2006). Because the ally is not a member of the marginalized target group, work argues that a central aspect of being an ally is acknowledging and relinquishing one's *relative* privileges (Boutte & Jackson, 2014; Erskine & Bilimoria, 2019; Warren & Warren, 2023).

Exposure to evidence of their own privilege can spark collective psychological discomfort; however, the effects of such collective psychological discomfort are unclear (Leach et al., 2002; Montada & Schneider, 1989). Discomfort is typically a sign that one needs to take action. Indeed, in response to the mass shooting in Atlanta targeting Asian

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women, President Joe Biden encouraged people to channel the uncomfortable feelings as motivation for the difficult work of reducing systemic racism. Other examples, however, have shown that such discomfort can backfire. Exemplifying this, former President Donald Trump banned diversity trainings that inform people about their privilege, explicitly citing "discomfort, guilt, anguish, or any other form of psychological distress on account of race or sex" as the rationale for banning discussion of structural inequity ("Executive order on combating race and sex stereotyping, 13950," 2020).

Here, we work to bridge these perspectives—that discomfort may be motivating, demotivating, or backfiring for allyship efforts—by focusing on the *intensity* of discomfort. We suggest that a moderate amount of discomfort may be associated with greater engagement in allyship, but, at high levels, these associations may disappear, or even reverse. We therefore test whether a curvilinear model of psychological discomfort may provide insight into associations with negative outcomes, including both reduced engagement and increased defensive reactions.

Evidence of Privilege and Psychological Discomfort

Although privilege has academic roots in earlier decades (Du Bois, 1939; McIntosh, 1989), recent years have seen a greater reckoning with these concepts in the public consciousness. The increased attention on major race-related public events may be a catalyst for White Americans to engage with their advantaged racial identity (Leigh & Melwani, 2019). This engagement can take the form of "privilege work," the effort that allies undertake to prepare themselves to become effective allies against inequity (Scully et al., 2018). Privilege work requires deep self-reflection, such as coming to terms with oneself as a member of a privileged group and wrestling with emergent emotions (Ashburn-Nardo, 2018; Dang & Joshi, 2023). This step is necessary because exposure to one's privilege can threaten self-concept, as it implies that one is unfairly advantaged, unmeritocratic, and undeserving of their outcomes (Knowles & Lowery, 2012; Phillips & Lowery, 2020; Unzueta & Lowery, 2008). An important part of ongoing allyship is working through these self-focused negative reactions to privilege.

In particular, these feelings toward privilege often manifest as guilt and shame (Leach et al., 2002; Montada & Schneider, 1989). As our focus is on the intensity of discomfort, we consider both collective guilt and shame at one's advantaged identity. Although previous work on individual-level affect has highlighted conceptual differences between guilt and shame (Amodio et al., 2007; Cohen et al., 2011), this research has also found that these emotions share fundamental similarities: they are both self-focused, unpleasant, and aversive (Leach et al., 2002; Miron et al., 2006; Tangney, 2005). At the collective level, evidence suggests these emotions are even more similar. First, previous work on collective emotions finds similar relationships whether combining or separating measures of collective guilt and collective shame (Harth et al., 2008; Iyer et al., 2003; Leach et al., 2006). For instance, Iyer et al. (2003) measured collective guilt by asking the extent to which participants felt guilty, ashamed, regretful, responsible, and blameworthy, finding that these all loaded onto one factor. Moreover, exposure to evidence of group inequity is similarly associated with both collective emotions (Harvey & Oswald, 2000). Thus, mirroring the executive order by Mr. Trump, dominant group members appear to experience collective guilt and shame similarly—as psychologically uncomfortable. These measures have become even more conflated with the use of both state measures that explore guilt and shame regarding a specific incident (Iyer et al., 2007; Leach et al., 2006) and trait measures that explore guilt and shame regarding inequality more generally (R. Brown et al., 2008; Swim & Miller, 1999). Here, we consider both guilt and shame as indicators of collective psychological discomfort, and we explore both trait and state indicators.

Potential Consequences of High Discomfort

Research on psychological discomfort has highlighted that discomfort often increases action, as people are motivated to repair these feelings. For instance, participants who reflected on a time they made someone angry and felt guilty were more likely to confess, apologize, and make reparations than those who reflected on a time they made someone angry but did not feel guilty (Baumeister et al., 1995). Discomfort can serve as a motivation for action, moving people from apathy to atonement to reduce their negative feelings (Baumeister et al., 1995; Powell et al., 2005; Xu et al., 2011). Indeed, discomfort regarding one's privilege is an important predictor of engagement in allyship, often mediating the relationship between exposure to privilege and support for polices to reduce inequities (R. Brown et al., 2008; Goldenberg et al., 2014; Puryear et al., 2020; Swim & Miller, 1999).

Following this logic, it can be important (even necessary) for members of privileged groups to be cognizant of systems of inequity, recognize associated discomfort, and embrace it, rather than ignore discomfort (Allen & Leach, 2018). However, we suggest that high (versus moderate) levels of discomfort may also have negative consequences for dominant group members' efforts to reduce inequity. First, we suggest that high levels of discomfort may be associated with lower engagement in allyship. As mentioned earlier, people abandon discomfort-inducing behaviors to avoid the unpleasant feelings (Xu et al., 2011). However, this can manifest as changing their behavior *or* changing the situation. For instance, people who feel high discomfort (both guilt and shame) about lying to a friend are less likely to lie to friends

in the future but are also more likely to avoid this friend in the future (Cohen et al., 2011). Furthermore, research has proposed that guilt can decrease motivation immediately following a transgression (Amodio et al., 2007). Thus, we suggest that dominant group members who feel high levels of collective discomfort regarding their privilege may be more likely to disengage from allyship (to reduce uncomfortable feelings), in contrast with those who feel moderate discomfort, who may be more likely to try and repair the inequities.

Second, beyond disengagement, we suggest that high (versus moderate) levels of discomfort may also be associated with defensive responses. As discussed earlier, research finds that providing people with information about privilege often increases defensiveness regarding inequity (Knowles et al., 2014; Phillips & Lowery, 2015, 2020), although typically among those with low discomfort. For instance, people who do not believe that group-based discrepancies are illegitimate are less likely to report discomfort at inequities and more likely to oppose policies that would remediate these inequities (Saguy et al., 2013; van Leeuwen et al., 2013). We build on this research to propose that, perhaps counterintuitively, those who feel high discomfort may also engage in such defensive responses to privilege. We suggest that high levels of psychological distress may be associated with behaviors consistent with a short-term goal of self-defense (Iyer et al., 2003; Leach et al., 2002; Xu et al., 2012).

One way this defensiveness can manifest is as *victimhood claiming*, in which the privileged claim they or their group is actually disadvantaged (Norton & Sommers, 2011; Phillips & Lowery, 2015; Sullivan et al., 2012). This can also be linked to dominant group member claims that other groups unjustly perceive them as biased (known as *stigma reversal*; Saguy et al., 2013; Sullivan et al., 2012). Importantly, we suggest that dominant group members can both acknowledge the existence of illegitimate inequities and react defensively by claiming that their group is also unfairly disadvantaged in distinct ways. We argue that these defensive-without-explicitly-denying behaviors can still be problematic if they shift the conversation from one's privileges to one's disadvantages, which may protect dominant group members' sense of self at the expense of achieving an equitable society (Danbold et al., 2022; Phillips & Lowery, 2015; Rosette & Koval, 2018).

Integrating Perspectives on Discomfort: A Curvilinear Model

In sum, existing work suggests that dominant group members' psychological discomfort regarding group inequity can motivate their willingness to either reduce or defend group inequity. Here, we suggest that this mixed view may be the result of a focus on linear approaches, comparing different types of emotional reactions to see which has the strongest effect (Iyer et al., 2007; Leach et al., 2006). Instead, we consider whether the relationship between dominant group members' psychological discomfort and their engagement or defensiveness may be best captured in a curvilinear model. Previous research has identified a number of positive phenomena that start showing a reversed relationship after a certain point (i.e., a "too-much-of-a-good-thing" effect; for other examples, see the study by Grant & Schwartz, 2011). We conceptualize collective psychological discomfort as a continuum, suggesting that people can feel relatively low, moderate, or high discomfort, and explore the possibility of a non-monotonic relationship.

Previous research has shown the importance of testing curvilinear relationships for identifying a diverse set of relationships. First, curvilinear models are especially important in cases where there may be opposing relationships. For example, Cichocka et al. (2017) use curvilinear models to explore the antecedents of political action, showing that system confidence is necessary for engagement in political action to a point, at which the relationship flips. Second, a curvilinear model can identify cases where the relationship is mostly linear but contains a turn at extreme levels. For instance, Cheatham and Tormala (2017) use curvilinear models to identify a J-shaped relationship, showing an unexpected uptick in advocacy intentions under conditions of low (relative to moderate) attitude certainty, although advocacy is strongest when attitude certainty is high.

Given our two distinct outcomes, engagement in allyship and defensive responses to privilege, we incorporate both types of curvilinear models. First, we predict diminishing returns (i.e., a positive linear and negative quadratic relationship) between psychological discomfort and intention to engage in collective action to reduce inequity, such that high or moderate discomfort will be associated with greater engagement than low discomfort, but high discomfort and moderate discomfort will not differ. Second, we predict a U-shaped relationship (i.e., a negative linear and positive quadratic relationship) between psychological discomfort and defensiveness (e.g., victimhood claiming, stigma reversal), such that low or high levels of discomfort will be associated with greater defensive reactions than moderate levels. We highlight the importance of *simultaneously* considering behaviors that dismantle and defend systemic inequities, as we predict distinct types of curvilinear relationships for these different outcomes.

Understanding these relationships between psychological discomfort and inequity-reduction has important implications for efforts to recruit dominant group members as allies. If intensity of psychological discomfort has a linear relationship with engagement in allyship, practitioners may continuously increase dominant group members' exposure to discomfort. However, if the relationship is curvilinear, as we propose, this calls into question the utility of engendering maximum feelings of psychological discomfort. This is also true for defensive reactions. It is not always possible to identify how much discomfort an aspiring ally feels; as a result, it

Table 1. Demographics for All Studies.

Study	1	2	3a	3b
Design	Cross-sectional	Cross-sectional	Lagged	Lagged
N	1,482	1,484	158	1,439
State or Trait	State	Trait	Both	Both
Gender (%)				
Male	720 (48.58%)	733 (49.32%)	80 (56.74%)	728 (49.36%)
Female	743 (50.13%)	718 (48.44%)	61 (43.26%)	732 (49.63%)
Self-described	19 (1.28%)	33 (2.23%)	0	15 (1.02%)
Political ideology (*SD*)	4.80 (1.89)	4.83 (1.90)	4.27 (1.82)	4.75 (1.86)

Note. Only White participants were recruited. Political ideology ranges from 1 (*extremely conservative*) to 7 (*extremely liberal*) with 4 representing neither conservative nor liberal.

can be difficult to tell whether additional exposure may push someone over the edge into defensiveness. Thus, if the goal is encouraging dominant group member engagement in allyship,[1] it is preferable that the relationship is linear because practitioners would not need to worry about crossing a tipping point.

We aim to make two contributions with this work. First, theoretical work has explored what motivates dominant group members toward long-term allyship, including feelings of discomfort (K. T. Brown & Ostrove, 2013; Edwards, 2006; see also Kutlaca et al., 2020; Radke et al., 2021). However, empirical work on the relationships between discomfort and engagement has shown mixed results. Prior research on emotional responses to relative advantage has found that psychological discomfort can be either motivating (Leach et al., 2006; Montada & Schneider, 1989; Powell et al., 2005; Swim & Miller, 1999), ineffective (Harth et al., 2008; Harvey & Oswald, 2000; Iyer et al., 2003, 2007), or backfiring to certain dominant group members' recognition of and actions against inequity (Puryear et al., 2020; van Leeuwen et al., 2013). We build on this work by considering curvilinear models, which allows us to explore how the *intensity* of collective emotions may relate to intergroup actions (Brehm, 1999).

Second, little work has empirically tested simultaneous positive (i.e., engagement) and negative consequences (i.e., defensiveness) of collective discomfort. We test how separate experiences of low and high discomfort might nevertheless be associated with similar outcomes: greater defensiveness toward privilege. By exploring defensive responses that are not mutually exclusive with acknowledgment of inequities (e.g., victimhood claiming and stigma reversal, rather than direct denials of inequity), we suggest that there may be unexplored negative intergroup consequences of high levels of discomfort.

Overview of Studies

We run four studies to test our predictions (N = 4,563). Studies 1 and 2 use a cross-sectional design and provide initial support for our predictions. Studies 3a and 3b use a lagged design to allow us to run autoregressive analyses and extend our findings to new behavioral outcomes. See Table 1 for details and demographic information for all studies. All data, code, and materials are available at https://osf.io/n7cpk/?view_only=1b73d9a127684f6f979136d7a99b9e1c.

Study 1: State Measures

The goal of Study 1 was to test our hypotheses using state measures of collective discomfort used in prior research (Iyer et al., 2007). We pre-registered the study prior to data collection (https://aspredicted.org/VHJ_38Q).

Method

Participants. We recruited 1,500 White Americans from Prolific (www.prolific.co) to complete a study on their attitudes and perceptions. We removed all participants who did not identify as White/European American, leaving us with 1,482 total participants. Sensitivity analyses indicated that this sample size had 99%–100% power to detect relationships at a significance level of .001.

Procedure and Measures. Participants read a short passage informing them of White privilege and completed measures of collective discomfort, allyship intentions, stigma reversal, and victimhood claiming. Finally, participants completed demographics, including political ideology.[2]

Collective Discomfort Measures. We measured collective discomfort using eight items from Iyer et al. (2007). Participants reported how guilty, remorseful, regretful, ashamed, disgraced, humiliated, embarrassed, and shamefaced they felt in response to the article about privilege (Iyer et al., 2007; $\alpha = .95$) on a scale from 1 (*not at all*) to 7 (*extremely*).[3,4]

Dependent Variables

Allyship Intentions. Participants completed five items addressing their intention to engage in allyship in different ways (e.g., "Attend demonstrations, protests, or rallies against rac-

ism toward minorities," α = .89) on a scale from 1 (*extremely unlikely*) to 7 (*extremely likely*).

Stigma Reversal. We adapted two items to measure perceived stigma reversal ("People from my group of White Americans are often being accused of racism" and "Many people seem to think that, because I'm a White American, I should feel a sense of responsibility for bad outcomes experienced by other groups"; Saguy et al., 2013; Sullivan et al., 2012). Participants responded on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Victimhood Claiming. Participants completed four items measuring perceptions of in-group hardships ("Most White Americans' lives have been full of hardships"; adapted from the work by Phillips & Lowery, 2015; α = .88) on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Results

Quadratic models are used to identify the presence of nonlinear relationships. We mean-centered collective discomfort and regressed each dependent variable simultaneously on the linear and quadratic terms of collective discomfort. Thus, the results we report come from models that always include both the linear and quadratic terms.

We first tested the relationship between collective discomfort and allyship intentions (See Figure 1). We found a significant and positive linear relationship between collective discomfort and allyship intentions (b = 0.68, 95% CI [0.64, 0.72], $t(1,479) = 33.90$, $p < .001$). Furthermore, and as predicted, we found a significant negative quadratic relationship between collective discomfort and allyship intentions (b = −0.09, 95% CI [−0.11, −0.06], $t(1,479) = -7.36$, $p < .001$).

We then tested the relationship between discomfort and stigma reversal (See Figure 2). We found a significant and negative linear relationship between collective discomfort and stigma reversal (b = −0.07, 95% CI [−0.10, −0.03], $t(1,479) = -3.40$, $p = .001$). Furthermore, and as predicted, we found a significant, positive quadratic relationship between discomfort and stigma reversal (b = 0.07, 95% CI [0.05, 0.10], $t(1,479) = 6.22$, $p < .001$).

Finally, we tested the relationship between discomfort and victimhood claiming (See Figure 3). We found a significant and negative linear relationship between collective discomfort and victimhood claiming (b = −0.26, 95% CI [−0.30, −0.23], $t(1,479) = -15.83$, $p < .001$). Furthermore, and as predicted, we found a significant, positive quadratic relationship between discomfort and victimhood claiming (b = 0.04, 95% CI [0.02, 0.06], $t(1,479) = 4.16$, $p < .001$).

Discussion

In Study 1, we found evidence for curvilinear relationships between collective discomfort at social inequity and two dependent variables, allyship and defensiveness. As predicted, we found a significant negative quadratic relationship between collective discomfort and allyship intentions. In addition to our quadratic model, we also incorporate an interrupted regression that allows us to identify tipping points and provide greater insight into the point at which the relationship changes (Simonsohn, 2018; see OSM). These results suggest that, at high levels of discomfort (tipping

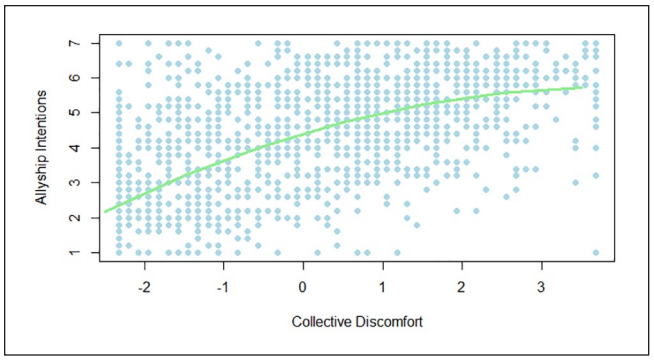

Figure 1. The Quadratic Relationship Between Collective Discomfort and Allyship Intentions.
Note. Dots represent data points.

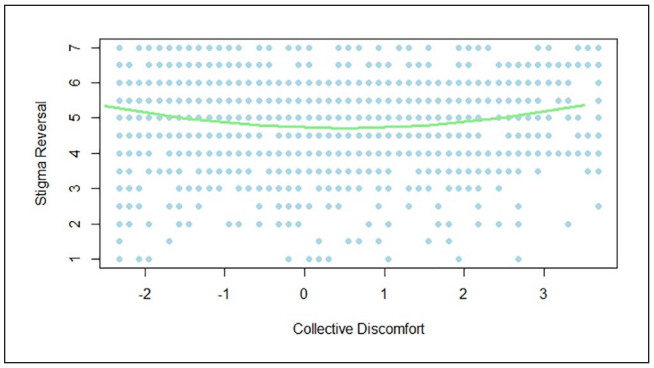

Figure 2. The Quadratic Relationship Between Collective Discomfort and Stigma Reversal.

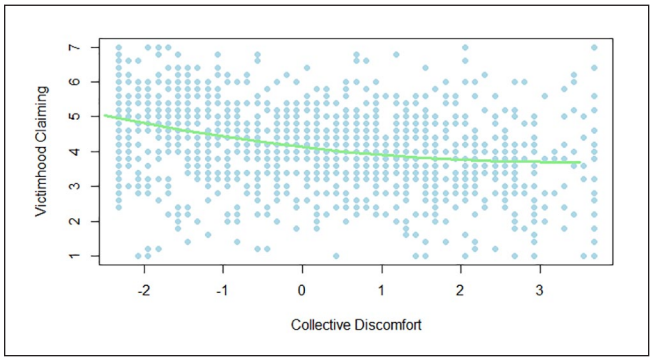

Figure 3. The Quadratic Relationship Between Collective Discomfort and Victimhood Claiming.

point 5.25 of 7), the relationship between collective discomfort and engagement in allyship is weaker than that at levels below the tipping point. As predicted, we also found a significant positive quadratic relationship between collective discomfort and stigma reversal. For people below the tipping point (3.88 of 7), greater collective discomfort was associated with lower stigma reversal, whereas for those above the tipping point, greater collective discomfort was associated with greater stigma reversal, suggesting a U-shaped relationship. As predicted, we also found a significant positive quadratic relationship between collective discomfort and victimhood claiming, again suggesting a U-shaped relationship. For people below the tipping point (5.38 of 7), greater collective discomfort was associated with lower victimhood claiming; although unlike stigma reversal, we found no significant relationship with collective discomfort beyond the tipping point, perhaps because the point itself was higher on the scale.

Study 2: Trait Measures

The goal of Study 2 was to replicate our results using trait measures of collective discomfort, which are also commonly used in prior literature (R. Brown et al., 2008; Iyer et al., 2003; Swim & Miller, 1999). One criticism of state measures used by Iyer et al. (2007) is that it is ambiguous whether participants' responses capture personal or group-based emotions (R. Brown et al., 2008), so we ran Study 2 to replicate our results while ensuring we were capturing collective, rather than personal, discomfort. Moreover, the state discomfort measure captured participants' affect in relation to a specific instance (reading about White privilege), whereas trait measures capture a more generalized affective experience regarding inequity. We pre-registered this study prior to data collection (Study 2: https://aspredicted.org/VSL_SH8).

Method

Participants. We recruited 1,500 White Americans from Prolific (www.prolific.co) to complete a study on their attitudes and perceptions. We removed all participants who did not identify as White/European American, leaving us with 1,484 total participants. Sensitivity analyses indicated that this sample size had 99%–100% power to detect a relationship at a significance level of .001.

Measures. Participants completed a five-item measure of collective guilt (e.g., "Although I feel my behavior is typically nondiscriminatory toward Blacks, I still feel guilt due to my association with the White race," Swim & Miller, 1999) and a five-item measure of collective shame (e.g., "I feel shame when I think how Whites have behaved towards Blacks," R. Brown et al., 2008) on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*), which we combined to make one measure ($\alpha = .93$; see OSM for Confirmatory Factor Analysis (CFA) and results for separate scales). We measured allyship intentions ($\alpha = .89$), stigma reversal, and victimhood claiming ($\alpha = .86$) as in Study 1.

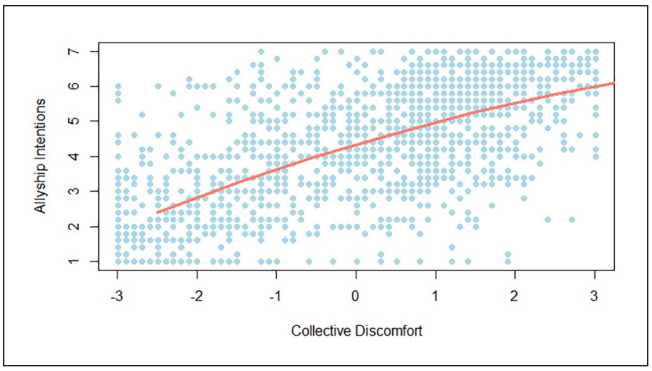

Figure 4. The Quadratic Relationship Between Collective Discomfort and Allyship Intentions.
Note. Dots represent data points.

Results

To test our predictions, we mean-centered collective discomfort and simultaneously regressed each dependent variable on the linear and quadratic terms of collective discomfort. Thus, the results we report come from models that always include both the linear and quadratic terms.

We first tested the relationship between discomfort and engagement (See Figure 4). We found a significant and positive linear relationship between collective discomfort on allyship intentions ($b = 0.68$, 95% CI $[0.64, 0.71]$, $t(1,472) = 33.87$, $p < .001$). Furthermore, and as predicted, we found a significant negative quadratic relationship between collective discomfort on allyship intentions ($b = -0.04$, 95% CI $[-0.06, -0.02]$, $t(1,472) = -3.33$, $p = .001$).

We then tested the relationship between discomfort and stigma reversal (See Figure 5). We found a non-significant negative linear relationship between collective discomfort and stigma reversal ($b = 0.04$, 95% CI $[-0.01, 0.08]$, $t(1,472) = 1.65$, $p = .100$). Furthermore, and as predicted, we found a significant, positive quadratic relationship between discomfort and stigma reversal ($b = 0.09$, 95% CI $[0.06, 0.11]$, $t(1,472) = 6.88$, $p < .001$).

Finally, we tested the relationship between discomfort and victimhood claiming (See Figure 6). We found a significant and negative linear relationship between collective discomfort and victimhood claiming ($b = -0.26$, 95% CI $-0.30, -0.23$, $t(1,471) = -15.56$, $p < .001$). Furthermore, and as predicted, we found a significant, positive quadratic relationship between discomfort and victimhood claiming ($b = 0.03$, 95% CI $[0.01, 0.05]$, $t(1,471) = 2.65$, $p = .008$).

Discussion

In Study 2, we replicate and extend our findings regarding the curvilinear relationships between collective discomfort at

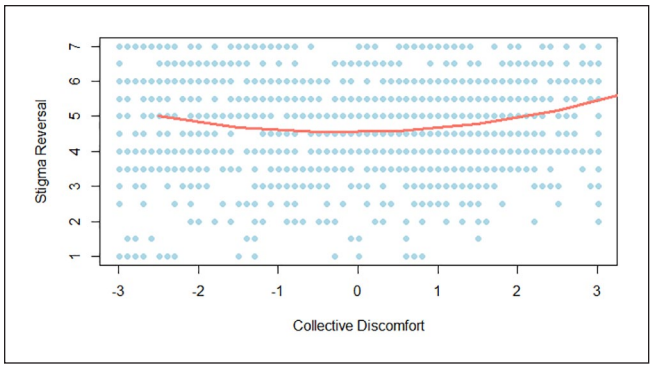

Figure 5. The Quadratic Relationship Between Collective Discomfort and Stigma Reversal.

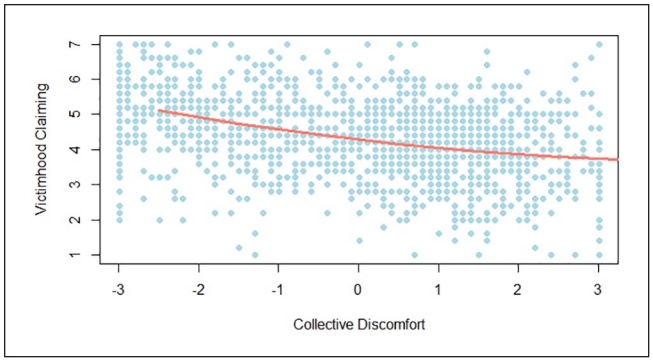

Figure 6. The Quadratic Relationship Between Collective Discomfort and Victimhood Claiming.

social inequity and our dependent variables, allyship and defensiveness using trait measures. Once again, as predicted, we found a significant negative quadratic relationship between collective discomfort and allyship intentions. That is, for people higher in discomfort, additional discomfort was not necessarily associated with higher intentions to participate, again suggesting diminishing returns (tipping point 5.8 of 7; see OSM). And, as predicted, we again found evidence for a curvilinear relationship between collective discomfort and stigma reversal. For people below the tipping point (4.1 of 7), greater collective discomfort was associated with lower stigma reversal, whereas for those above the tipping point, greater collective discomfort was associated with greater stigma reversal, suggesting a U-shaped relationship. As predicted, we also found a significant positive quadratic relationship between collective discomfort and victimhood claiming. For people below the tipping point (5.7 of 7), greater collective discomfort was associated with lower victimhood claiming, although as in Study 1, the tipping point for victimhood claiming was at the high end of the scale.

Study 3a

Study 3a builds on the previous studies in two ways. First, we use a lagged design, measuring trait discomfort 1 week before exposing participants to information about privilege. This allows us to test whether the linear and quadratic relationships with T2 collective discomfort remained significant when controlling for the linear and quadratic relationships with T1 collective discomfort and reduces common methods bias (Podsakoff et al., 2003). Second, in addition to allyship engagement intentions, we include behavioral opportunities to engage in allyship. Study 3a was pre-registered to data collection (https://aspredicted.org/PBR_PKF)

Methods

Participants. We recruited 350 White Americans from TurkPrime.com (Litman et al., 2017) to complete a two-part study on their perceptions and attitudes. Before combining Time 1 and Time 2 data, we removed participants from both data sets with duplicated worker IDs, IP addresses, or location coordinates (consistent with recommendations for maintaining data quality on this platform at the time; Moss & Litman, 2018) and participants who indicated that they were non-White and non-U.S. This left us with 306 completed responses for T1. Of these, 158 (52%) completed the follow-up study at T2 (56% male, mean age = 37.96, *SD* = 10.94).

Procedure. At T1, participants completed a series of individual difference measures of psychological discomfort, including trait guilt and shame. After 1 week, participants were invited to complete T2. At T2, participants read a short passage about White privilege and completed measures of state discomfort, engagement in allyship, and defensiveness. Finally, participants were asked if they would like to participate in a voluntary survey for no additional payment, which served as our primary behavioral outcome. All other behaviors took place within the voluntary study and, therefore, were not given to participants who did not volunteer for the additional study. Participants chose to complete or skip this portion before completing demographics and receiving payment. We left the T2 survey open for 3 days and sent two reminders to eligible participants before closing the study.

Measures

Collective Discomfort. At T1, participants completed the measures of trait collective discomfort ($\alpha = .96$) as in Study 2. At T2, participants completed the measures of state collective discomfort ($\alpha = .96$) as in Study 1.[5]

Engagement in Allyship

Allyship Intentions. We measured allyship intentions as in prior studies ($\alpha = .88$).

Behavior: Volunteering. Before completing the demographics, participants were told about a voluntary follow-up study exploring conversations about racial inequality that was looking for additional participants. Participants were

Table 2. Lagged Results for All Dependent Variables.

	Dependent variable				
	Allyship intentions	Stigma reversal	Victimhood claiming	Volunteering	Learning
	OLS	*OLS*	*OLS*	*logistic*	*OLS*
Predictor	(1)	(2)	(3)	(4)	(5)
T1 Trait discomfort	0.362***	−0.265*	−0.174*	−0.022	−7.220
	(0.103)	(0.110)	(0.083)	(0.198)	(10.245)
T1 Trait discomfort[a]	−0.073	0.183***	0.127**	0.073	−1.674
	(0.049)	(0.052)	(0.039)	(0.091)	(3.837)
T2 State discomfort	0.311***	0.109	−0.078	0.594*	0.178
	(0.114)	(0.122)	(0.092)	(0.234)	(11.953)
T2 State discomfort[a]	0.021	0.008	0.032	−0.045	1.873
	(0.045)	(0.048)	(0.036)	(0.086)	(3.229)
Constant	3.721***	4.246***	3.911***	−0.933**	53.700***
	(0.188)	(0.201)	(0.151)	(0.330)	(10.417)
Observations	141	141	141	141	46
R^2	0.455	0.169	0.229		0.078
Adjusted R^2	0.439	0.144	0.206		−0.012
Log likelihood				−76.710	
Akaike Inf. Crit.				163.420	

Note. Results presented from model that includes all predictors entered simultaneously.
[a]Quadratic terms.
*$p < .05$; **$p < .01$; ***$p < .001$.

told they would receive their payment regardless of whether they participated in the voluntary study and would not receive additional payment for participating. If participants chose to participate, they were able to skip any questions and move on at any point. Participants had to choose whether they would participate or skip this section. Decision to participate was our first behavioral measure of engagement.

Behavior: Learning. Within the additional study, participants were asked to read "The Invisible Knapsack" (McIntosh, 1989) and participated in a privilege recognition exercise. Unknown to participants, we measured the time spent reading about privilege, which served as our second behavioral measure of engagement.

Defensiveness. We measured *stigma reversal* and *victimhood claiming* ($\alpha = .88$) as in prior studies.

In a small pilot study ($N = 97$) using a lagged designed, we found that participants who were higher in collective guilt were significantly more likely to drop out of the study ($p = .047$). Although this impacted our ability to test our predicted models, we felt this behavior was consistent with our theorizing about high discomfort's association with avoidance behaviors. Therefore, in Study 3a, we pre-registered our hypothesis that participants higher in collective discomfort would be more likely to drop out of the study before T2.

Results

To test our predictions, we mean-centered each collective discomfort measure (T1 trait, T2 state). We regressed each dependent variable simultaneously on both the linear and quadratic terms of each collective discomfort measure; following results are from these models. Finally, we ran a model for each dependent variable that simultaneously tested the linear and quadratic term for T2 collective discomfort while controlling for the linear and quadratic terms for T1 collective discomfort; we note in the following section whether results persisted in these models (see Table 2 for models with all four predictors).

First, in line with our pre-registration and to confirm the attrition was not correlated with our measure of collective discomfort, we tested our prediction about dropouts. Contrary to predictions, we found no differences between dropouts on collective discomfort, $t(245) = 0.44$, $p = .664$.

Replicating Studies 1–2. We first tested the relationship between collective discomfort and allyship intentions (See Figure 7). We found a significant and positive linear relationship between collective discomfort and allyship intentions—T1 trait discomfort: b = 0.67, 95% CI [0.55, 0.80], $t(155) = 10.65$, $p < .001$; T2 state discomfort b = 0.68, 95% CI [0.56, 0.79], $t(155) = 11.66$, $p < .001$. Contrary to predictions and Studies 1–2, we found no quadratic relationship between discomfort and allyship intentions—T1 trait discomfort: b = −0.01, 95%

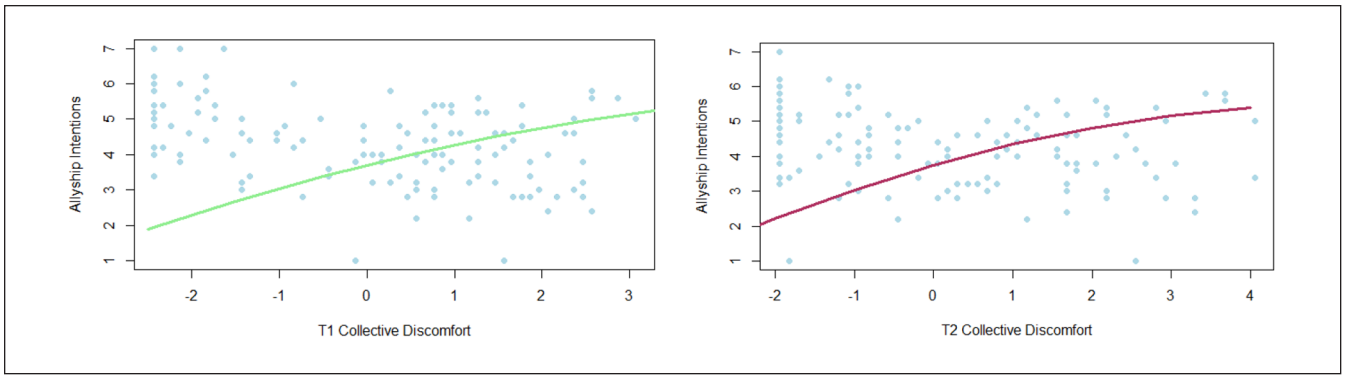

Figure 7. The Quadratic Relationship Between Collective Discomfort and Allyship Intentions.

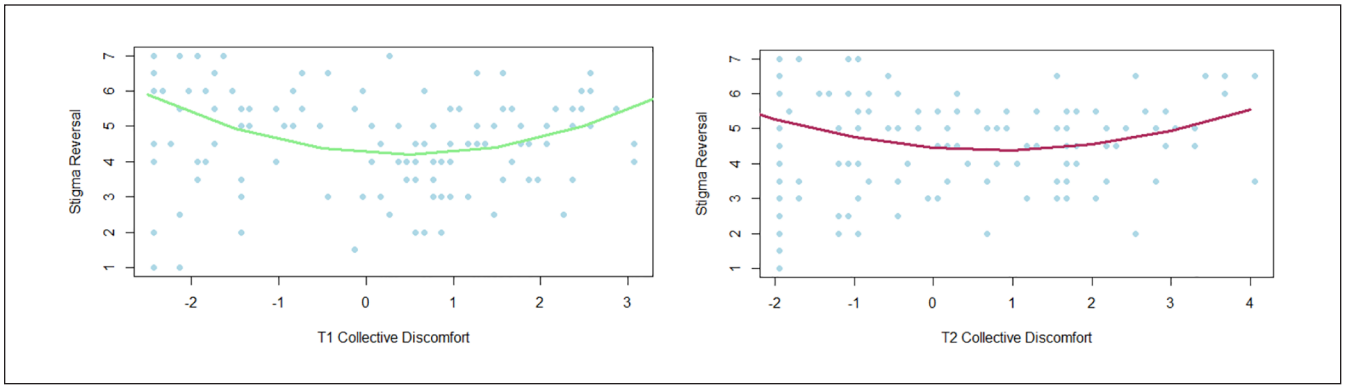

Figure 8. The Quadratic Relationship Between Collective Discomfort and Stigma Reversal.

CI [−0.10, 0.08], $t(155) = -0.23$, $p = .822$; T2 state discomfort: b = −0.04, 95% CI [−0.11, 0.03], $t(155) = -1.22$, $p = .226$. The T2 discomfort linear relationship with allyship intentions remained significant when additionally controlling for T1 discomfort, and no quadratic relationships emerged (See Table 2). Sensitivity analyses indicated we had 99%–100% power for all analyses.

We then tested the relationship between collective discomfort and stigma reversal (See Figure 8). As predicted, we found significant and positive quadratic relationships between collective discomfort and stigma reversal—T1 trait discomfort: $b = 0.21$, 95% CI $[0.11, 0.30]$, $t(155) = 4.43$, $p < .001$; T2 state discomfort: $b = 0.12$, 95% CI $[0.04, 0.20]$, $t(155) = 2.92$, $p = .004$. Furthermore, the quadratic relationship with T1 trait discomfort remained significant when adjusting for T2 state discomfort ($b = 0.18$, 95% CI $[0.08, 0.28]$, $t(153) = 3.46$, $p = .001$). However, the quadratic relationship with T2 state discomfort was no longer significant when adjusting for T1 trait discomfort (see Table 2). Sensitivity analyses indicated we had 85% power to detect a relationship with T1 trait discomfort and 11% power with T2 state discomfort.

We then tested the relationship between collective discomfort and victimhood claiming (See Figure 9). As predicted, we found significant, positive quadratic relationships with collective discomfort and victimhood claiming—T1 trait discomfort: b = 0.17, 95% CI [0.11, 0.24], $t(155) = 5.08$, $p < .001$; T2 state discomfort: b = 0.13, 95% CI [0.07, 0.18], $t(155) = 4.27$, $p < .001$. Furthermore, the quadratic relationship with T1 trait discomfort remained significant when adjusting for T2 state discomfort (b = 0.14, 95% CI [0.07, 0.22], $t(153) = 3.81$, $p < .001$). However, the quadratic relationship with T2 state discomfort was no longer significant when adjusting for T1 trait discomfort (see Table 2). Sensitivity analyses indicated we had 99% power to detect a relationship with T1 trait discomfort and 75% power with T2 state discomfort.

Behavioral Measures. We next explored the behavioral measures of allyship. We first tested the relationship between collective discomfort and likelihood of volunteering. We found significant and positive linear relationships with collective discomfort on likelihood of volunteering—T1 trait discomfort: $b = 0.50$, 95% CI $[0.29, 0.73]$, $z = 4.45$, $p < .001$; T2 state discomfort $b = 0.61$, 95% CI $[0.39, 0.87]$, $z = 5.07$, $p < .001$. Contrary to predictions, we found no quadratic relationships between discomfort on likelihood of volunteering—T1 trait discomfort: $b = 0.09$, 95% CI $[-0.06, 0.24]$, $z = 1.11$, $p = .265$; T2 state discomfort: $b = -0.02$, 95% CI $[-0.15, 0.12]$, $z = -0.31$, $p = .753$. Only the linear relationship between T2 state discomfort remained significant when

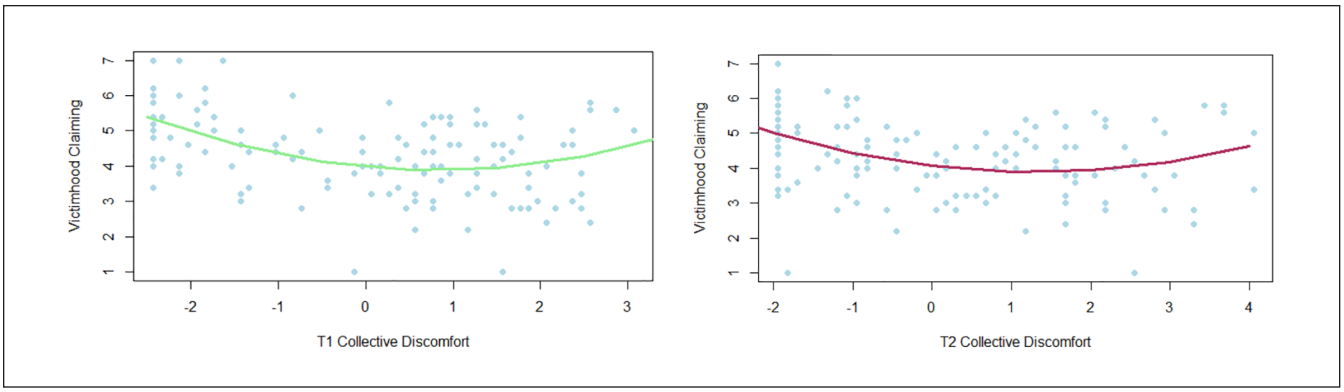

Figure 9. The Quadratic Relationship Between Collective Discomfort and Victimhood Claiming.

both state and trait discomfort were included in the model (see Table 2). Sensitivity analyses indicated we had 43% power to detect a relationship between trait discomfort and 81% power of state discomfort.

Finally, we tested the relationship between collective discomfort and time spent reading about privilege. Interestingly, we found a significant and negative linear relationship between T1 collective discomfort and T2 time spent reading about privilege, T1 trait discomfort: $b = -6.99$, 95% CI $[-12.83, -1.14]$, $t(56) = -2.39$, $p = .020$, but no relationship with T2 state discomfort: $b = -5.39$, 95% CI $[-12.12, 1.34]$, $t(56) = -1.60$, $p = .114$. We found no quadratic relationships between discomfort and time spent reading about privilege—T1 trait discomfort: $b = 0.30$, 95% CI $[-3.84, 4.43]$, $t(56) = 0.14$, $p = .887$; T2 state discomfort: $b = 1.33$, 95% CI $[-1.78, 4.44]$, $t(56) = 0.86$, $p = .394$. These linear relationships lost significance when both state and trait discomfort were included simultaneously in the model and no quadratic relationships emerged (see Table 2). Given that so many participants chose not to complete the additional study, sensitivity analyses indicated we had only 1% power to detect a relationship with T1 trait discomfort and 11% power with T2 state discomfort.

Discussion

Using a time-lagged, pre-registered design, we replicate our predicted curvilinear relationships between collective discomfort and defensiveness (both stigma reversal and victimhood claiming) with T1 trait discomfort. Evidence for allyship engagement was more mixed: following Studies 1–2, we again found linear relationships between collective discomfort and allyship intentions, but diverging from Studies 1–2, we did not find evidence of curvilinear relationships. Finally, we found limited evidence regarding allyship behaviors. We found that higher discomfort was significantly associated with more likelihood of volunteering (for an extra study about racial equity) but, in turn, less time spent learning about privilege (within the context of that same study). No quadratic relationships emerged, although we find it suggestive that participants higher in discomfort volunteered; among this relatively high-discomfort set, discomfort was associated with less time spent. Nevertheless, this may have been because our sample was relatively small to capture such relationships, especially given participants had to first volunteer to then complete the learning measure. Thus, we moved to replicate with a larger sample.

Study 3b

We aimed to replicate and extend Study 3a with a larger sample to ensure appropriate power for our main tests. We maintained the lagged design in Study 3a but included measures of trait and state discomfort at both T1 and T2 to test for autoregressive relationships (regressing dependent measures on T2 collective discomfort while controlling for T1 collective discomfort) to get closer to probing causality (Shojaie & Fox, 2022). Study 3b was pre-registered prior to data collection (https://aspredicted.org/VM9_3SN).

Methods

Participants. We recruited 1,500 participants from Prolific Academic to participate in a study on their attitudes and perceptions. Given Prolific's data-screening processes, we did not remove any participants based on location or IP address as we did in Study 3a. Of those who completed T1, 1,486 participants finished and were invited to complete T2. Time 2 was left open for 1 week before closing. Of these, 1,439 (96.84%) completed the follow-up study at T2.

Measures. Participants completed measures of collective discomfort (state $\alpha = .96$; trait $\alpha = .96$), allyship intentions ($\alpha = .87$), stigma reversal, victimhood claiming ($\alpha = .89$), volunteering, and learning as in Study 3a.[6]

We also included two additional behaviors. First, we told participants there was an allyship pledge being circulated that they could sign with their Prolific ID. Participants could indicate yes or no as to whether they pledged to be an ally for racial equality. Finally, we asked participants how much

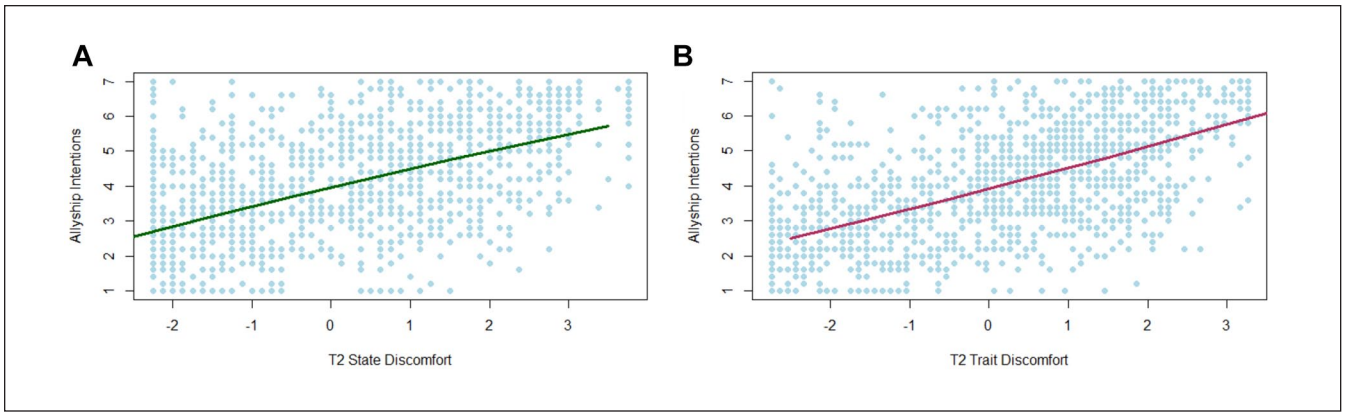

Figure 10. The Quadratic Relationships Between Collective Discomfort and Allyship Intentions.

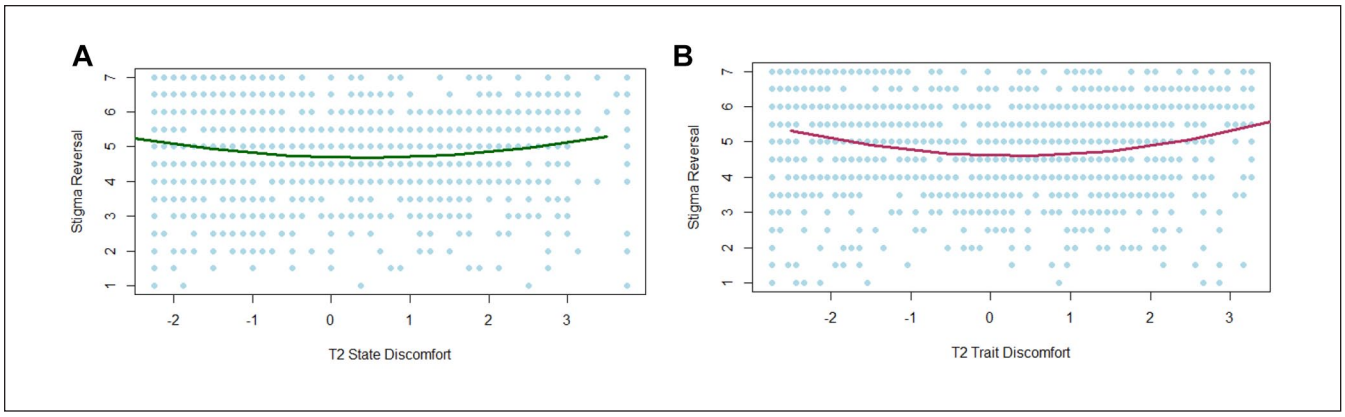

Figure 11. The Quadratic Relationship Between Collective Discomfort and Stigma Reversal.

money they would be (hypothetically) willing to donate to organizations working to end racial inequality. Recommended donations were winsorized to account for outliers.

Results

To test our predictions, we mean-centered collective discomfort. We simultaneously regressed each dependent variable (DV) on both the linear and quadratic terms for each measure of T2 collective discomfort (trait and state). Finally, we ran a model that simultaneously tested the linear and quadratic term for T2 collective discomfort and the linear term for T1 collective discomfort to test the effects of T2 discomfort while controlling for T1 (both linear and quadratic) terms. For results with T1 collective discomfort, see OSM.

To confirm the attrition was not correlated with collective discomfort, we first tested whether there were any differences in dropouts. As in Study 3a, we found no differences between dropouts based on T1 collective discomfort ($ps > .17$).

Replicating Studies 1–3a. We then tested the relationships with allyship intentions (See Figure 10). As expected, we found significant and positive linear relationships between discomfort measures (T2 state and trait) and allyship intentions, all $ps < .01$. However, we found no quadratic relationships with any measure of discomfort. Sensitivity analyses indicated we had 99%–100% power for all analyses. The linear relationships with T2 discomfort remained significant when adjusting for T1 discomfort (trait: $b = 0.36$, 95% CI $[0.28, 0.45]$, $t(1,345) = 8.19$, $p < .001$; state: $b = 0.39$, 95% CI $[0.34, 0.47]$, $t(1,358) = 12.08$, $p < .001$); no quadratic relationships emerged.

We found significant and negative linear relationships between collective discomfort and stigma reversal (See Figure 11)—T2 state discomfort: $b = -0.08$, 95% CI $[-0.12, -0.03]$, $t(1,345) = -3.54$, $p < .001$; T2 trait discomfort: $b = -0.07$, 95% CI $[-0.11, -0.03]$, $t(1,342) = -3.32$, $p < .001$. As predicted, we found significant, positive quadratic relationships between all measures of discomfort and stigma reversal—T2 state discomfort: $b = 0.06$, 95% CI $[0.04, 0.09]$, $t(1,384) = 4.89$, $p < .001$; T2 trait discomfort: $b = 0.09$, 95% CI $[0.07, 0.12]$, $t(1,381) = 7.43$, $p < .001$. Sensitivity analyses indicated we had 99%–100% power for all analyses. The quadratic relationship with T2 discomfort remained significant when adjusting for T1 discomfort (trait: $b = 0.09$, 95% CI $[0.01, 0.13]$, $t(1,346) = 7.21$, $p < .001$; state: $b = 0.07$, 95% CI $[0.02, 0.11]$, $t(1,359) = 5.53$, $p < .001$).

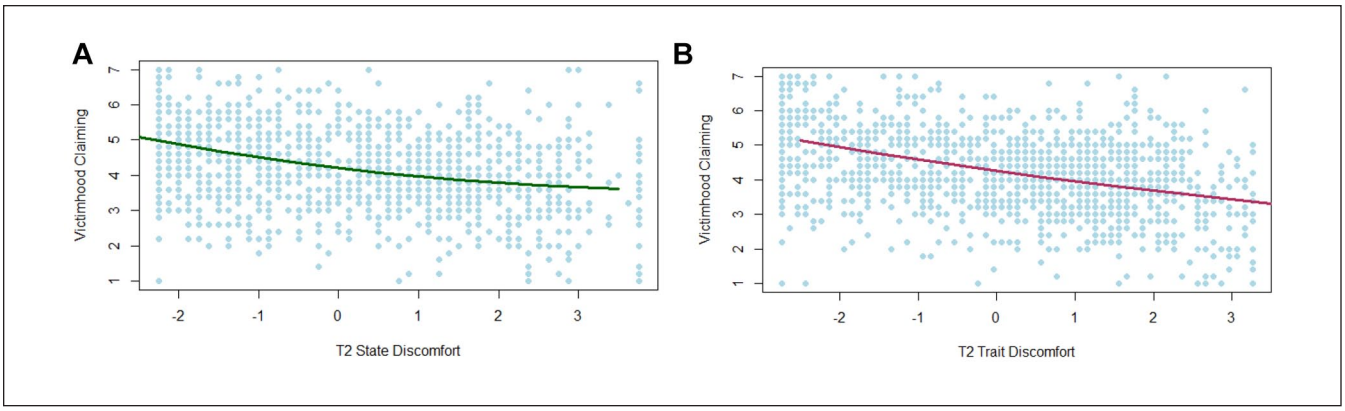

Figure 12. The Quadratic Relationship Between Collective Discomfort and Victimhood Claiming.

We found significant and negative linear relationships between measures of discomfort and victimhood claiming (See Figure 12)—T2 state discomfort: $b = -0.27$, 95% CI $[-0.31, -0.24]$, $t(1,345) = -15.15$, $p < .001$, T2 trait discomfort: $b = -0.31$, 95% CI $[-0.35, -0.28]$, $t(1,342) = -18.47$, $p < .001$. As predicted, we found significant, positive quadratic relationships between T2 state discomfort and victimhood claiming (T2 state discomfort: $b = 0.03$, 95% CI $[0.01, 0.05]$, $t(1,384) = 2.81$, $p = .005$); however, the relationship between T2 trait discomfort and victimhood claiming did not reach significance (T2 trait discomfort: $b = 0.01$, 95% CI $[-0.01, 0.03]$, $t(1,381) = 1.30$, $p = .194$). Sensitivity analyses indicated we had 99%–100% power for all analyses. The quadratic relationship with T2 state discomfort remained significant when adjusting for T1 state discomfort, $b = 0.03$, 95% CI $[-0.01, 0.06]$, $t(1,359) = 2.79$, $p = .005$, while the quadratic relationship with T2 trait discomfort still was not significant when adjusting for T1 trait discomfort, $b = -0.01$, 95% CI $[-0.05, 0.01]$, $t(1,346) = 1.09$, $p = .273$.

Replicating Study 3a: Behavioral Measures. We first tested the relationship between collective discomfort and likelihood of volunteering. Replicating Study 3a, we found significant and positive linear relationships between collective discomfort and likelihood of volunteering, T2 trait discomfort: $b = 0.20$, 95% CI $[0.14, 0.26]$, $z = 6.11$, $p < .001$; T2 state discomfort $b = 0.17$, 95% CI $[0.10, 0.23]$, $z = 5.00$, $p < .001$. Contrary to predictions, we found no or marginal quadratic relationships between discomfort and likelihood of volunteering, ps $> .09$. Sensitivity analyses indicated we had 99%–100% power for all analyses. When adjusting for T1 discomfort, we maintained a marginal quadratic relationship between volunteering and T2 trait discomfort: $b = 0.03$, 95% CI $[0.00, 0.09]$, $z = 1.77$, $p = .07$. No quadratic relationships emerged for T2 state discomfort: $b = 0.01$, 95% CI $[-0.06, 0.04]$, $z = 0.33$, $p = .738$.

Contrary to Study 3a, we found significant *pos*itive linear relationships between discomfort and time spent reading about privilege—T2 trait discomfort: b = 6.22, 95% CI [2.53, 9.92], $t(615) = 3.31$, $p = .001$; T2 state discomfort b = 5.66, 95% CI [1.84, 9.47], $t(618) = 2.91$, $p = .004$. Those higher in collective discomfort spent more time (rather than less) reading an essay about White privilege. There were no quadratic relationships with time spent reading about privilege. Given that many participants chose not to complete the additional study, sensitivity analyses indicated we had only 1%–12% power to detect a significant relationship. No quadratic relationships emerged when adjusting for T1 collective discomfort, ps $> .62$.

Additional Behavioral Measures. Interestingly, we found a significant and negative linear relationship between collective discomfort and likelihood of signing the allyship pledge—T2 trait discomfort: b = −0.67, 95% CI [−0.77, −0.59], $z = -15.10$, $p < .001$; T2 state discomfort b = −0.62, 95% CI [−0.70, −0.54], $z = -15.13$, $p < .001$. Furthermore, we found significant and positive quadratic relationships between state discomfort and likelihood of signing the allyship petition, T2 state discomfort b = 0.06, 95% CI [0.01, 0.11], z = 2.28, $p = .022$, but no relationship with trait discomfort, $p = .161$. Sensitivity analyses indicated we had 99%–100% power for all analyses. However, the quadratic relationship with T2 discomfort was no longer significant when adjusting for T1 discomfort (state: b = 0.05, 95% CI [−0.02, 0.11], $z = 1.44$, $p = .151$), although the negative linear relationship remained significant.

Finally, as expected, we found significant and positive linear relationship between all discomfort measures and recommended donations, all ps $< .01$. Furthermore, as predicted, we found a significant, negative quadratic relationship between T2 measures of discomfort and recommended donations—T2 state discomfort: b = −0.35, 95% CI [−0.50, −0.20], $t(1,340) = -4.70$, $p < .001$; T2 trait discomfort: b = −0.19, 95% CI [−0.34, −0.05], $t(1,337) = -2.64$, $p = .008$. Sensitivity analyses indicated we had 99%–100% power for all analyses. The quadratic relationship with T2 state discomfort remained significant when adjusting for T1 discomfort (b = −0.34, 95% CI [−0.52, −0.15], $t(1,338) = -3.53$, $p < .001$). However, the quadratic relationships with T2 trait

discomfort were no longer significant when adjusting for T1 discomfort (b = −0.11, 95% CI [−0.33, 0.10], $t(1,327) = -1.03$, $p = .301$).

Discussion

In a high-powered study using a time-lagged design, we again replicate our predicted curvilinear relationships between collective discomfort at privilege and defensiveness. However, results are more robust regarding stigma reversal: In Study 3b, collective discomfort shows a curvilinear relationship with stigma reversal even when controlling for an individuals' previous levels of discomfort. For those below the tipping point (3a and 3b: ranging from 3.8 to 4.2 depending on the measure of discomfort), greater collective discomfort was associated with decreased stigma reversal, whereas the pattern reversed for those above the tipping point (see OSM). Regarding victimhood claiming, although we do find the predicted curvilinear relationship with discomfort, this does not hold when controlling for previous levels of discomfort. And, as in prior studies, the tipping point for victimhood claiming was much higher (3a and 3b: ranging 5.1–5.8), and we did not see the predicted increase in victimhood claiming above the tipping point.

Evidence of relationships with allyship engagement was more mixed: following Studies 1 and 2, we again found linear relationships between collective discomfort and allyship intentions, but diverging from Studies 1 and 2, we did not find predicted evidence of curvilinear relationships. As in prior studies, we found participants below the tipping point (3a and 3b: ranging from 5.2 to 5.7) reported greater allyship intentions, but unlike prior studies, we also found this remained true for participants above the tipping point. Regarding allyship behaviors, we found in both Studies 3a and 3b that collective discomfort had a positive, linear relationship with volunteering—those higher in discomfort were more likely to volunteer for an additional study about racial inequality. Then, among this restricted set, in Study 3a, we found evidence that higher discomfort was associated with less time spent reading about privilege (in the context of the volunteer study), but this pattern reversed in Study 3b, with a much larger sample of volunteers. However, when looking at recommended donations (measured only in Study 3b), we found our predicted curvilinear relationship. Collective discomfort was associated with greater money recommended, but these increases were smaller as discomfort approached high levels. Furthermore, we found that discomfort was associated with less likelihood of signing an allyship pledge. Thus, we more consistently find negative quadratic relationships between discomfort and hypothetical allyship, such as allyship intentions or recommended donation, and consistently find linear relationships—both positive and negative—for "real" behaviors.

General Discussion

Across four pre-registered studies, using a variety of measures, we test for evidence of curvilinear relationships between psychological discomfort and responses to racial inequity. First, and consistent with prior research (R. Brown et al., 2008; Iyer et al., 2007; Leach et al., 2006; Powell et al., 2005), we find significant linear relationships between collective discomfort and allyship intentions. White Americans who reported higher levels of guilt and shame regarding racial inequity were more likely to engage in allyship (Studies 1–3b). Our results in Studies 1 and 2 suggest that, at higher levels, discomfort is no longer necessarily associated with greater allyship intentions, as we see smaller or non-significant relationships above the tipping point. However, we do not replicate these results in Studies 3a and 3b using an autoregressive design, which suggests discomfort may simply be linearly associated with allyship intentions (no diminishing returns). In Studies 3a and 3b, we also extend from intentions to behaviors, and again find mostly linear relationships with discomfort. However, in Study 3b, we find evidence of diminishing returns of collective discomfort on recommended donations. Altogether, this suggests discomfort has mostly linear relationships with engagement in allyship but may have different kinds of relationships depending on the particular engagement opportunity at hand. This highlights the importance of studying different kinds of allyship behaviors, especially those varying in time and privacy (De Souza & Schmader, 2024).

Furthermore, and again consistent with prior research (Saguy et al., 2013; Sullivan et al., 2012), we find significant linear relationships between collective discomfort and defensive attitudes, such as stigma reversal and victimhood claiming. White Americans who reported lower levels of collective discomfort regarding inequity are more likely to respond defensively to information about privilege by claiming they were unfairly perceived as biased because of their race (Studies 1–3b). However, moving beyond prior work, we also find significant positive quadratic relationships: both lower *and* higher levels of discomfort were associated with increased defensiveness as compared to those who reported moderate levels of discomfort (Studies 1–3b). We found similar relationships for our other defensive variable, victimhood claiming (Studies 1–3b), although our supplemental interrupted regression results suggest this relationship may be less robust than that with stigma reversal. This again highlights the importance of studying different kinds of defensive reactions simultaneously.

Together, our results provide greater insight into the nuanced relationship between collective discomfort and effort to reduce inequity. We see that discomfort is associated with defensive reactions. For instance, from low to moderate discomfort, we see a negative relationship between discomfort and stigma reversal, consistent with previous work. However, at approximately the midpoint, the relationship

becomes positive instead, supporting our theorizing. Regarding allyship, discomfort most often showed linear relationships, but sometimes these relationships were positive (volunteering for extra study on racial equity) and sometimes negative (e.g., signing pledge)—and in the case of recommended donations, curvilinear with diminishing returns. Here, the longitudinal results raise questions about the direction of causality (e.g., it is possible that those who report greater defensive attitudes may come to feel discomfort about these beliefs), which future work might explore in more detail. Nevertheless, these results reveal previously unexplored tensions in allyship by highlighting the distinct relationships discomfort can have with both allyship and defensiveness.

Theoretical Implications

Theoretical work on allyship has suggested that psychological discomfort regarding privilege can engage dominant group members in inequity-reduction efforts, yet this work has also highlighted that acknowledgment of privilege is often threatening for those same individuals (Chrobot-Mason et al., 2020; Iyer et al., 2003; Thomas et al., 2009). While prior research has explored both positive consequences of discomfort on support for inequity-reduction (R. Brown et al., 2008; Goldenberg et al., 2014; Iyer et al., 2007; Leach et al., 2006; van Leeuwen et al., 2013) and the potential limitations of these emotions for motivating long-term behavioral engagement in allyship (Case, 2012; Gausel et al., 2012; Harth et al., 2008; Iyer et al., 2003), ours is the first work to our knowledge to explicitly test a curvilinear model of discomfort. As such, we show how the same emotional responses (i.e., guilt and shame) can be associated with both greater support for allyship and greater defensiveness surrounding existing structural inequities.

In addition, by focusing on the intensity of these emotional responses, this work highlights the previously unexplored possibility that people who feel high levels of psychological discomfort may respond to inequity in ways similar to those who feel little discomfort. This may be counterintuitive, since, to feel high levels of discomfort about inequity, dominant group members must (implicitly) acknowledge that inequities are present and that they may benefit from them. Importantly, however, we explored types of defensiveness that are compatible with acknowledgment of inequity, such as concerns about future treatment of dominant group members and claims of in-group disadvantage. These defensive-without-explicitly-denying behaviors may reflect modern manifestations of racial backlash. For instance, while many White Americans now denounce explicit racism and even acknowledge that Black Americans are systemically disadvantaged (Hamby, 2020; Pew Research Center, 2020), there remains resistance toward the notion that all White Americans are inherently privileged (Onyeador et al., 2021; Puryear et al., 2020; e.g., Individual Freedom Act, 2022; "Executive order on combating race and sex stereotyping, 13950," 2020). However, to achieve social equity, scholars have suggested it is important for those with privilege to acknowledge and recognize that systemic advantages exist and that they benefit from them (Scully et al., 2018).

Finally, we highlight that high discomfort may be associated with behaviors that can inhibit dominant group members' engagement in allyship. Given the nature of structural inequities and the concentration of power and privilege, there are motivated reasons why the dominant cultural narrative focuses on disadvantage, rather than privilege (Jun et al., 2022); privilege framing is uncomfortable for dominant group members, hurts their self and group esteem (Lowery et al., 2007; Powell et al., 2005), and contradicts their perceptions of American culture as equal and meritocratic (Chrobot-Mason et al., 2020; Knowles & Lowery, 2012). However, given the rise of attention on privilege, our work highlights the need to understand and manage dominant group members' reactions to the privilege narrative as well. Our results suggest that discomfort may have consequences for other behaviors, like defensiveness, that may ultimately undermine allyship behavior in their effort to reduce inequity.

Practical Implications

Interventions aimed at motivating allyship increasingly rely on "privilege training" to increase dominant group members' awareness of inequity (LeanIn Foundation, 2020). However, these trainings have recently come under fire, to the point that they have been banned under the guise of sowing divisiveness and lack of patriotism (e.g., Florida's Stop W.O.K.E. Act; Individual Freedom Act, 2022). As discussed, such laws ban programs that include concepts like privilege by arguing they may increase dominant group members' feelings of psychological discomfort, such as guilt, shame, or distress. This is consistent with our theorizing that high levels of psychological discomfort may be associated with backlash. To avoid the uncomfortable feelings associated with recognition of privilege and inequity, dominant groups can disengage when the feelings get too strong, avoiding the topic rather than acknowledging their role in systemic inequities. However, doing so allows the status quo of structural inequity to persist. Thus, a major goal for those aiming to reduce structural inequity might be avoiding dominant group member disengagement, as a critical precursor to motivating long-term allyship.

One goal of this work was to help practitioners who were exposing potential allies to discomfort understand possible unintended consequences. We found mixed evidence of a curvilinear relationship between discomfort and allyship intentions (present in Studies 1 and 2, absent in Studies 3a and 3b), suggesting that greater discomfort may be associated with greater allyship but with limits. Moreover, our other results also show how high discomfort can be

associated with defensive responding. It is important for practitioners to know that there may be different consequences of increasing discomfort—perhaps on allyship intentions, but also on defensiveness—and we would encourage practitioners to keep their goals and these two outcomes in mind. Future work might consider a wider range of such outcomes.

This work also highlights complexity beyond a binary of "ally" or "non-ally." That is, participants who feel either low or high discomfort at privilege may show similar defensive responses, despite fundamentally different beliefs surrounding inequity (ignorance vs. awareness). Therefore, while it is often necessary for dominant group members to acknowledge their privilege to become allies, doing so in a way that promotes high levels of guilt, shame, and discomfort without also providing opportunities to manage and overcome these emotions are unlikely to be successful. Trainings may need to be tailored to participants' pre-existing level of comfort with privilege (i.e., levels of ally or White identity development; Edwards, 2006; Helms, 1984). Rather than a one-size-fits-all intervention, it may be more effective to incorporate different levels of privilege exposure for people who feel low, moderate, or high levels of discomfort.

Limitations and Future Directions

One major limitation of our studies is that we do not find causal evidence for our relationships; that is, it is possible that rather than discomfort predicting allyship intentions or defensive attitudes, intentions and attitudes may instead predict discomfort. For instance, many allyship activities involve educating oneself about ongoing inequities or having discussions with people with different perspectives, and it is certainly possible that the more one engages with this work, the more discomfort they may feel. Likewise, one may grow increasingly uncomfortable with their beliefs if they contradict a dominant socio-cultural narrative (i.e., White people may genuinely feel that their lives have been filled with hardships but may feel uncomfortable saying that given the cultural conversation about systemic hardships). It is also important to note that, while discomfort may be associated with allyship or defensiveness, it may be another variable, such as moral attitudes or perceived efficacy, that may ultimately lead to behavioral engagement. Although we attempt to resolve this in Study 3b, using a lagged design and autoregressive analyses, future research is needed to determine causality.

Throughout our studies, we conceptualize psychological discomfort in response to privilege in a generalized way. Supporting this, we find similar relationships between trait and state measures of collective guilt and shame, as well as high correlations between these variables. However, previous theorizing at the individual level might suggest that guilt specifically epitomizes the tension that dominant group members likely face when exposed to their privilege: Guilt forces people to reflect on their behavior and is typically associated with engagement in action (Baumeister et al., 1995; Cohen et al., 2011; Xu et al., 2011). This is distinct from shame, which forces people to reflect on themselves and is typically associated with withdrawal (Cohen et al., 2011; Tangney, 2005). One reason we find relationships across these otherwise distinct indicators may be that we focus on discomfort regarding group-based privilege and the mere existence of unfair inequities, as opposed to specific behavior or in-group transgression (Goldenberg et al., 2014; Iyer et al., 2007; Leach et al., 2006; Wohl et al., 2006). Thus, our results suggest that in the absence of a tangible behavior over which to feel guilty, guilt and shame may be more similar. However, future research might consider when collective guilt and shame may differ, such as when privilege trainings incorporate specific references to historical transgressions versus ongoing inequities (Hideg & Wilson, 2020), or focus on individual versus structural inequity (G. Adams et al., 2008; Rosette & Koval, 2018).

Our use of multiple measures of discomfort across different times allows us to highlight consistency: Our results appear consistent across both state and trait measures, using both cross-sectional and lagged designs. Importantly, we also find that our quadratic relationships hold when adjusting for political ideology or social dominance orientation (SDO). And, perhaps surprisingly, we find no consistent evidence for moderation by SDO (see OSM). The consistency of our findings also presents limitations: of particular note, the relationship was resistant to a number of interventions that we attempted in a series of follow-up studies not presented here. For one, we were unable to consistently manipulate participants' feelings of collective discomfort into low, moderate, and high levels, limiting our ability to make experimental claims regarding discomfort. We also tested potential interventions; for instance, since responses to privilege can be motivated by self-concerns (Knowles & Lowery, 2012), we tried a self-affirmation intervention, and yet our curvilinear relationships persisted (see OSM). Future research should continue to explore additional interventions to shift the potential impacts of high discomfort.

Future work might also explore a wider range of downstream consequences, including more allyship behaviors, to better clarify the role of discomfort. For instance, although collective discomfort positively predicted willingness to volunteer for an extra study regarding racial equity, this is not an especially prototypical allyship behavior and may reflect time or sense of efficacy (van Zomeren et al., 2013) more than engagement. Collective discomfort was also associated with *de*creased likelihood of signing an allyship pledge, which serves as a quick action that allies can take; perhaps because it was public and thus costly, or alternatively perhaps because it felt performative (Kutlaca & Radke, 2023). Although curvilinear relationships with discomfort appeared for allyship intentions (Studies 1 and 2) and recommended donations (Study 3b), these were

hypothetical measures—participants could name any amount regardless of their means—and not as robust as the curvilinear relationships for defensive variables. Moreover, given the funneling design we used—in which participants must agree to proceed to continued allyship tasks—most participants never saw some of our behavior measures, limiting our power to detect relationships. Altogether, if the goal is to increase allyship behaviors, it will be important to know behaviors targeted specifically to determine whether greater discomfort could help or hurt.

Conclusion

As allies, dominant group members can play a critical role in reducing structural inequity (Chrobot-Mason et al., 2020). People care about equity (J. S. Adams, 1965), but they are more likely to act when they believe inequity impacts them personally; yet, for those protected by privilege, this is much less likely to happen. Dominant group members, buffered from the daily impacts of structural inequities by their privilege, can end their engagement in allyship at any time if it becomes "too much." Learning to manage discomfort at one's own privilege will be a challenge for dominant group members as they become allies. Thus, those working to reduce structural inequity might focus on ensuring dominant group members do not let discomfort keep them from fighting for greater equity.

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Supplemental Material

Supplemental material is available online with this article.

Notes

1. Of course, this assumes the goal is to increase dominant groups' engagement in allyship, which is not always the goal! It is possible that maximizing discomfort may lead to other positive consequences for the out-group, like increasing trust in allies.
2. Results hold when controlling for political ideology. Moreover, political ideology does not moderate our relationships, in this or any of our studies. Thus, we do not discuss it further.
3. We also measured state anger, as in the study by Iyer et al. (2007), but did not anticipate the same results, given prior research on the distinctions between guilt, shame, and anger. Given our interest in self-focused emotions and following our pre-registered hypotheses, we did not consider anger in our main text analyses (see OSM).
4. We pre-registered that we would analyze results with guilt and shame as separate predictors. Based on the confirmatory factor analyses model fit statistics, the three-factor model separating guilt, shame, and anger is the best fit for the model. However, the two-factor model, which combines guilt and shame and keeps anger separate, is also an appropriate fitting model and fits with prior literature (e.g., Iyer et al., 2003). For ease of reading and for theoretical clarity, we present results here with guilt and shame combined ("collective discomfort") but replicate all results with separate guilt and shame as pre-registered (presented in the OSM).
5. As described in our pre-registration, we also included exploratory indicators of discomfort: threat of group contact and general guilt and shame proneness. We found marginal differences between participants who dropped out of the study after T1 and participants who completed T2 on these two measures; nevertheless, the linear and quadratic relationships between these variables on defensiveness and engagement were marginal but mirrored results with our main indices of discomfort (see OSM). We also explored potential ideological (acknowledgment of privilege, social dominance orientation) and intrapsychic (equity sensitivity, self-esteem) moderators. All results remain the same when controlling for these variables, and we find no consistent moderation for any of these variables (see OSM). We included exploratory indicators of defensiveness: reverse racism concerns and opposition to political correctness. We replicate all relationships with these measures and so, to save space, report results in the OSM. Finally, we included additional allyship behaviors within the voluntary study: number of privileges listed and decision to participate in a conversation about racial inequality. We found null results for these variables (see OSM).
6. We also measure social dominance orientation ($\alpha = .91$) to test for moderation. See OSM for results.

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