# Confronting Inequity: How Perceptions of Relative group Advantage vs Disadvantage Shape Reactions to Race-based Disparities.

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# Declaration

The research for this thesis was conducted while the author was a full-time postgraduate student in the School of Psychology at the University of East Anglia, Norwich (October 2021 - September 2025) on a studentship from the University of East Anglia.

The author has not been awarded a degree by this university or any other university for the work included in this thesis. The theoretical and empirical work herein is independent work and confirms that this work fully acknowledges opinions, ideas and contributions from the work of others.

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# Abstract

Across three studies, this dissertation examines individual differences and contextual conditions under which people from high-status groups engage with information about structural disparities between groups, how they react emotionally, and how these processes predict support for equity initiatives and policies. Although I expect that the theoretical ideas tested here may extend to instances of inequity between various types of groups (e.g., gender, ethnic, political), I focused specifically on the domain of race-based economic inequities in the United States. In the first empirical chapter, I developed a simple measure of relative racial (dis)advantage perceptions that allowed for a direct comparison of people's acknowledgement of White advantage and Black disadvantage and quantified the relative gap between the two. Notably, relative racial (dis)advantage perception was consistently one of the strongest predictors of outcome variables like engagement with the topic, support for various equity interventions, and feelings of guilt and sympathy, across all studies. In the next chapter, I examined how malleable the (dis)advantage measure was. After reading about racial inequity, people did increase the magnitude of their relative (dis)advantage perception. This change was primarily driven by adjusting views of how disadvantaged Black Americans were. In the third chapter, I examined the interplay between individuals' preexisting perceptions of relative (dis)advantage, framing information about inequity as White advantage vs. Black disadvantage, and framing of interventions. Lastly, I investigated whether people were accurate in their predictions of their emotional reaction to reading about racial inequity, or if they would overestimate the intensity of the negative emotions. The results confirmed the latter. Overall, this thesis contributed to the understanding of perceptions of racial inequity and demonstrated their importance, how they change after infor-

mational interventions, and how they (do not) interact with (dis)advantage frame manipulations, and showed the relevance of affective forecasting in information and inequity research.

*Keywords:* disadvantage, advantage, structural racial inequity, affective forecasting, information frames.

# Contents

# List of Tables

# List of Figures

# Chapter 1

# Introduction and Literature review

Structural inequities are ubiquitous today, and they inflict innumerable psychological, physical and economic harms on individuals and society. Examining inequity from a social psychological perspective, this research examines the mechanisms underlying engagement with information and feelings about structural inequities, especially in dominant or high-status groups. These groups often remain resistant to accepting both the premise of structural inequity as well as attempts to address it and can act as gatekeepers of change (Bosley et al., 2014; National Academies, 2023)). This dissertation examines individual differences and contextual conditions under which people from high-status groups engage with information about structural disparities between groups, how they react emotionally, and how these processes predict support for equity initiatives and policies.

When conceptualising disparities between groups, one can consider both advantages and disadvantages- some groups might have more than their fair share, and some groups might have less. While these two scenarios usually co-occur, there is a meaningful psychological distinction between the two, as individuals can focus on one or the other and react accordingly. Most psychological research on framing inequality has measured participants' perceptions of one or the other (e.g. the degree to which they believe in White privilege, or the degree to which they acknowledge poorer outcomes for minorities) but not both, or manipulated such frames by inducing one or the other (e.g. men earn 20% more than women vs. women earn 20% less than men). We could not find a study where people's perceptions of one group's advantage were directly measured and compared relative to perceptions of another

group's disadvantage. Such a measure would facilitate research on whether these are equivalent mindsets, or whether people conceptualise the two differently.

Given the importance of framing inequality in terms of advantage vs. disadvantage in the media (with the disadvantage frame being dominant- Jun et al., 2022) and when using persuasive messaging (with most research on the topic manipulating frames), it is similarly important to examine a host of empirical questions about how people naturally construe inequality. Being able to directly compare people's naturalistic perceptions about one group's advantage vs another group's disadvantage allows us to answer several important questions. How do people naturally construe the gap between advantaged and disadvantaged groups? Do people who accept one premise (e.g. White advantage), automatically assume the same level of the other (i.e., how strongly are the perceptions correlated)? Does one perception feed into overall views of inequality more than the other (e.g., relative predictive power)? What attitudes or beliefs (e.g., social dominance orientation, just world beliefs, conservatism) predict the tendency to endorse one particular view or the other?

Do individual differences in perceptions of inequality as majority group advantage vs. minority group disadvantage predict important outcomes (like interest in reading about inequality, emotional reactions to inequality, support for interventions that can reduce inequality) over and above other known predictors of these outcomes? Do such individual differences in (dis)advantage perceptions alter (i.e., moderate) susceptibility to experimentally imposed communication frames? Are they malleable in the face of information about inequality (e.g., do these views themselves change over time)? Learning what best predicts how and when people's perceptions of inequity change, and whether this impacts their support for interventions, could help create more tailored and effective interventions.

However inequality is framed in natural thought and in communications, the topic is known to arouse intense emotions among high status group members (Di-

Angelo, 2018; Dover, 2022; Kendi, 2020; Knowles, et al., 2014; Shuman et al., 2024). Thus, alongside important outstanding questions about framing, there are similarly important questions about the emotional mechanisms associated with advantage/disadvantage frames – both in terms of anticipatory resistance to thinking about the issue (and approaching or avoiding it as an emotionally charged topic; e.g., Dorison et al., 2019; Gross, 2014) as well as actual emotional reactions when confronting the issue. This research therefore also examined the roles of anticipated and actual emotions (e.g., Wilson & Gilbert, 2003). Do people accurately anticipate the emotions they may feel when considering the prospect of reading about racial inequality? What kinds of anticipated emotion make engagement more or less likely? How do mispredictions of emotions (e.g., stronger anger, guilt, sympathy) relate to support for policies addressing inequality? Understanding what makes people engage in or avoid a topic could have important implications for future interventions that require people's willingness to become (and stay) engaged in the problem.

This research considered the frames (naturally occurring and imposed) and emotions (anticipated and actual) involved in resistance to confronting inequality among majority group members. These variables gave rise to a rich array of novel research questions to examine, all of them formulated to explore processes underlying reactions to thinking about group inequities and, ultimately, with the aim of identifying ways to overcome majority group members' resistance to acknowledging and committing to reduce inequality. Although I expect that the theoretical ideas tested here may extend to instances of inequality between various types of groups (e.g., gender, ethnic, political), I focused specifically on the domain of race-based economic inequities in the United States. The following sections will elaborate on the context and research background that led to these theoretically-informed research questions and their operationalisation.

## Context and relevance

Economic and social inequalities are currently among the most important problems the world faces. The top 10% wealthiest people now control 74% of the world's wealth (Global Inequality Index, 2024). In the last several years, billionaires have made almost twice as much money as 99% of the world's population combined, while for most people, inflation is outpacing income (Christensen et al., 2023). These economic disparities can also worsen other inequalities: the wealth gap between men and women has been growing since the 1990s (Lee, 2022), and the wealth gap between White and Black households has also steadily grown more extreme since 2010, peaking in 2022 (Perry et al., Jan 9th, 2024).

Experts argue that the world is currently (in 2026) in a time of polycrisis (Delannoy et al., 2025; Menon, 2023): food and energy, debt, climate, cost-of-living, and political instability and social unrest are currently all urgent global issues. That growing economic inequality coincides with these issues is most likely not a coincidence. Crises tend to be especially problematic for vulnerable or excluded nations and groups, since they tend to exacerbate and be exacerbated by existing inequities. Conversely, nations and individuals that are wealthier and healthier have greater protection against the effects of crisis and are likely to be relatively less impacted by) growing inequality or even benefit from them (Carpenter, 2023) and so disparities continue to become more extreme, which then fuels additional problems. The psychological dynamics underpinning reactions to and by these distinct groups in the context of inequality are thus all the more important to understand.

In the United States, the historical context and culture have led to a highly racialised society (Banaji et al, 2021), and therefore large disparities exist between racial groups. White Americans have enjoyed relatively greater economic, legal, and social, success, and have had greater access to housing and healthcare markets. Meanwhile, other racial and ethnic groups, particularly Black Americans descended from the system of chattel slavery, have been historically excluded from the same,

which led to greater disparities that are still present today (Banaji et al., 2021).

Systemic inequalities have consequences not only for economics but for psychological health, interpersonal connection, and for the fabric of society. Wilkinson and Pickett (2009) posited that economic inequality in a society will engender worsening mental illness, subjective wellbeing, interpersonal violence, and social trust. This is borne out by recent research. Kelley and Evans (2017) found that inequality led to lower levels of health and reduced social harmony. Analysis of General Social Survey data from 1972-2008 showed that Americans were on average less happy when income inequality was higher (Oishi et al., 2011). This was driven by lower-income respondents, and was explained not by lower household income, but by perceptions of unfairness and lack of trust.

Meanwhile, inequality is associated with people from higher social classes becoming less emotionally intelligent (Schmalor & Heine, 2022) and less generous (Cote, et al., 2015). A review of inequality research (Peters & Jetten, 2022) demonstrated that, in an unequal society, people because more aware of and anxious about their status and engage more in competition for power and rank. This also leads to a rise in stereotyping and intergroup conflict and can damage supportive social engagement and shared values. As disparities grow and outcomes for groups trend towards zero-sum (e.g. growing wealth becomes exploitative), different groups, but particularly high-status ones, tend to espouse stronger zero-sum beliefs, which also makes them more sensitive (and resistant) to attempts to encourage equality (Wilkins, et al., 2014).

In the context of race, where there is a large income gap between Black and White Americans, both groups perceived more competition in their city, reported more competition between each other, higher discrimination, and lower levels of interracial trust (Gordils et al., 2020). Such effects can compound and threaten the structure of society. As inequality goes up, trust in and commitment to democratic governance goes down (Pickett et al., 2024). Historical analysis shows that economic

inequality is one of the strongest and most robust predictors of the erosion and collapse of democracy (Rau & Stokes, 2024; Jetten et al., 2021). Given unprecedented levels of inequality and threats to democracy around the world, it has arguably never been more important to understand and mitigate structural inequity.

As illustrated by the findings above, psychology as a field has recently started paying more attention, presumably in reaction to recent inequality growth (but perhaps also because of increasing representation and diversity -and therefore awareness- in those doing psychology research). From 2011 to 2021, the frequency of psychology journal articles published that mentioned economic equality has gone up approximately 20%, and is accelerating (Peters & Jetten, 2022). This also marks a move away from solely individual-focused research like individual biases, and towards the rise of a socio-ecological perspective in psychology, focusing on the interplay between the individual and their social and physical environments (Uskul & Oishi, 2020). In keeping with this perspective, this thesis aims to shed new light on how individuals think about, engage with, and react to social and economic inequity.

## How is structural inequality conceptualised?

Much psychological research in the recent wave of work on inequality has considered how individuals perceive (and misperceive) structural inequality. Perceptions of economic inequality do seem to correspond moderately to the actual levels of inequality where people live (Peters & Jetten, 2022). Research has shown that people with lower socioeconomic status (SES) tend to hold more accurate perceptions. People with lower SES perceive higher levels of economic inequality than people with higher SES (Kiatpongsan & Norton, 2014), and Black people in the US are more accurate at gauging racial economic inequality and progress (or lack thereof) than White people are (Kraus et al., 2017).

However, regardless of social class, race or gender, people still tend to underestimate the degree of disparity within their society. Kiatponsgan and Norton (2014)

found that American participants underestimated the pay gap between CEOs and unskilled workers by a factor of ten. In 2016, a nationally representative sample of Americans underestimated the Black-White wealth gap by 80 percentage points (Kraus et al., 2019), and further research demonstrated that this tendency to overestimate racial wealth equality was highly robust against different contexts and frames (Kraus et al., 2021). It seems that people are prone to believing that there has been more progress towards equality than there actually is, possibly out of a motivation to believe that society is fair, though a reminder to consider the sustained level of structural discrimination minorities face can make wealth equality estimates less inaccurate. However, one study attempted to improve the accuracy of White Americans' perception of racial progress by reminding them about the persistence of racial disparities; this led participants to reduce their estimates of progress, but they did so by rating the past as more equitable, rather than the present as less equitable (Onyeador et al., 2020). This implies that advantaged groups seem to maintain very inaccurate perceptions about the current inequitable state of American society.

Even if people accurately perceive inequality between groups, this is only half the battle. As Peters and Jetten state, "While ... a perception that economic inequality exists is a necessary condition for appraisals that it is problematic, it is not a sufficient condition" (2022, p. 521). People then need to prefer and work toward more equitable distributions of resources. Research shows that people's preferred levels of income inequality were relatively closely matched to the actual levels of income inequality where they lived (Garcia-Sanchez et al., 2019). People in more economically unequal countries were more likely to believe that economic outcomes were meritocratic (Mijs, 2021). Further, a review found that whether an inequitable society is considered problematic depends on the perception of the stability of the inequality, and endorsements of ideologies that justify the current system (Peters & Jetten, 2022). Therefore, persistent underestimations of inequality may stem from motivations to deny it in favor of the status quo.

## High-status group resistance to acknowledging structural inequity

Members of groups who enjoy a more dominant or advantaged position in society may be motivated to justify the current system for multiple reasons. Advantaged group members are more likely to believe the world is fair, probably because in their lived experience, it is fairer (Bartholomaeus, 2024; Zimmerman & Reyna, 2013). To acknowledge a structurally inequitable society means facing the fact that the world is not fair, and therefore that they may be conferred advantages that they did not earn (Knowles et al., 2014). This can act as a threat to both self-esteem and moral image (Lowery et al., 2007), as well as a threat (whether perceived or actual) to their economic and societal position (Craig & Richeson, 2014). As mentioned previously, unequal societies create more status awareness and competition (Peters & Jetten, 2022), which means that members of dominant groups may become particularly sensitive to any perceived loss of status or opportunities.

An example of this sensitivity is the opposition of many White Americans to affirmative action policies, even when controlling for conservatism or attitudes towards government oversight (Rabinowitz et al, 2009). When the Supreme Court struck down the use of affirmative action in higher education admissions, a Gallup poll found that 72% of White Americans polled thought it was 'mostly a good thing' (McCarthy, 2024). Furthermore, in a sort of racial zero-sum game, as (subjective) perceptions of anti-Black bias decrease, more White Americans believe they are discriminated against, or even the principal subjects of discrimination (Isom Scott & Anderson, 2020; Norton & Summers, 2011; NPR, 2017). Several experiments have demonstrated that high-status group members can perceive pro-diversity messaging as threatening and react with defensiveness, poorer performance in job interviews, and exhibited heightened physiological responses (Dover et al., 2016).

My main goals are to examine the ways in which members of high-status groups resist the notion of structural inequity and how such resistance can be overcome. High-status group buy-in is instrumental in system-level change, considering that

most political, cultural and economic power (in the United States) is still held by dominant group members (Lu et al., 2020; Srikanth, 2021). From a Social Identity Theory perspective (Tajfel & Turner, 1979), membership in a valued or dominant group confers a positive self-image, and therefore members of dominant groups may tend to view their groups positively and are motivated to hold onto this image (Shuman et al., 2024). However, as awareness about structural inequalities (and the privileges these structures grant to some) grows, so it becomes more difficult for members of high-status groups to maintain a positive group- (and by extension self-) image, especially when they are in a more unequal society which makes status and competition more salient (Peters & Jetten, 2022).

In the context of race in the U.S., Knowles and colleagues (2014) established a framework organising the strategies White Americans use to manage their identities. The model began by outlining 3 strategies and has since been expanded to 4 strategies and applied to other high-status groups (Shuman et al., 2024). These strategies comprise: to deny the existence of inequity, to distance oneself from either the inequity or privilege or from one's advantaged identity, to work to dismantle inequitable systems, or to defend and legitimize their privileged status.

This deny-distance-defend-dismantle framework for high-status group identity management is supported by a growing body of research that investigates the motivated cognition behind acknowledging and explaining systemic inequity. One study showed that, when White people received (made-up) negative feedback on an intelligence test, they were less likely to acknowledge privilege, which indicates that denial can be motivated by a need to maintain self/group regard (Lowery et al., 2007). Phillips and Lowery (2018) argue that the so-called invisibility of privilege and ignorance of the extent of structural inequities among advantaged groups is in fact a deliberate cloaking strategy to protect their own innocence and ideals of meritocracy, which would be a form of denial. In terms of distancing, research has shown that advantaged group members, when their advantage is made salient, tend to claim

to have suffered more personal life hardships (Phillips & Lowery, 2015; 2020) or more discrimination along other identity dimensions (Brown & Craig, 2020). Some group members will choose to defend the status quo and their right to a higher status and power (e.g. White people are the superior race: people are wealthy because they've earned it: men are meant to be dominant-e.g. Clark, 2020). Lastly, some advantaged group members may acknowledge (and repudiate) their privileged position and work to dismantle inequitable systems, e.g. wealthy people advocating for higher taxes, men speaking out against patriarchal systems, or White people fighting for racial equality (Brannen et al., 2020).

To reach a more equitable society, it has become a research aim among social psychologists to investigate how to ensure that advantaged group members reach that stage of (supporting) dismantling the current structures that promote inequitable outcomes for different groups. This has become especially critical, because there has also recently been a rise in the active defense of some groups' dominance over others, e.g. a rise in misogyny (Carmo, 2025) and explicit prejudice against immigrants or minority racial groups (Crandall et al., 2018). It seems self-evident, however, that to convince members of advantaged groups to support the dismantling of inequitable systems, denial, distancing and defense of inequity must first be overcome.

### How inequity is acknowledged and its effects on equity support

Discourse and mainstream awareness of the inequitable state of society has grown in recent years, but the question of how it is discussed is also important. Content analysis shows that both journalists and laypeople chronically refer to (racial and gender) inequities as group disadvantage (Jun et al., 2022), whereas wealth is slightly more often referred to using an advantage frame. Disadvantage is discussed more than advantage on social media (Malapally et al., 2024). This trend in normative frame usage is confirmed in experimental studies as well (Malapally

& Bruckmuller, 2024; Phillips & Jun, 2022), where, when given the choice, participants tended to discuss disparity in terms of disadvantage. How social inequities are researched often reflects this disadvantage bias as well (Phillips et al, 2022). The tendency of people, especially dominant group members, to focus on the deficits of the other group rather than privileges of their own is logical from the point of view of group identity management and wanting to maintain psychological distance from the inequity (Adams et al., 2006; Eckerle et al., 2023; Lowery et al., 2007, Lowery et al., 2012). People from advantaged groups can maintain their own innocence while acknowledging that someone else's situation is regrettable or unfair (Phillips & Lowery 2018). The tendency for researchers to focus on disadvantage provides an incomplete picture and has faced growing criticism (Nixon, 2019; Prato & Stewart, 2012), and now a growing body of work is examining perceptions of and reactions to ingroup advantages.

Research shows that acknowledgment of privilege can lead to support for equity initiatives. Swim & Miller (1999) found that those who perceived both greater White privilege and discrimination against Blacks were more likely to support affirmative action. When participants who perceived their ingroup as relatively advantaged (and were angry about it), they were more willing to engage in political action to dismantle their group's advantages (Leach et al., 2006). Lopez-Bunyasi (2015) reported that while only a minority of White Americans perceived racial privilege, they were consistently more supportive of racial equity policies. Other studies have also found that those who perceive White privilege were lower in modern racism attitudes (Branscombe et al., 2007) or higher in support for redistributive policies (Lowery et al., 2007), but these findings were moderated by racial identification and need for self-affirmation. It is evident that acknowledging ingroup advantage is powerful, but less common than acknowledging outgroup disadvantage.

What is missing from the existing research, however, is a direct within-person (i.e., as an individual difference) comparison of people's perceptions of advantage

and disadvantage. Most studies investigating White participants as a group measure some aspect of White privilege perceptions (Branscombe et al., 2007; Cooley et al., 2022; Lowery et al., 2012; Swim & Miller, 1999) but provide no corresponding measure of Black or minority disadvantage. Some measured perceptions of discrimination against Blacks (e.g. Swim & Miller's, which is used by others like Lowery et al., 2007), but that is conceptually different from a direct comparison of (dis)advantage. Lay people and media chronically refer to inequality as the subordinate group's disadvantage, but does that mean they do not perceive or admit to the other group's advantages? Previous research demonstrates that acknowledgment of advantage is a powerful predictor of support for equity, but is it more powerful than perceptions of disadvantage? This is currently unknown because research has not directly compared them. These are my first two main research questions, and my aim in the current research is to quantify the relative (dis)advantages that people perceive, and what their relative predictive power is when it comes to engagement with the topic of inequity and supporting different equity initiatives.

## Experimental effects of framing inequity language

Most research on inequality frames has experimentally manipulated them, to understand how different communication frames are received by participants (e.g., whether messages about inequality are more or less effective under different frames). This research measures reactions to equivalency frames which describe the same gaps between groups as one group's disadvantage or another group's advantage. A study found that when a monetary inequality is described using the term 'less than,' participants gave more to the disadvantaged actor, whereas when it was described as 'more than', participants took more from the advantaged actor, though the degree of inequality was constant (Lowery et al., 2009). This would indicate that there is a relationship between how inequity is framed and the responses people have to that inequity. Experimental research demonstrated that economic inequality framed

as a disadvantaged group having less leads people to perceive greater inequality as less legitimate, whereas there was no relationship between magnitude of inequality and legitimacy beliefs when it was framed as an advantaged group having more (Bruckmuller, et al., 2017).

In the context of race, framing structural inequity as White advantage vs Black disadvantage can be fraught, precisely because of the aspect of illegitimate inequality. In other terms, this is the difference between inequality, which refers to systematic differences between groups, vs inequity, which implies that said differences are unjust or illegitimate (Braveman, 2025). This is supported by findings that unearned inequity framed as ingroup dominance (vs outgroup subordinance) resulted in lower levels of White identification for those who valued meritocracy, and higher levels of White identification in those who did not (Chow et al., 2008). When meritocracy is important, if advantage or disadvantage is unearned, then the standard of what people should have has been violated, and this can provoke discomfort. Framing messages about inequality as ingroup advantage vs outgroup disadvantage has also been found to impact emotional responses. When illegitimate inequality was outgroup focused, sympathy was a common reaction, whereas when it was ingroup-focused, guilt was the prominent emotion (Harth et al., 2008; Iyer et al., 2003). Some research showed that anger (Leach et al. 2006) and shame (Eckerle et al., 2023) were also reactions to dominant group privilege, but these were not experimentally manipulated using equivalency frames, so a comparison with outgroup disadvantage is not possible.

Inequality frames can also impact whether and what kinds of interventions people support. People's levels of support for redistributive tax policies are influenced by whether economic inequality is described as the wealthy having more or the poor having less, especially among conservatives (Chow & Galak, 2012). A focus on disadvantage frames keeps the focus on the disadvantaged group, which doesn't preclude support for interventions, but those interventions can also put the onus on the

disadvantaged group, and less on systemic changes (Bruckmüller & Braun, 2020). Another study found that beliefs in White privilege correlated with more support for efforts aimed at compensating Black Americans, whereas belief in discrimination against Blacks correlated with more support for efforts promoting greater equality of opportunity (Iyer et al., 2003). Therefore, via the reactions and emotions they provoke, different frames can provoke support for different paths to addressing the inequity described.

Lastly, experimental research has shown that not only do informational frames impact support for equity initiatives, the framing of the policy itself does as well. People in a high-status group often support the idea of helping a disadvantaged group, but not at the cost of their own wellbeing or opportunities. White support for affirmative action was driven by how they perceived it would impact Whites, but not the expected effect on minorities. Racial identification predicted less support, but only when the focus was on potential losses for the ingroup, not when the focus was on gains for the outgroup (Lowery et al., 2006). Some experiments have shown that messages espousing diversity and inclusion can make White people react defensively and express concern for anti-White bias, and this is driven by perceptions of harm to their racial group (Kaiser et al., 2021). However, one study found that when information about inequity was couched as White advantage (vs Black disadvantage), participants were more likely to support an intervention they perceived as harmful to Whites (vs helpful to Blacks; Lowery et al., 2012). Another study by Lowery and colleagues (2007) found that affirming feedback also made White people less reactive to interventions that were perceived as harmful, via the alleviation of group esteem threat. These findings would indicate that, while Whites are sensitive to perceived status loss for their group, framing and other moderators can also interact to protect against this defensive reaction.

This research represents important progress in understanding the perceptions and impact of inequity information and frames, but there are also important gaps

here. Researchers have studied the effect of information on perceptions of progress or inequality (e.g. Kraus et al., 2021; Onyeador et al., 2020) over two time points, and they have studied the effects of framing on privilege perceptions and support for equity policy (Chow et al., 2008; Lowery et al., 2007), but to my knowledge there has never been a direct comparison of how perceptions of outgroup disadvantage or ingroup advantages change (or remain stable), and how these views may interact with (framed) messaging before and afterwards. For example, Lowery and colleagues' (2012) interaction effect of information by intervention frame (where an informational focus on ingroup advantage buffers against backlash towards policies considered harmful to the ingroup) may further depend on individual differences in advantage/disadvantage mindsets. If people already perceive greater White advantage, then framing information as White advantage may enforce these beliefs and strengthen this interaction. Conversely, high racial disparity beliefs may render this interaction irrelevant, whereas low racial disparity beliefs may strengthen the effect (or increase resistance to any intervention).

Thus, examining individual differences in both majority advantage and minority disadvantage perceptions not only unlocks new opportunities for research on these perceptions per se, but also enables new research on whether they influence reactions to receiving new information about inequality. Do individual differences moderate the impact of manipulated frames on reactions to inequality and support for interventions? To what degree are perceptions of Black and White (dis)advantage changeable after exposure to inequity information? Is this degree of malleability also moderated by information frames?

Research has shown that other variables predict or moderate the effect of inequity messages. Social dominance orientation (Pratto et al., 1994) predicted Whites' support for the Black Lives Matter Movement (Holt & Sweitzer, 2018) and whether White people viewed affirmative action negatively (Haley & Sidanius, 2006). Just world beliefs (Lipkus, 1991) and system justification (Jost & Hunyady, 2003)

tend to predict advantaged group members' acknowledgment of structural inequity and therefore support for equity. One's level of group identification predicts support for equity initiatives when said initiatives potentially cause losses to the ingroup (Lowery et al., 2006). Lastly, political ideology and conservatism, especially in the U.S., has remained a powerful predictor of acknowledgment of inequitable systems and support for equitable systems (Brown et al., 2021; Sevincer et al., 2023). I was also curious to compare the predictive relevance of these variables next to perceptions of advantage and disadvantage, to quantify their relative influence and explanatory power for equity support.

## Emotional processing of structural inequity

Although the primary aims of this thesis are to A) demonstrate the value that can be gained from examining individual differences in perceptions of inequality as majority group advantage versus minority group disadvantage (Chapter 3) and B) understand the role of such individual differences in shaping reactions to new information about inequality (Chapters 4-5), a secondary goal was to examine the emotional mechanisms associated with resistance to learning about and acknowledging structural inequities (Chapter 6). I was interested in the gap in the emotions people expect to feel when thinking about the prospect of learning about inequity relative to the emotions actually experience when reading about inequity. This gap can quantify the magnitude of anticipated resistance to the idea of structural inequity in the abstract versus concrete rejection of the specific facts about structural inequity.

When dominant group members are confronted with inequity between groups, this can cause myriad emotional reactions. Some research has demonstrated that ingroup- oriented inequality predicts pride when it is legitimate but guilt when it is illegitimate (Harth et al., 2008). This is supported by numerous studies that show that perceptions of (unearned) ingroup advantage generally leads to collective guilt

(Miron et al., 2006; Powell et al., 2005; Swim & Miller, 1999). These perceptions can also lead to anger if people perceive their ingroup to also be active perpetrators in causing that advantage (Leach et al., 2006), or to shame if the advantage is perceived as a moral failing of the ingroup (Eckerle et al., 2023). Beliefs in outgroup disadvantage or discrimination outgroup-focused inequality are associated instead with sympathy (Harth et al., 2008; Iyer et al., 2003). These variable emotional reactions often have implications for behaviours and actions regarding structural inequity.

Sometimes people might avoid a topic because of the anticipated negative emotions it may cause (Gross, 2014), but they also tend to forget that they have emotional regulation coping mechanisms to deal with said negative emotions (Gilbert et al., 1998). Therefore, we are also interested in looking at emotional reactions from an affective forecasting (Wilson & Gilbert, 2005) perspective.

### Affective forecasting

Kahneman and Snell (1992) laid the foundations for affective forecasting when they coined the phrase 'hedonic forecasting', which basically referred to how much people predicted they would enjoy the results of future decisions. Wilson and Gilbert (2005) built on this by creating a theory of affective forecasting, which looked at how people predict their future emotions. They determined that people tended to be relatively accurate in predicting the valence of their emotions and which emotion they might feel. They are less accurate, however, in predicting the duration and intensity of their emotions (impact bias). This, they posited, is due to focalism, or the fact that people consider an event in isolation, rather than considering other factors that might mitigate the strength of their emotions. Immune neglect also plays a role, wherein people forget that they engage in rationalisation and coping mechanisms when confronted with negative emotions.

Additional research has shown that impact bias was correlated with when the

perceived importance of the event and working memory capacity (Hoerger, et al., 2010). The level of forecast bias has been shown to be affected both by experimental manipulation (Hoerger et al., 2010) and personality traits such as extraversion and neuroticism (Hoerger & Quirk, 2010; Hoerger et al., 2015).

Voters engaging in affective forecasting about an act being passed has been correlated to voter support for that policy, over and above partisan membership (Holloway, 2020). Lastly, preferential consumption of information was found to be partly due to faulty affective forecasting (Dorison, et al., 2019). This supports my consideration of affective forecasting as a potentially important factor in examining people's engagement with, reactions to inequity and support for equity policies.

Because most research about emotional reactions to structural inequities is cross-sectional, there is a lack of understanding about the emotional processes that take place between the anticipated reaction to a fraught topic and the actual emotional reaction. One study investigating this (Kawakami et al., 2009) demonstrated that, though people predicted they would be very upset by witnessing an act of racism, they responded with relatively little distress upon experiencing it. The present research considered whether overestimation occurs in White Americans' expectations of their emotional reactions to learning about race-based structural inequity.

This could open a new and impactful area of study that could look at the behavioural implications of over or underestimated emotions, and the interaction between those and different experimental manipulations. Here, I have attempted to open this door with some initial exploration of the relationship between racial inequity information processing and affective forecasting.

## Structure of the thesis

Chapter 1 (the introduction) provided an overview of the problems, theories, research, and findings that motivated the current research. The introduction to each empirical chapter will further review relevant literature in a more focused manner for the specific hypotheses relevant to that chapter. While the introduction pulled from theoretical research about inequality reactions more generally, this work focuses on participants' perceptions of and reactions to the racial disparities between Black and White Americans, specifically, as this allowed us the parsimony needed to compare and contrast results accurately and in a well-known context.

Chapter 2 provides an overview of the methodology underlying all of the research in the thesis. Instead of organizing the thesis chapters based on the reporting of each distinct dataset separately, I chose to organise results chapters by research question, presenting the results of analyses across multiple studies in each chapter. Each study was designed to carefully address multiple research questions and replicate/extend the findings of the previous study, so it was logical to organise chapters conceptually, around common research questions tested across all the available data. Therefore, I chose to write a methods chapter that provides a detailed overview of each specific study to prevent repetition in the subsequent chapters, which offer a quick summary of the methods only insofar as they are relevant to that chapter's research questions. Approaching the research in this manner enabled efficient data collection, an examination of many distinct research questions related to a unified conceptual framework described above, and a concise reporting of my research findings (in Chapters 3-6) in a way that emphasises novel conceptual insights.

Chapter 3 focuses on the predictive value of a new measure of people's perceptions of relative group advantage and disadvantage. Specifically, I tested whether these two terms are conceptually similar or distinct. I also compare how Black and White participants differ in these perceptions, how each component of the measure contributes to overall perceptions of inequality, and how these perceptions correlate

with other important variables like social dominance and political ideology. Lastly, I tested the extent to which individual's perceptions of relative group (dis)advantage predict willingness to learn more about the topic of racial inequity, supportiveness of equity-driven policies and behaviors, and emotional reactions to information about racial inequity.

Chapter 4 builds on the previous results by examining the extent to which perceptions of relative group (dis)advantage change over time with exposure to new information about racial disparities. I also compare whether one component of relative advantage perceptions (one group's disadvantage, or another groups advantage) is more malleable than the other, and whether the way information is framed impacts that malleability.

Chapter 5 delves into "person" (individual difference) x "situation" (message frame, inequity intervention frame) interaction effects on emotional reactions and support for interventions. Much previous research has focused on the impact of framing (talking about disparities only as disadvantages vs advantages) on reactions and support for interventions, but here I consider for the first time whether background individual differences in perceptions interact with the effects of information framing. Here, I also aim to conceptually replicate previous findings (Lowery et al., 2012) of the interaction effects of information framing and equity intervention framing in light of recent interest in the replicability of these effects (Malapally et al., 2026).

Chapter 6 examines expected emotional reactions to engaging with information about racial inequities and actual emotional reactions to such information. An affective forecasting lens and multiple timepoint design provides a new perspective in emotion-related findings in the field of inequality research. I also looked at whether these forecasting inaccuracies were predicted by individual differences, and whether they were associated with subsequent support for equity policies.

Lastly, Chapter 7 summarises the most important findings of this thesis, fo-

cusing on contributions and limitations. I conclude by discussing implications, inspiration for future research, and ways that these findings can be applied to the real world.

# Chapter 2

# Method

## Introduction

In this chapter I will explain my methodological choices and detail the design and characteristics of the three studies covered in this thesis. The research design, which will be covered in more detail below, involved three online surveys, one correlational and two which were a mix of correlational and experimental. Each of these three studies builds on the previous one and comprises many of the same design features. They were designed in such a way that they would provide data for several different research questions. It is for this reason that in each results chapter I will present the results of a specific subset of research questions, rather than one study. In each chapter I will give a brief overview of the method and design details that were specifically relevant to the research questions involved, but this chapter will be used to give an overarching picture of the research methods and the factors the studies have in common.

I wanted to explore how ingroup and outgroups, specifically as related to race in the United States, perceived systemic inequities- were they accurate? Were they malleable? Were they predictive of willingness to engage in the topic or support for equity initiatives? How did this interact with emotions? Were there differences in how people predicted they would feel about inequity vs how they felt after reading about it? Did these inaccuracies predict equity initiative support? Overall, I wanted to gain a better understanding of how different groups engage with inequity and what variables reliably predicted their engagement. To accomplish various aspects

of this, I needed large samples of data from Americans to conduct inferential analyses about the predictive value of certain variables, and the effects of manipulations of the wording of inequity information and equity initiatives.

To this end, Study 1 was correlational, exploratory and cross-sectional. Studies 2 and 3 each took place over two time points (approximately a week apart- to measure changes over time and after more inequity information), involved both correlational and experimental design, and included several variables of interest, so that various research questions could be explored within the same study.

First, I will describe the participants and the sampling methods, then I will discuss the design of each study separately as well as the general procedure, and then I will discuss the measures chosen for this research and why they were chosen.

## Sample

We were interested in data from adult Americans, specifically members of the dominant racial group (White Americans) as well as the racial minority which by most metrics (e.g. wealth) is most unequal to the dominant group (Black Americans). Many of our research questions revolved around the perceptions and reactions of White Americans, because they are the dominant group, because they are often treated as the default rather than an ethnic group in and of themselves (Bell, 2021; Bonilla-Silva, 2011), and because as the dominant group they are in a position to choose whether and how much they engage with issues of inequity, more so than other groups who are often daily confronted with the realities of their relative status. However, we were also interested in at least initially exploring how Black Americans engaged with the topic of racial inequity and directly comparing the reactions and perceptions of White vs Black Americans.

**Recruitment**

We recruited participants from Mechanical Turk via Cloud Research in studies 1 and 2, and from Prolific in study 3. Because the data came from participants signed up with these two entities, the sample is a convenience sample rather than truly random. However, both Cloud Research and Prolific employ measures to ensure the sample is representative, sing census-matched sampling and participant vetting. For study 1, we ran the questionnaire twice, once without any exclusion criteria (meaning most participants would be White), and once recruiting solely Black participants, so that we would have an approximately equal number of each. In Study 2, we were interested primarily in studying White Americans, so no specific recruiting was done- people of color were not excluded from participating, so we had a small number of ethnic minority participants, of which the Black participants' data were used for some basic analyses. In Study 3, we recruited only White participants, so there were no Black participants at all.

Recruitment from data-pool services like Mturk and Prolific has its limitations, namely that many participants complete many surveys in as little time as possible to earn more money, which can lead to lower-quality data. There can also be a self-selection bias as well as a rapid responder bias, whose data might differ from the wider population it purports to represent. We did, however, apply exclusion criteria to prevent some of these from affecting our analyses (detailed in a section below). We used Cloud Research with MTurk because it helps ensure better quality, more representative samples. CloudResearch uses the following data quality features: a duplicate IP block, suspicious geocode block, verification of country location, and CloudResearch approved participants only. Prolific also actively employs methods to counteract these biases, such as more selective participant pools, prescreening (we chose only USA-based and White participants), as well as a CAPTCHA-check and automatic data-quality monitoring. Research has shown that data tends to be higher quality from CloudResearch (CR) and Prolific in terms of attention, comprehension,

and reliability (highest in Prolific, then CR: Peer, et al., 2021)

## Sample Size

### *Power analysis*

To make inferences (and have the statistical power to do so) that were representative of White and/or Black Americans, we needed large samples. Our first study did not have any manipulations or experimental groups and therefore required fewer participants to conduct correlational analyses. We aimed to recruit approximately 150 participants from each race, which after exclusions would provide enough power for t-tests comparing Black and White participants, correlations, and multiple regression. A post-hoc G*Power (Faul, et al., 2009) power analysis determined that 102 participants per group (which we were sure to have even after exclusions) was enough to detect small-to-medium effects (Cohen's d = .35) for t-tests comparing means between Black and White participants at $\alpha = .05$, .80 power, and 84 per group were needed to detect correlations as small as $r = .3$. [1]

Studies 2 and 3 involved an experimental design which meant there were more variables/groups, which required a larger sample size. We aimed to recruit about 1000 participants for part 1 of study 2, with about 750-800 returning for part 2, which was decided on for budgetary reasons. This was done without imposing participation criteria based on race, however, meaning people from all races could participate- this ensured that while most of our sample was White, we had a small group of Black participants for basic analyses. For study 3, we had more experimental conditions, and therefore we aimed to recruit about 1000 participants, but only White, and therefore we would end up with a relatively larger sample than in study 2 (final participant numbers are detailed in the next section). A post-hoc G*Power analysis determined that for a multiple regression with 12 predictors (our largest model) and

[1]Logistically speaking, it was also a more expensive study given we wanted to recruit equal numbers of Black and White participants, which meant for budgetary reasons our sample needed to stay relatively small while still maintaining enough power for analyses.

at least 500 participants, we would be able to detect an effect size (f2) of .04 with $\alpha = .05$ and .90 power.

***Exclusions***

In addition to the default quality controls on MTurk and Prolific, we applied exclusion criteria to ensure that participants were not bots, were in America, and were attentive to the content of the questions (Angley et al, 2022). I used several text-based demographic questions, which bots have trouble filling in accurately; I checked IP addresses to make sure they were based in the US; I used an attention-check and reverse-scored items to ensure attentiveness. There can be a fair bit of 'noise' in online questionnaire data (Goodman, et al., 2017), so we predetermined several exclusion criteria, such as eliminating anyone who had spent less than half the median time on the study, making it unlikely that they seriously attended the materials, anyone who failed an attention check question (e.g. "Please select the option with a number in it."), who responded with identical answers across reverse scored scales (making it unlikely they were answering seriously), anyone who answered the question of how seriously they took the study with a 3 or lower (out of 9). For comprehension reasons (and cultural context), we also decided that anyone who had been speaking English for less than 5 years would be excluded as well. Planned recruitment procedures and exclusions for Studies 2 and 3 were preregistered using Open Science Framework (OSF) before analysis.

**Participants and Characteristics**

Participants were recruited from MTurk/CloudResearch (Studies 1 and 2) and Prolific (Study 3) in June 2022, December 2022, and August 2024, respectively. Any participant was free to sign up for the studies. However, we planned to only analyze the responses of Black and White Americans given that the studies concerned perceptions about Black and White Americans. Compensation was provided at the

rate of approximately $5/hour on MTurk, and $8/hour on Prolific (commensurate with platform norms).

For Study 1, we over-sampled Black participants, aiming for similar numbers of Black and White participants to ensure samples large enough to enable comparison between and correlations within each group. For Study 1, 129 Black and 146 White respondents completed the study. We excluded 18 participants who spent less than half the median time on the study (i.e., less than 3.5 minutes), 1 participant who provided the identical response across all four scales involving reverse-scoring, and 1 participant who reported not living in America. This left 121 Black/African American participants and 134 White participants (above our target based on power analyses of 84 per group). See Table 1 for a full list of participants' demographic details.

For Study 2, 89 Black and 675 White participants completed part 1. Everyone who participated in part 1, regardless of exclusion criteria was invited to complete part 2 a week later, and 561 participants completed part 2 (71% retention rate). We excluded 18 participants who spent less than half the median time (8 minutes) on part two, 2 participants who answered inconsistently on at least 2 demographic questions between part 1 and 2 (indicating they were likely different people), 1 participant who both failed the attention check and gave bot-like text answers, 1 participant who completed the study outside the U.S., and 4 participants who provided the identical response across all scales involving reverse-scoring. This resulted in a final sample of 766 participants in part 1 and 533 participants in part 2 (57 Black, 446 White). There were enough Black participants (89) to conduct a t-test comparison of Black and White participants in part 1 (at .80 power to detect an effect as small as Cohen's d = .28), but not enough to power a correlation or regression analysis.

For Study 3, 940 White participants completed part 1, who were all invited to participate in part 2 roughly a week later, and 769 White participants completed

part 2 (it was capped at 800 for budgetary reasons, but this was an 82% retention). We excluded 18 participants who spent less than half the median time (8.5 minutes) on part two, and 2 who failed the captcha check. No one failed the attention checks or had inconsistent demographic data. This resulted in a final sample of 907 participants in part 1 and 744 participants in part 2.

## Design

### Study 1

Study 1 was conducted at a single time point and did not employ experimental manipulation.

### Study 2

Study 2 consisted of two parts which were administered approximately a week apart. There was one experimental condition in which participants were randomly assigned to rate either an intervention involving universal baby bonds, or baby bonds targeted at helping Black babies only.

### Study 3

Study 2 consisted of two parts which were administered approximately a week apart. There was one experimental condition in which participants were randomly assigned to rate either an intervention involving universal baby bonds, or baby bonds targeted at helping Black babies only.

## Procedure

All studies employed the same cover story designed to conceal the purpose of and connections between the tasks from participants. Participants were told that they would complete two unrelated studies, one about media consumption and one about opinions and personality. As part of the first "study," participants were

**Table 1**

*Participant Demographics in Study 1, 2 and 3.*

| Variable | Study 1 (N=255 ) | | Study 2 (N=533) | | Study 3 (N=907) | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| **Age** | 321 | M(SD): 40.3(12.6) | 550 | M(SD): 41.6 (12.5) | 907 | M(SD): 41.1(13.1) |
| **Gender** | 321 | | 550 | | 907 | |
| Woman | 174 | 54.2 | 374 | 68.0 | 512 | 55.3 |
| Man | 141 | 43.9 | 172 | 31.3 | 369 | 39.8 |
| Non-Binary/Prefer not to Say | 6 | 1.8 | 4 | .7 | 26 | 2.8 |
| **Education** | 321 | | 550 | | 758 | |
| Some high school | 2 | .6 | 1 | .2 | 12 | 1/6 |
| High school diploma | 37 | 11.5 | 53 | 9.6 | 116 | 15.3 |
| Vocation/tech school | 14 | 4.4 | 28 | 5.1 | 27 | 3.6 |
| Some college | 91 | 28.3 | 151 | 27,5 | 224 | 29.6 |
| Bachelor's degree | 130 | 40.5 | 212 | 38.5 | 263 | 34.7 |
| Postgrad degree | 47 | 14.6 | 105 | 19.1 | 116 | 15.3 |
| **Personal income** (less than $10k – more than $150k) | | Mdn=$40,000-49,000 (f = 36, 11.2%) Mo=$20,000-29,000 (f = 41, 12.8%) | | Med=$40,000-49,000 (f=62, 11.3%) Mo= $20,000-29,000 (f=79, 14.4%) | | Mdn=$40,000-49,000 (f=63, 8.3%) Mo= less than $10,000 (f=124, 16.3%) |
| **Subjective social status** (lowest to highest) | 290 | (Mdn = 5) | 431 | (Mdn = 5) | 660 | (Mdn = 6) |
| **Political Ideology** (1-Very progressive, 7-Very conservative) | | (Mdn = 4.0) | | (Mdn = 4.0) | | (Mdn = 4.0) |

asked to rate their level of interest in reading three different articles based on their headlines. Two headlines served as fillers, and the only one we were interested in was "Ways in which deep racial inequity persists in the US." This served as a measure of interest in engaging with the topic of racial inequity. Participants were then asked, for one of the three articles we ostensibly selected at "random" (but was always the inequity article) to imagine reading the actual article and rate the extent to which they anticipated that they would feel various emotions while reading the article. In the supposed "second study" about opinions and personality, participants completed the various individual difference measures and demographic questions (see Table 1).

The above procedure constituted the entirety of Study 1, which was conducted at a single time point and did not employ experimental manipulation. Study 2 repeated the same procedure but added a second timepoint, during which participants were asked to read an ostensibly real article corresponding to the headline they saw in part 1. The researchers in fact wrote the article, which conveyed factually accurate information about inequality (e.g. the median wealth gap, housing and health disparities). For Study 2, the article was written in a way that described racial disparities but not advantages or disadvantages of one group (e.g., "Many Americans underestimate or are unaware of the degree of racial disparity when it comes to wealth, health, education and other measures of quality of life in the United States"; see Appendix A for full article). Participants then rated their emotional reactions toward the article. Afterwards, they rated their support for an intervention proposal aimed at reducing the wealth gap (framed as either providing direct or indirect assistance to Black Americans). Participants then completed the individual difference measures and demographic questions. Relative racial (dis)advantage perceptions were measured in both parts 1 and 2 to enable an evaluation of change after reading the article.

Study 3 followed the identical design and procedure as Study 2 but added an article frame manipulation. Participants were randomly assigned to read an

article1 that framed the disparities as A) advantageous for White Americans, B) disadvantageous for Black Americans (e.g., "Many Americans underestimate or are unaware of the extent to which White [Black] Americans continue to experience advantages [disadvantages] relative to Black [White] Americans when it comes to wealth, health, education and other measures of quality of life in the United States"), or C) using neutral language (see Appendix A for full articles).

Finally, Study 1 did not measure intervention support, and Studies 2 and 3 framed intervention support (between-subjects) in different ways. Whereas Study 2 framed the intervention as *aiming* to either directly vs. indirectly help Black Americans, Study 3 framed the intervention as achieving the outcome of either helping Black Americans vs. hurting White Americans (following Lowery and colleagues, 2012). Participants then completed several individual difference measures and demographic questions (again measuring relative racial dis/advantage perceptions in both parts 1 and 2).

## Measures

Most measures were used in all three studies. However, there were several measures in Study 1 that were not associated with the outcomes and dropped from the subsequent studies. Need for closure was deemed possibly relevant and added in Study 2, and external vs internal attributions for inequality was added in Study 3. While some measures were consistently either dependent, independent variables or covariates, sometimes which category a measure fell into depended on the research questions being asked in that chapter. Each chapter will detail how each measure was used to answer its specific questions and test the relevant hypotheses.

## Predictors

### *Perceived relative racial (dis)advantage.*

In each part of every study, participants responded to two items capturing individual differences in perceptions of the relative advantages and disadvantages White and Black Americans experience: "When you think about outcomes for White [Black] Americans, to what degree do you believe that this group tends to be advantaged versus disadvantaged relative to all other Americans?" Participants first rated their perception regarding White Americans, and then Black Americans. Responses were recorded on a sliding scale from 1 (extremely disadvantaged) to 9 (extremely advantaged). A difference score was computed by subtracting the Black dis/advantage perception score from the White one; a higher positive score indicates a perception of greater White advantage, while a negative score indicates a perception of Black advantage over White. In some analyses, the difference score was used as a predictor, while in others, the White and Black advantage scores were analysed as separate variables to measure their relative importance and contribution to the model.

## Dependent variables

### *Interest in engaging with the topic of racial inequities.*

In all studies, participants rated how likely they would be to read the article corresponding to the following headline: "Ways in which deep racial inequity persists in the US" (1 = extremely unlikely; 9 = extremely likely). This measure was considered an important independent variable because avoidance and denial are often employed by White people to remove themselves from the problem, and so engagement is an important first step to measuring their openness to change (along the lines of the Elaboration Likelihood Model, Petty & Cacioppo, 1986)

***Anticipated and actual emotions.***

In Study 1 and part 1 of Studies 2 and 3, participants rated the emotions they anticipated they would feel if they were to read the article corresponding to the headline provided. In part 2 of Studies 2 and 3, participants also rated their actual emotions immediately after reading the actual article. We were interested primarily in the emotions of guilt, shame, sadness, and sympathy (1 = not at all; 7 = a great deal). (A wider range of emotions was measured to support the cover story that participants were randomly assigned to read a news article that could have been about anything; see Supplemental Material for the full list of emotions). Different emotions lead to different behavioural outcomes, and we wanted to see what information predicted which changes in emotion in which participants.

***Change in emotions.***

(the difference in scores between time-points) was also used as a predictor, detailed in Chapter 6. One of our research interests was to apply affective forecasting theory to racial inequity situations and determine whether this predicted effect would correlate with equity policy support.

***Support for racial equity interventions.***

It was determined that an important predictor of actual behaviour was attitudes towards existing interventions and policy, and support for different policies in the future (source about TPB). In Study 2, after reading the actual article, participants were asked to what extent they felt action should be taken to address the wealth gap (1 = not at all; 7 = extremely strongly) as a general measure of intervention support. Participants were then randomly assigned to read about one of two interventions that either aimed to assist Black Americans or all Americans. One group received a proposal to distribute baby bonds pro-rated by wealth to Black babies only, whereas the other received a proposal that would distribute pro-rated

baby bonds to all babies regardless of race. The latter would disproportionately help Black babies because of the wealth gap, but only indirectly so, and this was not explained outright to participants. Participants rated how likely they would be to support the intervention (1 = definitely not; 7 = definitely yes).

In Study 3, participants were asked how willing they would be to sign a petition to a local petition addressing the racial wealth gap (1-definitely not; 7 definitely yes), to what extent they would support a reparations government policy (1-not at all; 7-completely), and to select between 0-10 dollars to donate to organizations addressing racial disparity, should they be given 10 dollars right then. These items were re-scaled and averaged to create a general measure of intervention support (Cronbach's $\alpha$ = .818). Participants were then randomly assigned to read about one of two interventions that aimed to reduce racial disparities in lending and mortgage rates.

We described these interventions as real policies that had already been enacted by a town in Georgia and gave fictional outcomes. One group read about an intervention that resulted in the proportion of White homeownership in the town dropping 12%, from 84% to 72% (with the population being 65% White). The other group read about an intervention that resulted in the proportion of Black homeownership in the town increasing by 12%, from 10% to 22% (with the population being 35% Black). Participants rated the extent to which they approved or disapproved of the policy (1 strongly disapprove, to 7 strongly approve); and would support such an effort in their own hometown (1-not at all; 7-very much). These two items were averaged as a measure of intervention support ($\alpha$ = .918 and .934 for the Black up and White down conditions, respectively).

### Covariate and moderating measures

To evaluate the discriminant and incremental validity of the relative racial (dis)advantage perception measure, each study included several individual difference measures. Some of these variables were also used to create an interaction term in

some analyses. See Table 2 for an overview of which measure was used in which study and their Ms and SDs. The exact items used for each measure are included in Appendix B for Study 1 and Appendix C for Studies 2 and 3.

***Social Dominance Orientation.***

A core part of social dominance theory (Pratto et al., 1994), social dominance orientation (SDO) measures a person's preference for and tolerance of group-based hierarchies and inequality. Originally developed as a 16-item scale by Pratto and colleagues, the tendency to prefer social inequalities between groups was measured by the three highest-loading items (one reverse-scored) from the 8-item SDO scale (Ho, et al., 2015) with answers ranging from 1-strongly disagree to 7-strongly agree ($\alpha_{Study1}$ = 814; $\alpha_{Study2}$ = .814; $\alpha_{Study3}$ = .847). This was considered an important covariate, as much research has demonstrated the link between SDO and (anti)racist thinking and behaviours, since the belief in the acceptability of one group dominating another would provide justification for structural inequities (Gutierrez & Unzueta, 2022; Marshburn et al., 2022; Unzueta et al., 2014). If relative racial (dis)advantage predicted emotions, engagement and policy support over and above SDO, it would be a relevant and powerful predictor.

***Belief in a Just World.***

An expansion on the concept of cognitive dissonance (Festinger, 1962), just world theory (Lerner, 1980) posits that people are inclined to believe the world is fair, and people get what they deserve, which can lead to victims getting blamed for their misfortunes. Belief in a Just World (BJW) was measured using the mean score of the 3 top-loading items from the BJW scale (Rubin & Peplau, 1973), with answers ranging from 1-strongly disagree to 7-strongly agree ($\alpha$ = .888, .844, .838). BJW has also been shown to strongly predict modern racism and justification of structural inequities (Carney & Enos, 2017).

***Personal Relative Deprivation Score (PRDS).***

The concept of relative deprivation was first developed by sociologist Stouffer (1949), which explained that peer comparison can lead to people feeling more deprived when they perceive a gap between what they have and what they feel they deserve. The belief that oneself is worse off than similar others, was measured using the mean score of the 3 top-loading items from Callan et al's 2011 PRDS (one reverse-scored), with answers ranging from 1-strongly disagree to 7-strongly agree ($\alpha$ = 656, .756, .820). Both relative and objective deprivation have been shown to predict out-group bias and prejudice, making it an important control measure (Yoxon et al., 2019).

***Zero Sum Thinking.***

Originally developed by Foster (1965), zero-sum thinking refers to a perception of 'limited good' in society, or the idea that gains for some equate to losses for others. The idea that one person's gain would come at the cost of another was measured by one item (adapted from Ongis & Davidai, 2021), which asked participants to rate on the scale where participants stood, with one end stating: (1) "wealth is like a pie, the more the rich have, the less there is for the poor," and the other (9): "wealth is like a forest: it can grow so there's enough for everyone."

***System Justification.***

(Measured in Study 1 only.) System justifcation theory was developed as a framework to explain why people (even members of disadvantaged groups) rationalise or defend the existing social and economic state of affairs (Jost & Banaji, 1994). System justification (Kay & Jost, 2003) was measured with a brief scale (Vesper et. Al, 2021) to measure the degree to which people justify the system and support the status quo with five items, with answers ranging from 1-strongly disagree to 7-strongly agree ($\alpha$ = .916).

***Racial Centrality.***

The degree to which race is a central aspect of an individual's identity is one dimension from the Multidimensional Inventory of Black Identity (Martin et al., 2010), which was adapted from the Multidimensional Model of Racial Identity (MMRI; Sellers et al., 1998). There were three items with answers ranging from 1-strongly disagree to 7-strongly agree ($\alpha$ = .952, .786, .812). This variable was also used as a moderator.

***Political Ideology.***

One item, measured from 1- very progressive, to 7- very conservative. This variable was also used as a moderator.

***Subjective Socioeconomic Status.***

Subjective Socioeconomic Status, or a person's perception of their relative standing in society, which does not necessarily correlate with their objective SES (Adler et al., 2000) was measured by placing a dot on a ladder, where the top rung represented those in society with the most money, best jobs and education. This was then translated to a numeric score from one to ten, where one represented a perception of being at the bottom of society, and a ten, the top.

***Need for cognitive closure.***

(Measured in Studies 2 and 3 only). The need for cognitive closure is characterised by a desire for predictability and order, lower tolerance for ambiguous or unclear situations, and a lack of open-mindedness (Webster & Kruglanski, 1994). Six items measured the need for cognitive closure, three each of the highest loading items (from Roets & Van Hiel, 2011) for the dimensions of tolerance for ambiguity and closemindedness, with answers ranging from 1-Strongly Disagree to 7-Strongly Agree ($\alpha$ =.601 and .701 in Study 2 and 3).

***Attributions of Inequality.***

(Measured in Study 3 only). How participants think about racial inequality was measured with an item asking to what degree they attributed it to external or internal factors, with answers ranging from 0, completely internal, to 100, completely external.

***Need for cognition.***

(Measured in Study 1 only.) The need for cognition, or a person's willingness to engage in effortful thinking (Cacioppo & Petty, 1982) was measured to assess the tendency to engage in and enjoy thinking using a shortened 6 item version (Coelho et al., 2018), with answers ranging from 1-not at all true of me to 7, very true of me ($\alpha$ =.884).

***Self-esteem.***

(Measured in Study 1 only). Self-esteem, or a person's opinion of themselves and their worth, was measured by using one item: "I have high self-esteem," with answers ranging from 1-not at all true of me, to 9, very true of me (Hendin & Trzesniewsku, 2001).

***Emotion Regulation Self-Efficacy.***

(Measured in Study 1 only.) To evaluate participants' perceived ability to manage their emotions, they rated on a scale from 1-not at all confident to 7-very confident their confidence in their self-efficacy over several emotion regulatory functions (Kirk et al., 2008). as well as their global sense of control over emotions from 1- no control, to 9-complete control (Gross et al., 1997).

**Table 2**

*Overview/comparison of each study, including M(SD) of total sample measures.*

| | **Study 1** | **Study 2** | **Study 3** |
|---|---|---|---|
| | | **Design** | |
| Sample Size | 255<br>(CloudResearch) | T1: 791<br>T2: 533<br>(CloudResearch) | T1: 907<br>T2: 744<br>(Prolific) |
| Article framing | No article was displayed to participants | Article was displayed with a *balanced* framing only | Article was displayed to participants in three between-subjects frames: White advantage, Black disadvantage, balanced |
| Time points | T1: Rated interest in article headline | T1: Rated interest in article headline<br>T2: Read full article | T1: Rated interest in article headline<br>T2: Read full article |
| | | **Independent variables** | |
| Racial disparity perception | Measured (T1)<br>3.9 (3.4) | Measured T1 and T2 post article) | Measured (T1 and T2 post article) |
| | | **Dependent variables** | |
| | **M (SD)** | **M (SD)** | **M (SD)** |
| Interest in article | 5.5 (2.6)<br>Measured T1 | 5.2 (2.6)<br>Measured T1 | 4.6 (2.6)<br>Measured T1 |
| Intervention support | Not measured | Measured (T2)<br><br>General intervention support: 5.3 (1.8)<br><br>Two between-subjects intervention frame levels:<br>help Black babies<br>4.3 (2.2)<br>help all babies<br>4.7 (1.9) | Measured (T2)<br><br>General intervention support: 3.7 (2.1)<br><br>Two between-subjects intervention frame levels:<br>reduce White wealth<br>5.0 (1.8)<br>increase Black wealth<br>5.4 (1.7) |

| | **Study 1** | **Study 2** | **Study 3** |
|---|---|---|---|
| Guilt | Not measured | 2.8 (1.9) | 2.7 (1.8) |
| Sympathy | Not measured | 4.9 (2.0) | 4.8 (1.9) |
| | | **Individual difference** | |
| | **M (SD)** | **M (SD)** | **M (SD)** |
| Social dominance orientation | 2.2 (1.4) | 2.6 (1.5) | 2.7 (1.6) |
| Belief in a just world | 3.5 (1.4) | 3.4 (1.3) | 3.3 (1.4) |
| Zero sum thinking | 4.9 (2.6) | 4.7 (2.4) | 4.9 (2.6) |
| Personal relative deprivation score | 3.6 (1.3) | 3.5 (1.3) | 3.7 (1.4) |
| Political ideology (US left-right dimension) | 3.4 (1.7) | 3.5 (1.8) | 3.6 (1.8) |
| Racial centrality (importance to identity) | 4.8(1.9) | 4.3 (1.2) | 4.1 (1.2) |
| Subjective SES (as measured by placing oneself on a ladder) | 4.6 (1.9) | 4.8 (1.8) | 4.9 (1.8) |
| Need for Closure | Not measured | 3.8 (0.9) | 3.8 (1.0) |
| Ambiguity avoidance | Not measured | 4.7 (1.2) | 4.7 (1.3) |
| Closed-mindedness | Not measured | 3.0 (0.9) | 3.0 (1.0) |
| System justification | 3.1 (1.6) | Not measured | Not measured |
| Attributions for inequity | Not measured | Not measured | Fill in M(SD) |

# Chapter 3

# Measuring racial (dis)advantage perceptions

## Introduction

Given the pressing issue of growing structural inequities, it is important to understand how people conceptualise these disparities, and how these conceptualisations predict support for a more equitable society. In this chapter, I investigate how people naturally perceive majority advantage and minority disadvantage and how strongly the two concepts are correlated, whether people differ in these perceptions by group membership, and whether these perceptions predict engagement with inequity and support for equity interventions over and above other individual difference measures like social dominance orientation and political ideology. I focused on perceptions of the (dis)advantages of Black and White Americans because Black Americans represent the largest racial minority group in the United States and race-based economic disparities between these groups undeniably exist, though these disparities remain contested and politicised (Sarmal et al., 2024). At the same time, I offer an approach for examining disparities between other majority/high-status and minority/low-status groups more broadly.

Prior research has measured perceptions of White privilege (Swim & Miller), or views of minority disadvantage (Cooley et al., 2022), but they are idiosyncratic and not amenable to comparing the two constructs. Research has not examined people's perceptions of advantage or disadvantage simultaneously to quantify the

relative difference between perceptions of advantaged and disadvantaged groups. I was therefore interested in developing a simple measure that would help to gain more direct insights into people's natural perceptions of the extent to which the source of inequality lies in majority group advantage or minority group disadvantage. Measuring the constructs on a common metric enables methodologically unbiased comparison between constructs and thus a more precise understanding of how they relate to each other and how they relate to other relevant variables. Though experimentally inducing one or the other frame has shown differential effects (Bruckmuller et al., 2017; Chow et al., 2008; Lowery et al., 2007; Malapally et al., 2026; Powell et al., 2005), it remains unclear to what degree perceptions of Black disadvantage and White advantage are conceptually related or separate – do perceptions of high disadvantage automatically presume perceptions of more White advantage and vice versa, and which do they perceive to be more extreme (RQ1)?

Black Americans have been shown to be more accurate than White Americans in their assessment of racial economic inequalities and lack of progress towards equality for minorities in the United States (Kraus et al., 2017), so I also examined whether this is the case for more realistic perceptions of the relative difference in advantage between Black and White Americans (RQ2). Whether the two concepts are more or less correlated in one group or the other is exploratory, but it is possible that, because Black Americans will have higher agreement on their scores, that the two (dis)advantage scores will be more weakly correlated as a result of range restriction.

Other variables like Social dominance orientation (Marshburn et al., 2022; Unzueta et al., 2014), just world beliefs (Kraus et al., 2017), and political ideology (Carney & Enos, 2017; Kraus et al, 2019) have also been shown to predict perceptions and attitudes regarding structural inequality, so I included them in multiple regression analyses to compare the conceptual distinctiveness and predictive power of the relative (dis)advantage measure. While SDO and just world beliefs refer to

a societal preference or attitude, this measure should distinguish itself as a conceptually separate construct because it is on its surface an objective question about factual information. Thus we wanted to know to what degree they correlated with the relative racial (dis)advantage perceptions (RQ3).

I investigated how predictive a measure capturing relative perceptions of (dis)advantage would be of several elements of equity support amongst advantaged group members, over and above the variables mentioned in the previous paragraph (RQ4). First, I questioned if lay perceptions of relative (dis)advantage would predict how willing people would be to engage with the topic of structural inequity at all (RQ4). Research has shown that, to protect a positive self and group image and the concept of meritocracy (Lowery et al, 2007), White people tend to deny or distance themselves from inequality (Knowles et al, 2014, Shuman et al., 2024). One way to do so is to avoid the topic altogether, but if people have already acknowledged to themselves that inequity exists, they may be more resilient to the potential discomfort the topic brings and be more willing to engage with it. Thus, perceiving greater relative racial disparity should be an important predictor of engagement with the topic of structural inequality.

Another question was how relative (dis)advantage perceptions would predict support for specific equity initiatives and policies (RQ5). Research has shown that efforts to reduce inequity and promote equality result in strong backlash from White Americans (Kaiser et al., 2021; Sarmal et al., 2024). This is due to the threat to status and ingroup that they perceive these equity efforts to present (Craig & Richeson, 2014; Dover et al., 2016). Both status threat and group esteem threat (caused by the salience of unearned advantages-Lowery et al., 2007) help explain why White people are cognitively motivated to remain ignorant about structural inequity (Kraus et al., 2019; Phillips & Lowery, 2018). It would follow, therefore, that those who already acknowledge greater relative racial disparities will have done some reckoning with threat-based reactions and be more likely to support policies

aimed at achieving greater equity.

I also examined what relationship perceptions of relative (dis)advantage might have on White Americans' emotional responses to inequity (RQ6). Moral emotions are experienced individually, but how people experience them depends on an individual's awareness of and connection to the norms for behaviour in a given social context - emotions like anger, guilt, shame, disgust and sympathy all have a function, though not always a useful one (Giner-Sorolla, 2013). A perception of White advantage (vs. Black disadvantage) would presumably elicit stronger guilt, as a self-oriented emotion which occurs when the self or ingroup has committed a moral wrong or hurt someone else (Grzanka et al., 2019). Privilege might not be a direct or active wrongdoing, but it implies unearned advantages which often violates a moral concept of the self (Eckerle et al., 2023). Research shows that guilt can be a constructive emotion that leads people to actions to repair or improve any perceived wrongs (Leach et al., 2006), so measuring this emotion as it relates to processing and perceiving inequity is important.

A perception of Black disadvantage, on the other hand, is more likely to elicit feelings oriented outside the self, such as sympathy, which can also lead to prosocial behaviours. But just as no research has directly compared Black and White (dis)advantage perceptions, no research has consequently compared whether relative racial (dis)advantage perceptions would predict different emotional reactions to information about racial inequity.

Lastly, an important contribution of the development of a relative racial (dis)advantage measure is the ability to explore whether perceptions of White advantage or Black disadvantage are more influential in predicting the variables discussed above. A focus on minority disadvantage may circumnavigate the group threat and discomfort caused by acknowledging privilege (Dover, 2022) and cause a sympathetic reaction from White Americans, but this produces mixed results regarding support for racial equity (Iyer et al., 2003; Harth et al., 2008; Lowery et al., 2012). White

people are less likely to acknowledge their own advantages, but if they do, it can lead to support for dismantling structural inequities (Powell et al., 2005; Lopez Bunyasi, 2015). What has yet to be studied, however, is a direct comparison of the relative predictive weight of each perception side by side. Which psychological construct is more predictive of important outcomes (e.g. engagement with the topic, support for equity policies, emotional responses like guilt and sympathy)? Does the relative influence of each perception differ by outcome (RQ7)?

In summary, my main research questions were: (1) Will there be a strong correlation between perceptions of Black disadvantage and White advantage? (2) How will Black and White Americans differ in their perceptions of these (dis)advantages? (3) To what degree will these perceptions distinguish themselves from or correlate with other related variables? How uniquely predictive will relative advantage perceptions be of (4) engagement, (5) support for equity policies, and (6) experiences of guilt and sympathy in relation to structural inequity? And lastly, (7), will White advantage or Black disadvantage perceptions differ in their predictive power across different dependent variables?

## Current Studies

In three studies, I measured both majority group advantage and minority group disadvantage perceptions simultaneously. This enabled a single score that captures the relative difference that people naturally perceive. A higher score on this measure would indicate a greater perception of White advantage relative to Black disadvantage; a score closer to zero would indicate that not much difference is perceived in the socioeconomic opportunities afforded to White and Black Americans, and a negative score would indicate a perception that Black Americans have more advantages than Whites.

In addition to the novel examination of the relative difference in these perceptions, I also examined the measures separately for further insight (which can only

be attained by including two comparable measures in the same study). I predicted a negative correlation between the two measures (H1), and I was curious about the magnitude of the correlation; a strong negative correlation would indicate a tight correspondence between perceiving White advantage and Black disadvantage, whereas a weaker correlation would indicate that these perceptions are to an extent independent. Examining the measures separately also enabled an evaluation of where mean-level perceptions are anchored. I predicted differences here between Black and White participants, such that Black (vs. White) Americans would perceive Whites as more advantaged and Blacks as more disadvantaged (H2) and I explored whether the difference between White and Black participants would emerge more strongly on one of the measures.

I tested whether the relative (dis)advantage perception measure predicts interest in, emotions toward, and support for racial equity efforts even when controlling for other individual difference variables previously found to predict such measures. I predicted that the relative (dis)advantage perception measure would be moderately correlated with other related measures (affirming its distinctness as a construct) (H3) and that it would predict unique variance in the outcome variables (willingness to engage (H4; support for interventions-H5; emotions -H6) that the related variables could not collectively predict (affirming its utility as a predictor of important outcomes).

I was also interested in evaluating the distinctness and incremental predictive value of relative (dis)advantage perceptions, compared to simply using one of its constituent items alone (i.e., to determine whether it is important to capture the relative difference). To evaluate whether only the difference score has these properties or whether one of the items in particular drives the distinctness and predictive value of the difference score, I conducted these analyses (for H3-6) using the difference score as well as the items individually. These analyses can also reveal whether one side of the construct may be more predictive of certain outcomes compared to

the other.

## Method

To test these hypotheses, I analysed the results from all three studies. For a full and more detailed description of the methodology and procedure of those studies, please refer to the method chapter. Below I will describe the aspects of each study that are relevant to the research questions in this chapter.

### Design and Procedure

Study 1 was cross-sectional and correlational. In Study 1, participants rated their interest in reading about racial inequity based on an article headline and filled out their relative racial (dis)advantage perceptions. Other individual difference measures were taken then, like political ideology, SDO and racial identification.

Studies 2 and 3 took place over two time points. Headline interest and relative racial advantage perceptions were measured in part 1 of both Study 2 and Study 3. In part two, the participants read an article about racial inequity, rated the strength of their emotional reactions to it, and rated their support for several different kinds of interventions.

### Participants

Participants were recruited from Mturk (via Cloud Research) in Studies 1 and 2, and Prolific in Study 3. For a full description of exclusion criteria applied and demographic information about the sample, see the Methods chapter. In Study 1 there were 121 Black participants and 137 White participants. In Study 2, there were 87 Black participants and 676 White participants. In Study 3, there were no Black participants and 744 White participants.

### Measures

For a full overview of the measures used in each study please refer to the methodology chapter (Chapter 2).

In Study 1, the measured variables were: relative (dis)advantage perceptions, (DV) headline interest, and (as covariates) political ideology, social dominance orientation, belief in a just world, zero sum thinking, personal relative deprivation, racial centrality, need for cognition, and system justification.

In Study 2, the variables were: relative (dis)advantage perceptions, (as DVs) headline interest, general intervention support, and support for a specific intervention (baby bonds), and (as covariates) political ideology, social dominance orientation, belief in a just world, zero sum thinking, personal relative deprivation, racial centrality, and need for closure.

In Study 3, the variables were: relative (dis)advantage perceptions, (as DVs) headline interest, general intervention support and support for a specific intervention (baby bonds), and (as covariates) political ideology, social dominance orientation, belief in a just world, zero sum thinking, personal relative deprivation, racial centrality, need for closure, and internal vs external attributions for inequity.

## Results

Correlations between White and Black advantage perceptions and the DVs for the entire sample (Black and White participants) of each study are shown in Table 3.

### How do perceptions of White and Black (dis)advantage relate to each other?

Black and White participants' perceptions of White and Black advantage were moderately negatively correlated across all three studies, ranging from $r$ =-.60 to $r$ =-.72 for White participants and -.65 to -.73 for Black participants. See Table 4 for

**Table 3**

*Correlations between main variables*

| | Correlations | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| **Study 1 ($N$ = 258)** | | | | | |
| 1. White adv | — | -.670* | .425* | | |
| 2. Black adv | | — | -.363* | | |
| 3. Article interest | | | — | | |
| **Study 2 ($N$ = 763)** | | | | | |
| 1. White adv | — | -.660* | .438* | .584* | .496* |
| 2. Black adv | | — | -.328* | -.523* | -.396* |
| 3. Article interest | | | — | .499* | .392* |
| 4. General intervention support | | | | — | .602* |
| 5. Specific intervention support | | | | | — |
| **Study 3 ($N$ = 744)** | | | | | |
| 1. White adv | — | -.715* | .448* | .604* | .691* |
| 2. Black adv | | — | -.429* | -.564* | -.655* |
| 3. Article interest | | | — | .615* | .526* |
| 4. General intervention support | | | | — | .733* |
| 5. Specific intervention support | | | | | — |

*Note.* * = $p < .001$.

a list of correlations between White and Black advantage perceptions, separated for White and Black participants, for each study. This supports H1, and shows that the two concepts are related, but not identical. Standards of interpretation vary for correlation coefficients, but generally a correlation between .6 and .7 is considered moderate to strong, whereas a correlation above .8 is very strong (Akoglu, 2018).

**Table 4**

*Correlations between racial advantage perceptions by race*

| **Study** | **Black participants** | | **White participants** | |
|---|---|---|---|---|
| 2-5 | *N* | Correlation | *N* | Correlation |
| Study 1 | 121 | -.73* | 137 | -.60* |
| Study 2 | 87 | -.65* | 676 | -.65* |
| Study 3 | n/a | n/a | 744 | -.72* |

*Note. All correlations are Spearman's rho. *p < .001.*

**Do Black vs White participants perceive different levels of White and Black (dis)advantage?**

Both groups of participants considered Whites to be advantaged in some way, and Blacks to be disadvantaged, as overall means on the difference scores were positive (M = 3.4) and significantly higher than zero, $p < .001$, across studies. Yet these perceptions were more pronounced among Black participants. In Study 1, compared to White participants, Black participants perceived White Americans as more advantaged, $t(247) = -5.22$, $p < .001$, $d = 0.64$, with a mean difference (comparing White advantage scores) of 1.03 points, and Black Americans as more disadvantaged, $t256) = 4.79$, $p < .001$, $d = 0.60$, with a mean difference (comparing Black advantage scores) of 1.16 points. In Study 2, Black Americans also perceived a greater advantage for White Americans, $t(763) = -4.75$, $p < .001$, $d = 0.54$), with a mean difference of .9 points, and more disadvantage for Black Americans, $t(763) = 3.08$, $p = .002$, $d = 0.35$, with a mean difference of .7 points. See Table 5 for the means and standard deviations of each item by racial group in Study 1 and 2. Given the two groups' discrepancies in both perceptions, the difference score showed that Black participants perceived a much larger advantage gap between White and Black Americans than White participants did (Study 1: mean difference of 2.2, $t(256) = -5.45$, $p < .001$, $d = 0.68$. Study 2: mean difference of 1.6, $t(763) = -4.33$, $p <$

.001, $d = 0.50$). As predicted in H2, Black people perceived more extreme racial disparities on both sides of the advantage spectrum. It was an exploratory question as to whether Black participants would perceive either Black disadvantage or White advantage more extremely than White participants, but the magnitude of differences in perceptions were approximately equal in each study.

**Table 5**

*Means (SD) of White and Black perceptions of White and Black (dis)advantage*

| | **White participants** | | **Black participants** | |
|---|---|---|---|---|
| | Mean (SD) | | Mean (SD) | |
| Perceptions | Study 1 | Study 2 | Study 1 | Study 2 |
| White advantage | 6.9 (1.82) | 6.8 (1.73) | 8.0 (1.33) | 7.7 (1.53) |
| Black advantage | 4.1 (2.04) | 3.83 (1.84) | 2.9 (1.81) | 3.18 (2.01) |
| Racial disparity (difference score) | 2.9 (3.46) | 3.0 (3.21) | 5.1 (2.89) | 4.5 (3.11) |

**Correlation between difference scores and with other measures.**

White participants' perceptions of the disparity in perceived advantages between the two races was moderately related to numerous individual difference variables. The correlation varied in strength across different measures ($r = |.01\text{-}.66|$). Further, some variables were more related to White advantage perceptions and others to Black disadvantage perceptions. Most notably, relative racial (dis)advantage perceptions were most strongly correlated with political ideology ($r = |.44\text{-}.66|$) and social dominance orientation (SDO - $r = |.43\text{-}.66|$), such that more conservative participants and those more likely to endorse hierarchically-structured relations between groups were less likely to perceive Blacks as disadvantaged and Whites as advantaged. Thus, the construct was related to (convergent validity), yet sufficiently distinct from (discriminant validity), related measures, supporting H3. See Table 6 for all correlations between racial (dis)advantage perceptions and other relevant variables.

**Table 6**

*Correlations between racial advantage perceptions and other measures.*

| | Study | White advantage | Black advantage | Difference score |
|---|---|---|---|---|
| Social Dominance Orientation | Study 1 | -.40** | .51** | -.52** |
| | Study 2 | -.47** | .56** | -.58** |
| | Study 3 | -.59** | .62** | -.66** |
| Political Ideology* | Study 1 | -.48** | .43** | -.49** |
| | Study 2 | -.55** | .56** | -.61** |
| | Study 3 | -.61** | .61** | -.66** |
| Just World | Study 1 | -.25* | .48** | -.44** |
| | Study 2 | -.30** | .44** | -.41** |
| | Study 3 | -.42** | .49** | -.50** |
| Zero Sum | Study 1 | -.13 | .27** | -.26* |
| | Study 2 | -.24** | .33** | -.32** |
| | Study 3 | -.23** | .21** | -.23** |
| Subjective SES | Study 1 | -.18† | .29** | -.26* |
| | Study 2 | -.01 | .13† | -.07 |
| | Study 3 | .01 | .06 | -.04 |
| Personal Relative Deprivation | Study 1 | -.09 | .05 | -.06 |
| | Study 2 | -.24** | .17** | -.21** |
| | Study 3 | -.20** | .13** | -.18** |
| Racial Identification | Study 1 | -.16 | .34** | -.32** |
| | Study 2 | -.13* | .20** | -.18** |
| | Study 3 | -.30** | .31** | -.33** |
| Need for Closure | Study 1 | n/a | n/a | n/a |
| | Study 2 | -.05 | .07 | -.07 |
| | Study 3 | -.04 | .07 | .07 |
| System Justification | Study 1 | -.17 | .41** | -.37** |
| Racial inequality Attributions | Study 3 | .56** | -.54** | .59** |

*Note. *Political ideology nb: negative correlation = progressive. Racial (dis)advantage measures are from Part 1 of Studies 2 and 3.*
*† $p < .05$; * $p < .01$; ** $p < .001$*

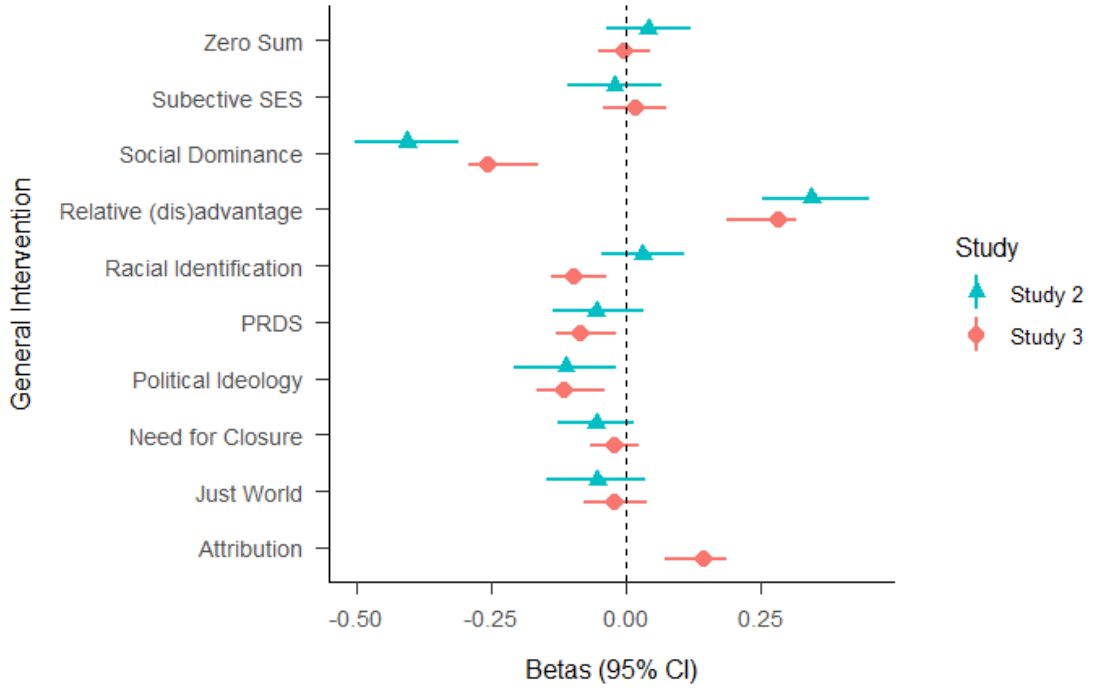
**Do relative (dis)advantage perceptions predict engagement with information about racial inequities or support for interventions aimed at addressing racial inequities?**

Next, I assessed the incremental predictive ability of the relative (dis)advantage measure to predict important inequality-related outcomes over and above other relevant measures. To do this, I ran a series of regression models with the difference score as a predictor alongside the other individual difference variables predicting A) interest in reading about inequality, B) support for interventions addressing inequality, C) guilt and D) sympathy in reaction to reading about inequality. Appendix Appendix D provides the full results of the multiple regression models in each study. I summarize the results here.

The relative (dis)advantage difference score consistently emerged as a significant predictor of all four dependent variables when controlling for all covariates, in each of the three studies ($Median\beta$ =.29, all $p$'s $< .001$). Moreover, the difference score measure was the strongest predictor in the majority of analyses and was always among the top two predictors. Even when it was not the strongest predictor (racial inequality attributions was stronger for the engagement DV in Study 3; SDO was stronger for supporting interventions in Study 2 and for sympathy in Study 3), it was never significantly weaker than the strongest predictor, as confirmed by Fisher-Z tests directly comparing the coefficients. These results not only confirm the incremental predictive ability of my novel construct relative to other highly relevant constructs by demonstrating that it survives all covariates, but these results go further, demonstrating that the construct is consistently among the top predictors of 4 important outcomes capturing how people engage with, react emotionally to, and intend to support information about race-based economic inequities in the United States, supporting H4-6.

**Figure 1**

*Forest plot of standardized beta coefficients and 95% confidence intervals for support for intervention*

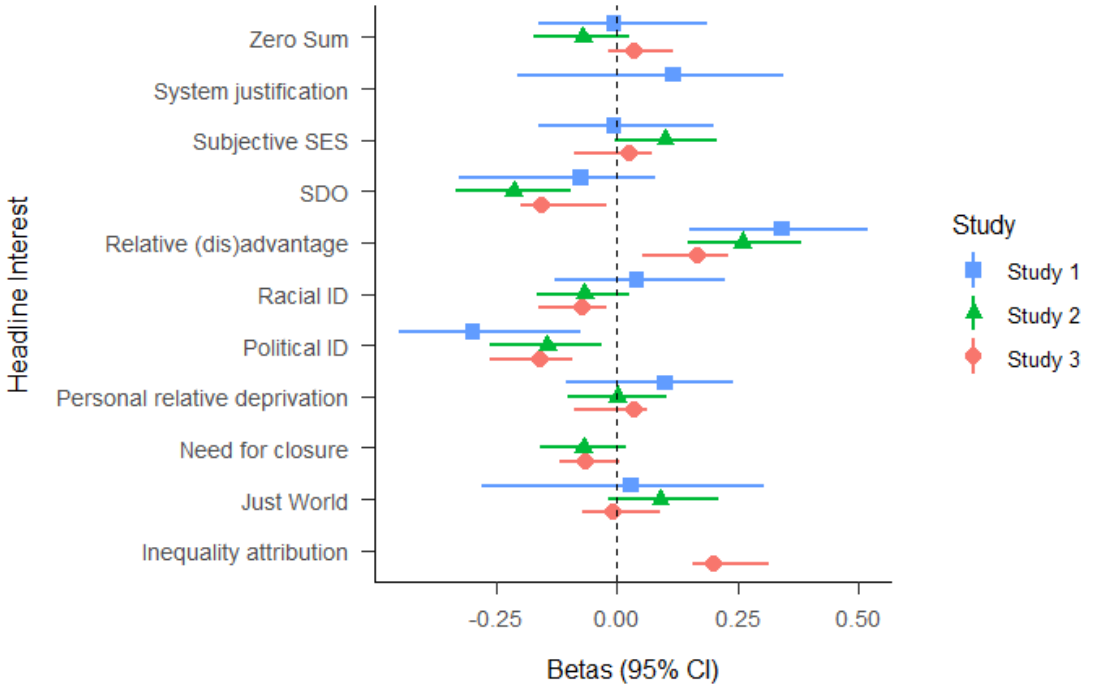



**Which perception is more influential in predicting which outcome?**

Although the above analyses establish the convergent and discriminant validity of the difference's score operationalization of relative (dis)advantage perceptions, it may well be that one side of the difference score is more influential than the other (e.g. White advantage perceptions or Black disadvantage perceptions). If the results are only driven by one component, prior research measuring just one side may have sufficed for predicting certain outcomes (e.g., White advantage for predicting the self-focused emotion of guilt, and Black advantage for predicting the other-focused emotion of sympathy). Thus, to evaluate whether one or both items in the difference score are responsible for driving the effects, I repeated the analyses above with A) just White advantage ratings, B) just Black disadvantage ratings, and C) both White advantage and Black disadvantage ratings in the model as two distinct predictors (i.e., not a difference score).

**Figure 2**

*Forest plot of standardized beta coefficients and 95% confidence intervals for headline interest*

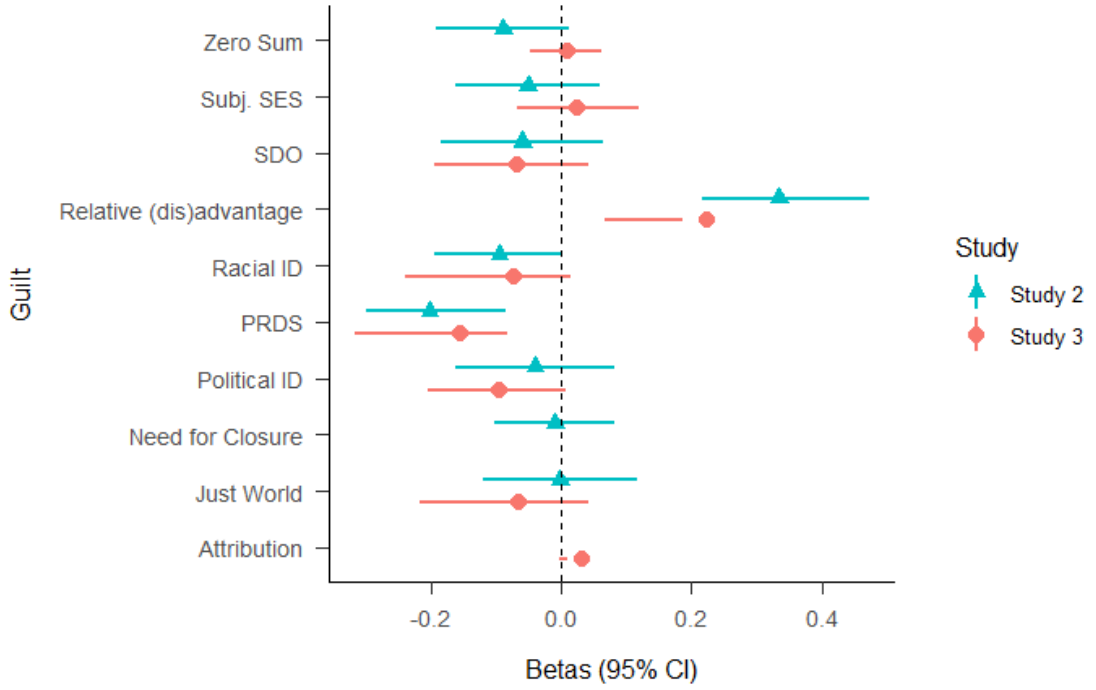



When only White advantage perceptions are analyzed in the model, it is also always a significant predictor of all four dependent variables when controlling for all covariates, in each of the three studies (Median $\beta = .28$ all $p$'s $< .001$). Further, it was either the strongest predictor or slightly less than (but not significantly different from) the strongest predictor for every DV, in every study.

When only Black advantage perceptions were analyzed in the model, it is always a significant predictor of all four outcome measures, in every study. In terms of relative contribution to a regression model (as evaluated by standardized coefficients and effect sizes), however, Black disadvantage ratings were outweighed by social dominance orientation (for intervention support and sympathy outcomes), political ideology (for the headline interest outcome), and personal relative deprivation (for guilt). Thus, though clearly still a consistently important predictor that survived covariates, Black advantage perception seems to be slightly less dominant

**Figure 3**

*Forest plot of standardized beta coefficients and 95% confidence intervals for guilt*

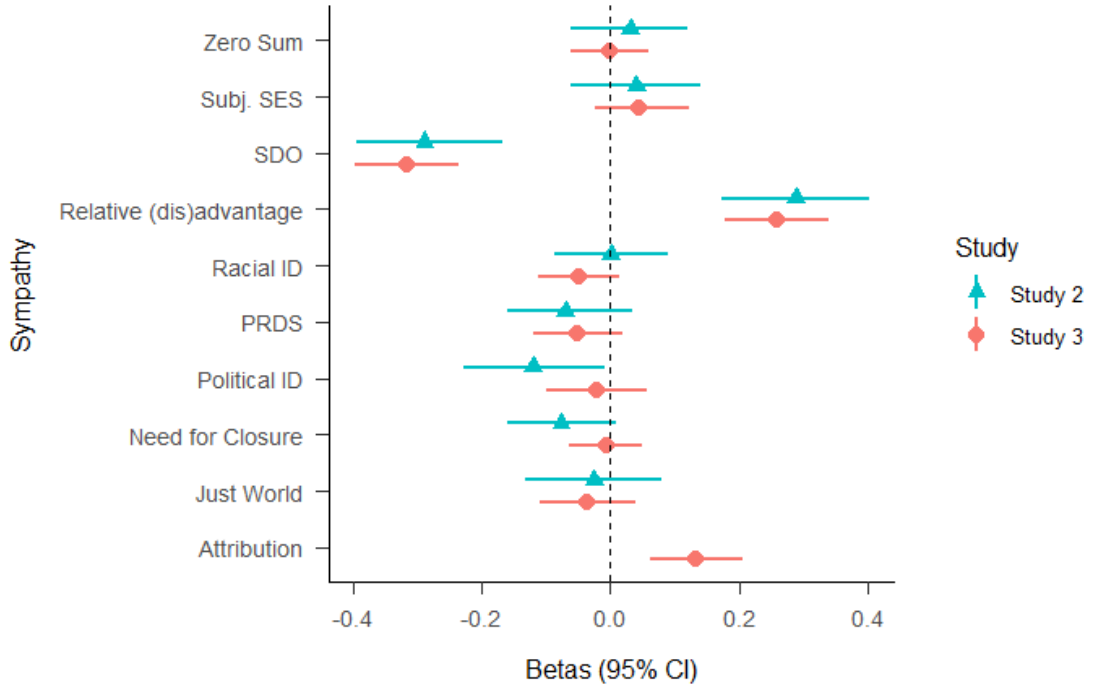



than White advantage perception in terms of how frequently it exceeded or matched the predictive value of covariates.

Finally, I analyzed both items together in one regression to see if one predictor could fully explain (and eliminate the effect of) the other. White advantage perceptions remained the most strongly weighted predictor (or second strongest and not significantly different from the strongest), while Black advantage perceptions became nonsignificant when predicting headline interest. When predicting guilt, Black advantage perceptions remained a marginally significant (in Study 2; $p = .07$) predictor alongside the significant White advantage perceptions but was insignificant in Study 3 ($p = .66$). When predicting sympathy, Black advantage perceptions were significant and either equally weighted (Study 2) or more strongly weighted (Study 3) than White advantage perceptions. When predicting intervention support in Study 3, Black advantage perceptions also remained significant, $\beta = -.10$, $p = .02$, though slightly weaker than White advantage perceptions, $\beta = .24$, $p < .001$,

**Figure 4**

*Forest plot of standardized beta coefficients and 95% confidence intervals for sympathy*




while in Study 2, it did not quite remain significant as a predictor of intervention support ($\beta$ = -.08, $p$ = .13) alongside White advantage perceptions ($\beta$ = .29, $p <$ .001).

In sum, although the two measures independently predicted all outcomes better than most other predictors, when entered simultaneously, the White advantage measure predicted unique variance in headline interest, both measures predicted similar amounts of unique variance in sympathy (though in one instance Black advantage did so more strongly), and the White advantage measure predicted a bit more unique variance in guilt and intervention support. Thus, neither item can stand in for the other, as both measures capture unique variance in the outcomes and to some extent differentially predict distinct outcomes in theoretically sensible ways (e.g. that perceptions of Black disadvantage better predicted sympathy, which is logical as it is an other-oriented emotion, whereas White advantage perceptions

better predict support for interventions, which again makes sense as perceptions of unfair advantage generally lead to stronger support for dismantling structural inequities). As illustrated in the difference score analyses, the combination of the two serves as the most influential predictor.

## Discussion

My aim was to quantify, describe, and determine the predictive power of a novel measure of perceptions of White advantage versus Black disadvantage. I tested my predictions across 3 samples – Studies 1 and 2 included samples of Black Americans; Studies 2 and 3 added further information about racial inequity, which allowed us to delve deeper into whether White people's perceptions of racial advantages had predictive value by examining whether they predicted emotional reactions to information about racial inequity and subsequent equity initiatives, and replicate our previous findings about engagement via headline interest.

The results demonstrated a moderately strong relationship between Black and White Americans' perceptions of White and Black advantage, such that when people perceived Black disadvantage, they were more likely to perceive White advantage (supporting H1). That these correlations weren't very strong indicates that though the two are certainly conceptually related, they are not interchangeable. Black (vs. White) Americans perceived Whites as more advantaged and Blacks as more disadvantaged (supporting H2) and while I explored whether the difference between White and Black participants would emerge more strongly on one of the measures, Black Americans' average (dis)advantage perceptions were equally strong for each.

Relative (dis)advantage perceptions were moderately (negatively) correlated to other relevant measures such as social dominance orientation, political ideology and just world beliefs, and weakly (but still significantly) correlated to racial identification, personal relative deprivation and zero sum thinking (supporting H3). They were generally not significantly correlated with need for closure or subjective SES.

These variables tend to be relevant when predicting people's reactions to information about and interventions related to racial inequality, so it follows that they would relate to each other- that they are not more strongly correlated helps further establish that the two components of the relative (dis)advantage perceptions measure are not redundant. When I assessed the incremental predictive ability of the relative (dis)advantage measure to predict important inequality-related outcomes over and above other relevant measures, the difference score consistently emerged as a significant predictor of all four dependent variables when controlling for all covariates, in each of the three studies (supporting H4-6). Lastly, I was able to directly compare the relative predictive power of Black disadvantage and White advantage perceptions towards each dependent variable. White advantage was generally more strongly weighted, but both measures capture unique variance in the outcomes and to some extent vary in how well they predicted distinct outcomes.

**Contributions**

These results demonstrate for the first time that it is possible to directly quantify (and compare) how people perceive the relative advantage difference between White and Black Americans. The sheer consistency over several studies and DVs shows that this measure is relevant, influential, and important when examining attitudes and behaviours related to racial inequities, and it does not overlap overmuch with extant individual difference measures.

Perceptions of White advantage tend to be more dominant as a predictor, but these findings demonstrate that it is not superfluous to measure perceptions of Black disadvantage, since it was shown that for predicting some variables, it was just as influential if not more so than perceptions of White advantage. Comparing them directly side by side has enabled this. These findings therefore demonstrate the necessity of having a tool that can capture both types of perceptions in a similar manner that enables direct comparison.

**Implications, limitations and future research**

The relative (dis)advantage measure, in explicitly measuring perceptions rather than attitudes, may also be useful as a potential indirect measure of racial bias consistent with research on the error-choice method for evaluating attitudes focusing, on its face, on measuring factual knowledge rather than attitudes (e.g., Hammond, 1948). This could be especially true as current forms of modern racism tend to be subtle and difficult to parse (Reid & Foels, 2010), and implicit bias is a difficult and impractical measure of prejudice (Burcell, 2024; Sherman & Klein, 2021).

These findings are also among the first to investigate willingness to engage in the topic of racial inequity in and of itself. This is important because avoidance and denial have been shown to be a common coping mechanism for the discomfort of White Americans when confronted with racial inequities (Knowles et al., 2014).

The fact that both advantage and disadvantage perceptions tended to predict guilt and sympathy was interesting and bears further research in terms of the conceptual links between different emotions and frames of inequality. Some research has shown that perceptions of inequality relates to both guilt and sympathy (Iyer et al., 2003), but most research has generally only drawn the connection between either advantage and guilt, or disadvantage and sympathy (e.g. Harth et al, 2008). Future research could also experimentally test for potential relationships between (dis)advantage perceptions and emotions and subsequent equity support.

Though I deliberately designed this measure to consist of only two items, so as to maintain simplicity and direct equivalence and make it easier to add to any study without adding to respondent burden, it does limit more in-depth psychometric analysis into for instance if there are multiple factors that contribute to the construct of relative group (dis)advantage perceptions, or controlling for measurement error. However, it has become more normalised to utilize single-item measures for pragmatic reasons, as multi-item measures can be cumbersome and not necessarily better in their predictive validity (Pandit et al., 2026).

Though I was primarily interested in examining White participants' behaviours (examining 'White as race' rather than default, Potter, 2015), it is also important to consider the views of Black Americans and how their perceptions of inequity impact their emotional reactions and support for different types of equity policies. Future research could expand on these findings with a more comprehensive comparison between White and Black people, but also different minority groups and the dominant group, not just in terms of race but also for instance with gender, religion, or socioeconomic status. This measure was designed to be applied to different types of groups and could be used to examine the interplay between ingroup and outgroup views and power dynamics, and whether they follow similar or different patterns to what I found here.

**Conclusion**

These studies together show a remarkably consistent pattern of data and introduce a new measure that is simple but effective in directly quantifying an important attitude within ingroups and outgroups. Chapter 4 will build on these foundational results to consider A) how malleable the measure is to new information about inequity, and B) whether it moderates effects of framed (experimentally induced) messages about and interventions for inequity. It will also examine the impact of political ideology on these relationships.

# Chapter 4

# Shifts in relative (dis)advantage perceptions across timepoints

## Introduction

In the previous chapter I established a new measure to directly quantify people's perceptions towards the relative advantage of White and Black Americans. In this chapter, my main research question is, are these perceptions stable or malleable? It would be useful to explore this question A) to understand the psychometric stability of the measure, B) for a conceptual understanding of the mechanisms behind changes in perceptions of inequality, and C) to understand how applied interventions can target such perceptions. I discuss each of these potential contributions below.

### Research background

It is important to explore to what degree people's perceptions can be shifted to more accurately represent the staggering level of racial inequality in the U.S. today. Americans are quite inaccurate about their perceptions of racial economic disparities; White Americans are the least accurate at judging racial wealth gaps (DeBell, 2017; Kraus, et al. 2017; Kraus, et al., 2019), and they continue to overestimate racial equality regardless of how they are asked about it or if they are prompted to consider chronic unequal treatment (Kraus et al., 2021, Onyeador et al. 2020). White Americans are often resistant to the notion of racial inequality, and researchers argue that this reflects motivated cognition (Kraus et al., 2019; Phillips & Lowery, 2018).

Resistance among White Americans is motivated by meritocratic and just world beliefs, which is the desire to believe that the world is a fair place and that good morals and work ethic are rewarded (Kraus et al., 2017; 2019); by belief in the concept of progress over time (Onyeador et al., 2020); and by the need to maintain a positive self-concept via group identity management (Knowles et al., 2014; Unzueta & Lowery, 2008). This ignorance helps them avoid the cognitive dissonance that emerges from the tension between ideals of progress and meritocracy (and being a member of a morally upstanding group whose position in life is earned) and the reality of the structural inequities in society.

Research has demonstrated that knowledge and conscious acknowledgement of structural inequity (or lack thereof) have important implications for support for policies encouraging equity (Christiani et al., 2024; DeBell, 2017; Lopez-Bunyasi, 2015; McCall et al., 2017; Swim & Miller, 1999) and is consequential politically (Dobbs & Nicholson, 2022). Therefore, any shifts we can engender and gain a better understanding of how and why they occur, could have powerful implications. The following sections summarise our research questions relevant to changes in equity perceptions over time and how they arose from the current research.

**Do relative racial (dis)advantage perceptions remain stable or do they shift?**

It is important to explore to what degree people's perceptions can be shifted to more accurately represent the staggering level of racial inequality in the U.S. today. Americans are quite inaccurate about their perceptions of racial economic disparities; White Americans are the least accurate at judging racial wealth gaps (DeBell, 2017; Kraus, et al. 2017; Kraus, et al., 2019), and they continue to over-estimate racial equality regardless of how they are asked about it or if they are prompted to consider chronic unequal treatment (Kraus et al., 2021, Onyeador et al. 2020). White Americans are often resistant to the notion of racial inequality, and

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**What aspect of relative racial (dis)advantage perceptions will shift?**

It is also important to consider the malleability of each component of the overall relative (dis)advantage perception construct separately – something the prior work (Callaghan et al., 2021) did not consider. Would reading about inequities shift acknowledgment of outgroup disadvantage, ingroup advantage, or both (RQ2)? Mainstream discourse and White Americans more often discuss racial inequality as Black disadvantage (Jun et al., 2022; Malapally & Bruckmuller, 2024; Phillips et al., 2022). Given that this tendency is motivated by a need to maintain a positive self-image (Lowery et al., 2007; Shuman et al., 2024) and preserve the concepts of

merit, fairness and progress (Kraus, et al., 2019), and that the concept of illegitimate advantage is threatening to White Americans (Dover, 2022), it seems more likely that perceptions of Black disadvantage may shift more easily than perceptions of White advantage.

**What is the role of emotions in which perceptions shift?**

Emotional reactions may be involved in helping to mediate these shifts (RQ3). Some research has investigated the role of emotions in perceptions of structural inequality, White privilege and minority group disadvantage, though none to our knowledge have looked at their role in explaining shifts in perceptions. Guilt and shame tend to be associated with thoughts of (illegitimate) ingroup dominance (Estrada & Matthews, 2016; Iyer et al., 2003; Leach et al., 2006; Powell et al., 2005; Swim & Miller, 1999). As discussed in Chapter 3, emotions like guilt or shame are ingroup-oriented and so might be associated with greater changes in perceptions of White advantage, whereas sympathy is linked to a focus on the outgroup, and therefore might be associated with greater shifts in Black disadvantage perceptions.

Anger is most often considered to be other-focused, but research showed it could be ingroup-focused as well (Leach et al., 2006), so it is unclear whether it would predict more of a shift in one or the other (dis)advantage perception. Sadness is generally an emotion that emphasises the situation rather than blaming the self or others (Smith & Ellsworth, 1985), so it could have an effect closer to sympathy, *or* sadder participants might shift their White advantage perceptions, as it could lower defensiveness.

**Who is more or less likely to shift their perceptions?**

People with stronger fundamental attitudes that relate to the topic of racial disparity are probably more likely to be more entrenched in their views. Not everyone might have strong views about this already, but many people do, such as

those who are politically conservative or for whom race is an important part of their identity (RQ4). In those whose White identification is high, mentions of inequality can decrease perceptions of privilege (Lowery et al., 2007) and increase modern racism attitudes (Branscombe et al., 2007), as well as decrease support for affirmative action (Lowery et al., 2006). This is logical, as the feeling of threat that White Americans experience when confronted with unfair ingroup advantages would be stronger for someone for whom being White is more important.

Conservatives are more sensitive to status threat (Brown et al., 2022) and espouse more just world beliefs (Kraus et al. 2019), both of which would logically lend itself to higher defensiveness about (unearned) inequality and therefore more resistance to messaging about racial inequities, especially White advantage. For people whose Whiteness is central to their identity, acknowledging racial disparities but especially White advantage would threaten their self-esteem via group esteem threat (Unzueta & Lowery, 2008). Given these findings, it is likely that conservatives and those high in racial identification would feel particularly threatened by information about structural racial inequalities, and may not shift their view of Black disadvantage, let alone White advantage.

**Do certain frames encourage different (dis)advantage perception shifts?**

In addition to the individual differences in emotion, conservatism or racial identification, there is also the potential role of context; it is important to understand how different messages might shift perceptions in different ways, from both a theoretical and applied standpoint.

As discussed in the introduction to this thesis and as will be discussed in greater detail in the next chapter (examining effects of information frames), there are different ways of presenting information that induce particular mindsets. For instance, much research has investigated the impact of framing inequity as either an unfair outgroup disadvantage or an unfair ingroup advantage on support for

equity interventions (Chow et al, 2008; Ivar et al, 2003, Lowery, et al, 2007, Lowey et al., 2012). There are findings showing that emphasizing ingroup advantage can invoke a greater willingness to support equity interventions, though only certain ones (Iyer et al, 2003; Lowery et al., 2007). Lowery (et al., 2012) also found that framing inequity as White advantage helped mitigate the defensiveness brought on by interventions perceived as hurtful to White outcomes. It is possible, therefore, that there could be a matching effect of frame and perception shift, where a data-driven White advantage frame helps counteract the defensiveness that comes with acknowledging White advantage and allow greater shifts in that direction.

However, the research on the effect of framing is not consistent (Malapally et al., 2026), and none to our knowledge has investigated their differential effects on perceptions of both Black disadvantage and White advantage. Because of the predictive power of this measure, it is important to explore this interplay of informational frame and (dis)advantage mindset (RQ5).

If we are operating under the assumption that perceptions of racial disparities are context-sensitive rather than highly stable, it could follow that, if we were to tailor a message to focus on one aspect of advantage or disadvantage, participants' perceptions would shift accordingly (Teeny et al, 2021). However, messaging research also demonstrates that messages are particularly effective when they match someone's extant views and identity (Joyal-Desmarais et al., 2023); since White Americans on average prefer a Black disadvantage narrative, it's possible that only that frame will be effective at shifting perceptions, and then most likely only the Black advantage perceptions.

I was also interested in what would shift when balanced language (emphasising neither advantage nor disadvantage, but general disparity) was used- due to lack of previous research this was an exploratory research question, but I thought perhaps both elements of racial advantage perceptions might shift in this case. Given, however, the potential resistance of White Americans to see the ingroup in a negative

light and the tendency to focus on disadvantage only, it might be possible that participants interpret a balanced message through an outgroup disadvantage lens, and therefore only shift Black disadvantage perceptions. Given that our measure allows us to directly quantify and compare shifts in White advantage and Black disadvantage, I aim to look at whether these perceptions shift. I will also examine which perceptions are shifting, who is shifting them, and the conditions under which they do so. We will move on to our current research to address these questions.

## Current research

Here, I aim to answer the following research questions: do relative racial advantage perceptions, quantified by my novel measure, change after reading about racial inequities, or do they remain stable? I predicted that people's perceptions would change, though this would most likely depend on individual traits (e.g. political ideology, racial identification) and the information provided (H1).

If perceptions do change upon learning new information about inequities, which component changes more, perceptions of White advantage or Black disadvantage? White Americans are more likely to naturally frame disparity as an outgroup disadvantage rather than an ingroup advantage (Jun et al., 2022), seem more receptive to accepting the idea of outgroup disadvantage (Dover, 2022). It would therefore follow that White Americans are more receptive to inequality as outgroup disadvantage, and their perceptions of Black advantage would change more (H2).

I also explored the possible role of emotions in helping to explain how people react and adjust to racial inequity information. Anger, sympathy and guilt tend to be action-oriented (source) and might predict a greater change, but our dependent variable is a perception, not a behaviour, so it is possible that in fact shame and sadness would induce greater shifts. Sympathy (and anger) tend to be other-oriented and would therefore logically shift Black advantage perceptions more, while guilt, shame and sadness tend to be self-oriented and would shift White advantage

perceptions more (H3).

Do individual differences in political ideology or racial identification moderate these shifts in relative advantage perceptions? We predicted that political ideology and racial identification might both affect the malleability of relative advantage perceptions, such that more conservative ideology and greater identification with being White would lead to smaller shifts, particularly when it comes to White advantage perceptions (H4).

Lastly, are shifts in White and Black (dis)advantage perceptions moderated by the framing of the information? This depends on whether the perceptions are more context-sensitive, or framing is only effective to the extent that it matches extant beliefs. Therefore, I predicted that either White advantage scores would shift for those who are assigned White advantage framing to match the context, or that they wouldn't because they don't match people's natural framing preferences. In the Black disadvantage condition, Black disadvantage perceptions would increase, but White advantage will not (H5). How a balanced language frame impacts shifts is an exploratory question.

## Method

To test these research questions, I analysed the results from Studies 2 and 3 (Study 1 did not have a second time point). For a full and more detailed description of the methodology and procedure of those studies, please refer to the methodology chapter (link here). Below I will describe the aspects of each study that are relevant to the research questions in this chapter.

### Design

Both studies 2 and 3 consisted of two parts, administered approximately a week apart. Most critically for this chapter, in part 1, participants reported their baseline relative racial advantage perceptions. In part 2, they read an ostensibly real

article which conveyed factually accurate information about inequality. Participants then rated their emotional reactions toward the article and completed the individual difference measures, including relative racial advantage perceptions a second time.

As far as the research questions involved in this chapter, Study 2 is correlational, where the predictor variable is whether the participant had read about racial inequity yet or not. The dependent variable is change in relative racial (dis)advantage perceptions, both combined as a difference score, as well as perceptions of White advantage and Black disadvantage separately, to parse the differential contribution to any effects on relative advantage perceptions. Political ideology and racial identification were added to interaction models, as well as guilt, anger, shame and sadness. Study 3 includes an experimental manipulation of information frame, where participants were randomly assigned one of three articles to read with different framing; one emphasizing White advantage, one emphasizing Black disadvantage, and one using balanced language to discuss advantage and disadvantage, meant to emphasize racial disparities more generally. Otherwise, the design and procedure were identical.

**Participants**

Participants were recruited from MTurk via CloudResearch for Study 2, and from Prolific for Study 3. Any participant (within CloudResearch) was free to sign up for Study 2, but only White participants were recruited via Prolific for Study 3, as we planned to only analyze the responses of White Americans for the current research questions. After exclusions, Study 2 included 676 participants in part 1, and 446 participants in part 2. Study 3 included 907 participants in part 1 and 719 participants in part 2. Please see Table 7 for some essential demographic and descriptive statistics of the White participants who completed both parts of each study [2].

[2]The method chapter also includes a descriptive table but comprises total samples (Black and White, some who only completed part one). This table is specific to participants whose data we

**Table 7**

*Descriptive statistics of participants who completed both parts.*

| Variable | Study 2 ($N$ = 446) | Study 3 ($N$ = 719) |
|---|---|---|
| **Age** | 42.4 (12.6) | 42.6 (13.3) |
| **Gender** | | |
| Female | 68.6% | 55.4% |
| Male | 30% | 42.4% |
| Non-binary/Other | 1.1% | 2.5% |
| Prefer not to say | .2% | .3% |
| **Income** | | |
| <10k - <30k | 38.80% | 36.40% |
| 30k - <70k | 37.00% | 34.90% |
| 70k - >150k | 22.20% | 26.60% |
| Prefer not to say | 2.00% | 2.10% |
| **Education** | | |
| Some high school | .20% | 1.70% |
| High school diploma | 9.40% | 15.50% |
| Technical/vocational | 4.30% | 3.50% |
| Some college | 28.50% | 29.40% |
| Bachelor's degree | 39.00% | 34.40% |
| Master's degree | 15.90% | 12.40% |
| Doctoral/professional degree (PhD, MD, JD) | 2.70% | 3.20% |
| **Political ideology** | 3.5 (1.8) | 3.5 (1.8) |
| 1-Very liberal/ prog. | 15.70% | 15.90% |
| 2 | 2.40% | 17.90% |
| 3 | 15.20% | 14.30% |
| 4 | 17.70% | 24.60% |
| 5 | 13.00% | 11.80% |
| 6 | 11.70% | 8.50% |
| 7-Very conservative | 6.30% | 7.00% |
| Mean Racial identification (1-7, higher score = higher identification) | 4.2 (1.1) | 4.1 (1.2) |

analysed in this chapter; White participants who completed both parts of studies 2 and 3. This table is also applicable to the participants' data analysed in the results of subsequent chapters.

## Procedure

Both studies 2 and 3 consisted of two parts, administered approximately a week apart. Participants were told that the study was about media consumption and preferences, and their opinions and personality. Most critically for this chapter,

in part 1, participants reported their baseline relative racial advantage perceptions. In part 2, they read an ostensibly real article which conveyed factually accurate information about inequality (e.g. the median wealth gap, housing and health disparities).

In Study 2, the article was written in a way that described relative race-based economic and health disparities with a neutral framing. This neutral framing avoided explicit references to advantage or disadvantage, primarily discussed disparities in relative terms, and employed equal usage of phrases such as "more than" and "less than"(e.g., "Many Americans underestimate or are unaware of the degree of racial disparity when it comes to wealth, health, education and other measures of quality of life in the United States"; see Supplemental Materials for full article).Participants then rated their emotional reactions toward the article. Afterwards, they rated their support for an intervention proposal aimed at reducing the wealth gap (framed as either providing direct or indirect assistance to Black Americans). Participants then completed the individual difference measures and demographic questions, including relative racial advantage perceptions a second time.

Study 3 followed an identical procedure to Study 2[3] but added an article frame manipulation. Participants were randomly assigned to read an article that framed the disparities as A) advantageous for White Americans, B) disadvantageous for Black Americans (e.g., "Many Americans underestimate or are unaware of the extent to which White [Black] Americans continue to experience advantages [disadvantages] relative to Black [White] Americans when it comes to wealth, health, education and other measures of quality of life in the United States"), or C) using neutral language (see Appendix Xfor the full articles used).

[3]The article was also shortened somewhat to allow for more measures to be added to the study without substantially lengthening the time needed to complete it. See Appendix X for the precise differences.

### Measures

For a full overview of the measures used in each study please refer to the method chapter.

In Study 2, the variables were: previous relative (dis)advantage perceptions, (as DVs) change in relative (dis)advantage perceptions, and (as moderators) political ideology, racial identification, and emotions.

In Study 3, the variables were: relative (dis)advantage perceptions, and (IV) article frame condition, (as DVs) change in relative (dis)advantage perceptions, and (as moderators) political ideology, identification, and emotions.

## Results

Please see Table 8 for an overview of participants' mean relative racial advantage perceptions, both combined for relative racial disparity and as separate items.

**Table 8**

*Means (Standard Deviations) of racial advantage perceptions by study.*

| | **Difference score** | | **White advantage** | | **Black advantage** | |
|---|---|---|---|---|---|---|
| | Time 1 | Time 2 | Time 1 | Time 2 | Time 1 | Time 2 |
| Study 2 ($N$ = 446) | 3.15 (3.1) | 3.46 (3.0) | 6.85 (1.7) | 6.85 (1.6) | 3.70 (1.7) | 3.40 (1.6) |
| Study 3 ($N$ = 718) | 3.17 (3.3) | 3.47 (3.2) | 6.87 (1.8) | 6.88 (1.7) | 3.71 (1.8) | 3.41 (1.7) |

### Are relative racial (dis)advantage perceptions malleable or stable?

I tested whether relative (dis)advantage perceptions (captured by the difference score) changed after reading about racial inequity in Studies 2 and 3. The difference score data was negatively skewed, so non-parametric comparisons (Wilcoxon signed-rank) were done instead of a parametric Student's t-test. In Study 2, the Wilcoxon signed-rank test showed that White Americans' perceptions of relative (dis)advantage disparity after reading the article (M= 3.46 [3.0]), went up by a

small but significant amount compared to beforehand (M = 3.15 [3.1], $Z$ = -4.14, $p$ < .001, $r$ = .20)[4]. In Study 3, a Wilcoxon signed-rank test again demonstrated a similar significant increase across measurement points in relative advantage disparity perceptions from a mean of 3.17 [3.3] to a mean of 3.47 [3.2] ($Z$ = -5.33, $p$ < .001, $r$ = .20)[5]. In both cases, participants perceived a greater disparity between White and Black Americans (favoring White Americans) after reading the article compared to before. This indicates support for Hypothesis 1, showing that White Americans' perceptions of relative racial disparity do change after reading about racial inequity.

**Is one element of racial advantage (White advantage vs Black disadvantage) more malleable than the other?**

The change in relative (dis)advantage perceptions seemed to be driven by changes primarily in Black disadvantage perceptions in both Study 2 and Study 3. When considering the Black Disadvantage item alone in Study 2, scores went from a mean of 3.70 (SD = 1.7) in part one to 3.40 (SD = 1.6) in part two after reading the article ($Z$ = -5.58, $p$ < .001, $r$ = .26) in Study 2. However, there was no significant difference in the White advantage perceptions item across time (Z = -.11, $p$ = .914). Wilcoxon-signed rank tests were carried out again due to non-normal distribution.

In study 3 Black disadvantage perceptions again significantly increased, from a mean of 3.71 to 3.41 after reading the article ($Z$ = -7.16, $p$ < .001, r = .27). Once again, White advantage perception scores remained unchanged ($Z$ = -.72, $p$ = .475)[6]. This supports our prediction (H2) that Black disadvantage perceptions shift more than White advantage perceptions. White Americans perceived Black

[4]When it comes to Wilcoxon signed-rank tests, r is considered the appropriate effect size to report (Tomczak & Tomczak-Łukaszewska, 2014), which is found by dividing the Z statistic by the square root of the sample size. .1 - <.3 is considered a small effect size, .3 - .5 moderate, and > .5 large (Corres, et al., 2012).

[5]Should the reader be more familiar with interpreting paired-samples t-tests, these have also been carried out: Study 2: $t(488)$ = 2.937, $p$ = .003, $d$ = .13. Study 3: $t(741)$ = 3.886, $p$ < .001, $d$ = .14.

[6]Paired-samples t-test of Black advantage perceptions across times points were $t(488)$= -4.565, $p$ < .001, $d$ = .21 for study 2, and $t(741)$= -5.881, $p$ < .001, $d$ = .22 for study 3.

Americans to be more disadvantaged after reading about racial disparities but did not change their views on how advantaged White Americans were.

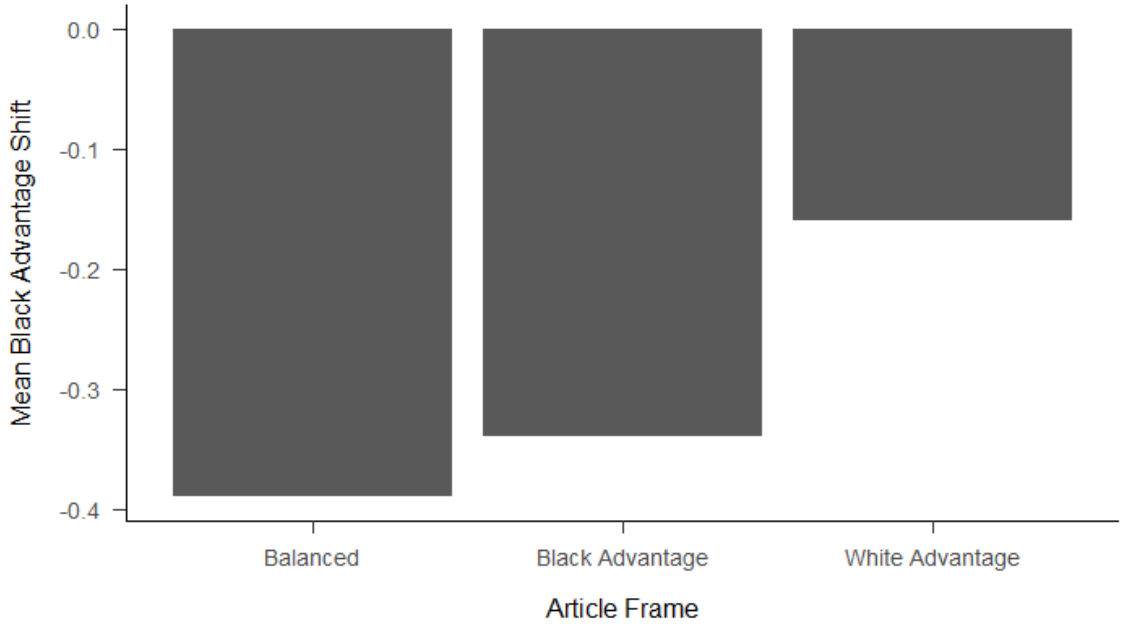
**Does framing the information in a certain way change malleability? (Study 3 only)**

A Kruskal-Wallis test (non-parametric comparison of distribution) showed that there was no significant effect of article frame on shifts in relative advantage perceptions ($H(2) = 4.52$, $p = .104$) or White advantage perceptions ($H(2) = 0.59$, $p = .742$). When examining the mean differences between conditions for perceptions of Black disadvantage, it looked like it was possible that there might be an effect of article frame there: participants in the balanced article frame (M = 3.77 to 3.38) and the Black disadvantage frame (M = 3.77 to 3.43) showed a larger shift in their perceptions of Black disadvantage than those in the White advantage frame (M = 3.57 to 3.41). See figure 5 below for a visual of mean shifts in Black disadvantage perceptions by article condition. However, the White advantage condition had a lower mean to start with, so the differential shifts could just be a function of natural variability between groups. Kruskal-Wallis showed that the interaction between changing Black advantage perceptions and article frame was marginally significant ($H(2) = 5.42$, $p = .067$, $\eta H^2 = .005$).

Overall, perceptions of Black (dis)advantage seem to be malleable regardless of framing, and perceptions of White advantage remain stable regardless of framing. This was one of two possible outcomes that I predicted (H3) that shifts in individual (dis)advantage scores would match with the natural preferences in framing that people prefer to discuss and perceive (e.g. Black disadvantage is easier for people to perceive than White advantage, so shifts in Black disadvantage were more likely as well).

**Figure 5**

*Mean Black advantage perception shift by article framing.*




**Does political ideology moderate shifts in advantage perceptions?**

I recoded political ideology into three categories, where scores of 1-2 were coded as liberal/progressive, 3-5 were coded as moderate, and 6-7 were coded as conservative. This made conceptual sense given natural categories of liberals, moderates, conservatives and allowed for non-linear effects to emerge. This was exploratory, but I thought that perhaps moderates would be more open to change their perceptions than either group at either end, and/or perhaps conservatives would shift more than liberals only because they had more room to shift. See Table 2 for a summary of the group size, means and standard deviations of changes in relative advantage perception by political ideology.

**Table 9**

*Relative advantage perception changes as a function of political ideology.*

| | **Study 2** | | **Study 3** | |
|---|---|---|---|---|
| | *N* | M (SD) | *N* | M (SD) |
| Progressive | 161 | .05 (1.8) | 242 | .14 (1.6) |
| Moderate | 205 | .41 (2.0) | 358 | .49 (1.9) |
| Conservative | 80 | .55 (1.8) | 111 | .12 (2.3) |

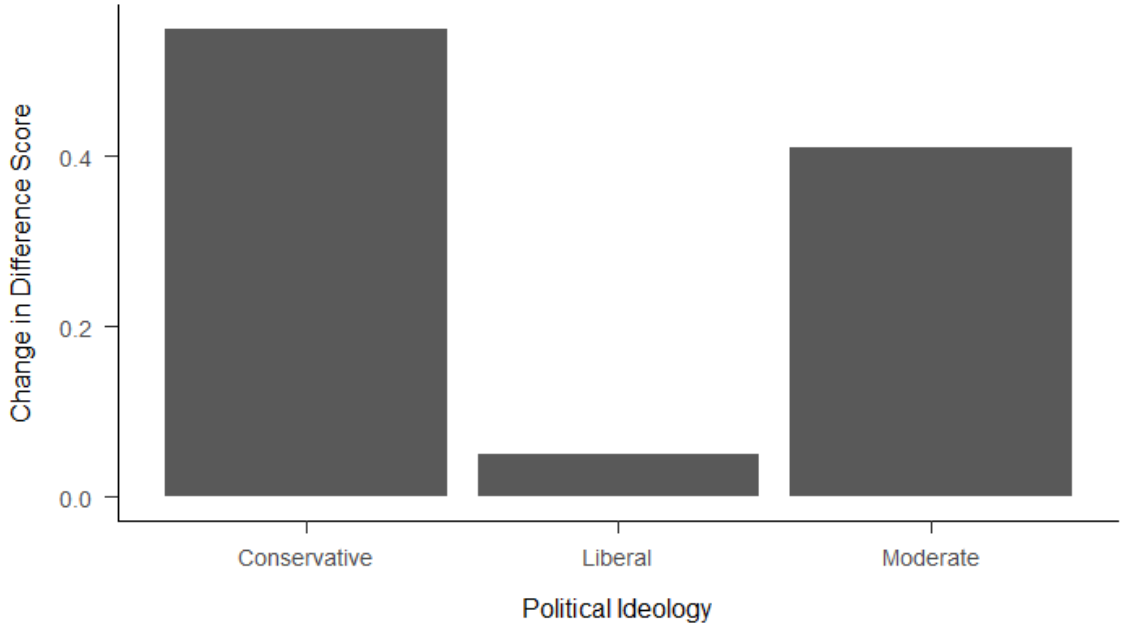
***Study 2.***

In study 2 we conducted a Welch's ANOVA (due to the unequal group sizes) and found a marginally significant effect of political ideology on the difference score: $W(2, 218) = 2.58$, $p = .078$, $\eta 2 = .01$. However, Games-Howell post-hoc tests found that none of the groups differed significantly from each other, though the difference between progressives vs conservatives and moderates was trending towards significance, with conservatives shifting (increasing their perceptions of relative disparities) directionally more ($M_{diff} = .50$, $p = .11$), as well as moderates to a lesser degree ($M_{diff} = .36$, $p = .16$), while there was no difference between moderates and conservatives ($p = .85$).See Figure 6 for a visualization of mean shifts by political group.

A Welch's ANOVA was marginally significant for White advantage perception shifts: $W(2, 206.6) = 2.30$, $p = .10$, $\eta 2 = .01$. Games-Howell post-hoc tests showed a marginal difference in mean shifts between moderates (M = .11, SD = 1.2) and progressives (M = -.15, SD = 1.1; $p = .090$). Moderates did not differ significantly from conservatives (M = .05, SD = 1.3, $p = .939$), nor did progressives differ from conservatives ($p = .475$). This means that liberals perceived less White advantage in time 2 than time 1, while moderates perceived slightly more (and conservatives about the same amount)- though when looking at time two means, liberals still perceived White Americans to be much more advantaged than moderates or conservatives did.

**Figure 6**

*Mean shift in relative advantage perceptions by political ideology (Study 2).*



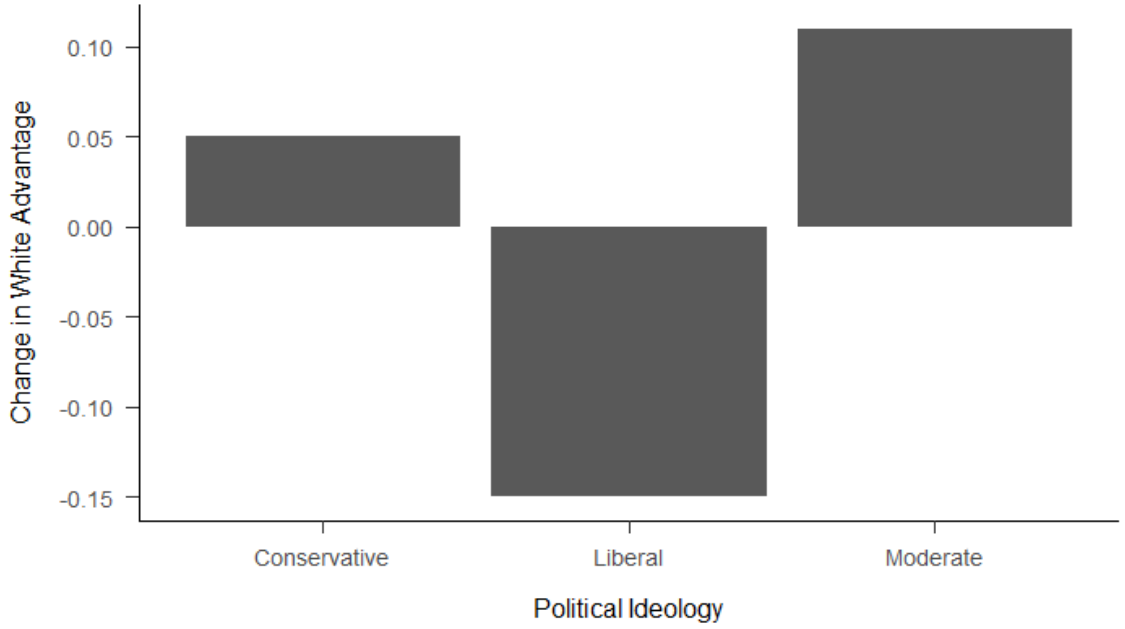

See figure 7 and 8 for a visualization of White advantage perception means across time points by political group.

A Welch's ANOVA showed no significant differences between political groups in Black advantage perception shifts ($W(2, 216.9) = 1.75$, $p = .176$). See figure 7 for a visualization of Black advantage perception means across time points by political group.

Because the results were marginal (and the conservative group was small) but the relationship between the two variables was relatively linear in Study 2, I decided to carry out a regression analysis with the original continuous political ideology variable as well. There was a small but significant effect of political ideology on shifts in relative advantage perceptions: $F(1, 144) = 4.96$, $p = .026$, $R^2 = .01$, (B = .11), such that politically conservative people shifted their perceptions more (to see a greater advantage gap). Political ideology accounted for a marginally significant shift in White advantage perceptions: $F(1, 444) = 3.03$, $p = .082$, B = .05, $R^2$

**Figure 7**

*Mean change in White advantage perception by political ideology.*



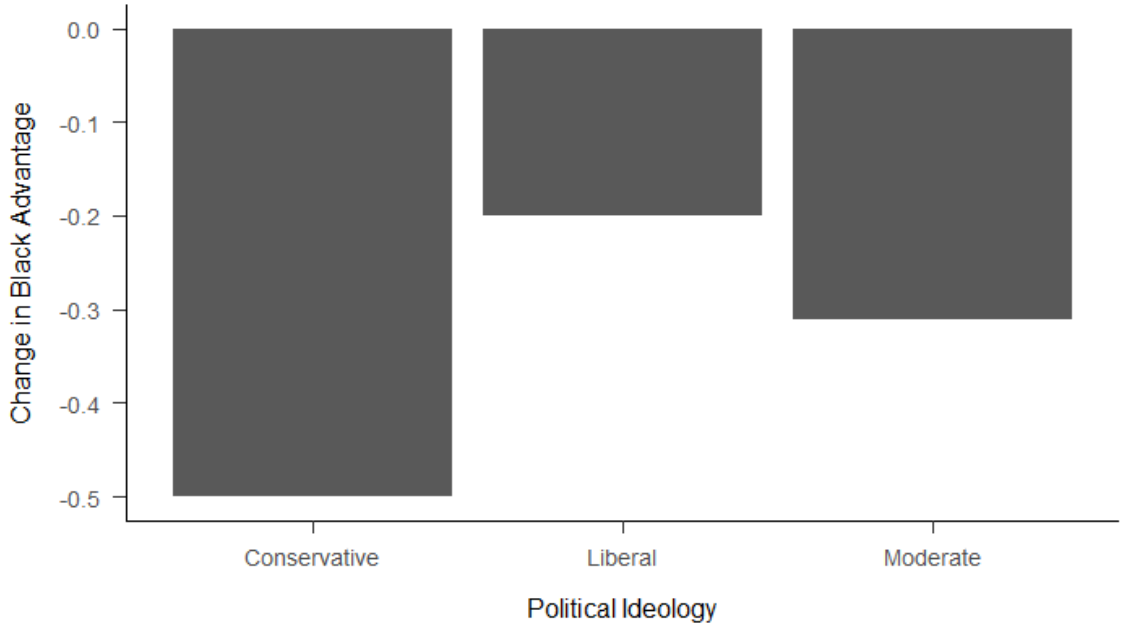

= .01), such that more politically conservative people shifted their attitudes more (to see greater privilege). The same marginal shift was found in Black advantage perceptions: $F(1,444) = 3.10$, $p = .079$, $R^2$=.01 (B = -.06), such that politically conservative people shifted their perceptions more (to see greater disadvantage). In the case of the regression analyses, it seems that the influence of political ideology on relative racial advantage perceptions was driven by both White and Black advantage perceptions.

***Study 3.***

I conducted a Welch's ANOVA (due to unequal group sizes and heterogeneity of variance) and found a significant effect of political ideology: $W(2, 281) = 3.16$, $p = .044$, $\eta 2$ =.01. Games-Howell post-hoc tests found only a significant difference between moderates (M= .49, SD = 1.9) and liberals (M= .14, SD = 1.6, $p$ = .049), whereas the other comparisons were not significant. The difference between

**Figure 8**

*Mean change in Black advantage perception by political ideology*




moderates and conservatives (M=.12, SD = 2.3) was equally as large (Mdiff = .36, $p$ = .284), so it is possible the non-significance there is because conservative scores were more variable. See Figures 9 and 10 for a visualization of mean shifts by political group.

The effect of political ideology on relative advantage perception shifts appears to be driven by shifts in Black advantage perceptions alone, as an ANOVA did not prove to be significant when comparing group means of White advantage perception shifts ($p$ = .367). A Welch's ANOVA was significant (marginally) for Black advantage perception shifts: $W(2, 278.1) = 2.98$, $p$ = .053, $\eta^2$=.01. Games-Howell post-hoc tests showed a small but significant difference in mean shifts between moderates (M=-.41, SD 1.2) and progressives (M=-.17, SD=1.3; Mdiff = .25, $p$ = .051). Moderates did not differ significantly from conservatives (M=-.22, SD=1.5), nor did progressives differ from conservatives.

These findings indicate (though not entirely consistently) that those with mod-

**Figure 9**

*Mean change in difference score by political ideology (Study 3)*

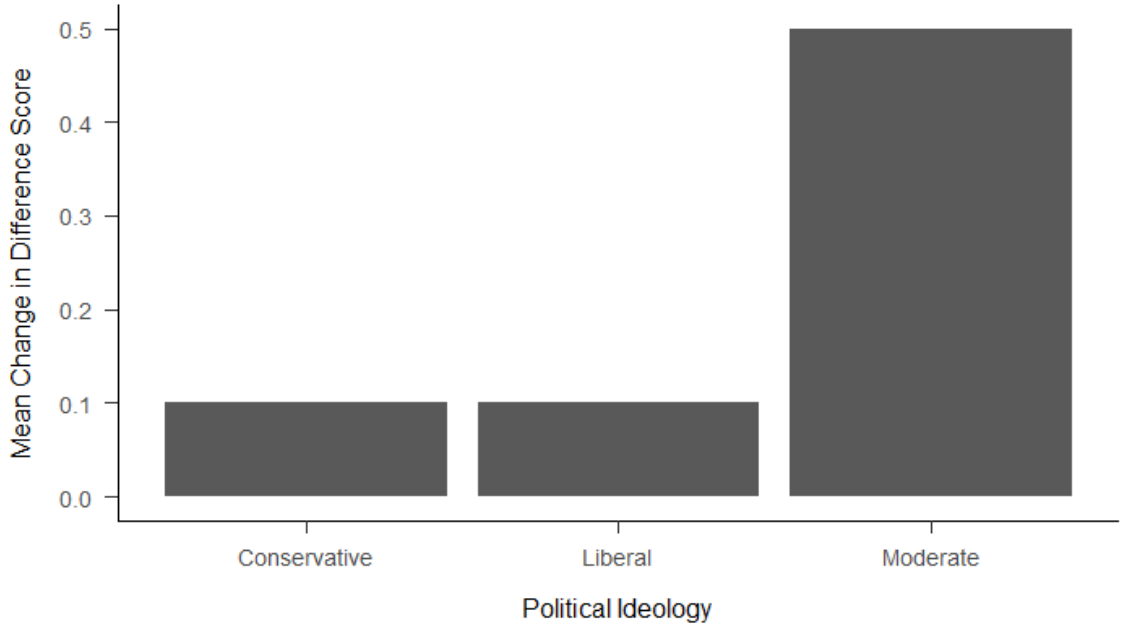
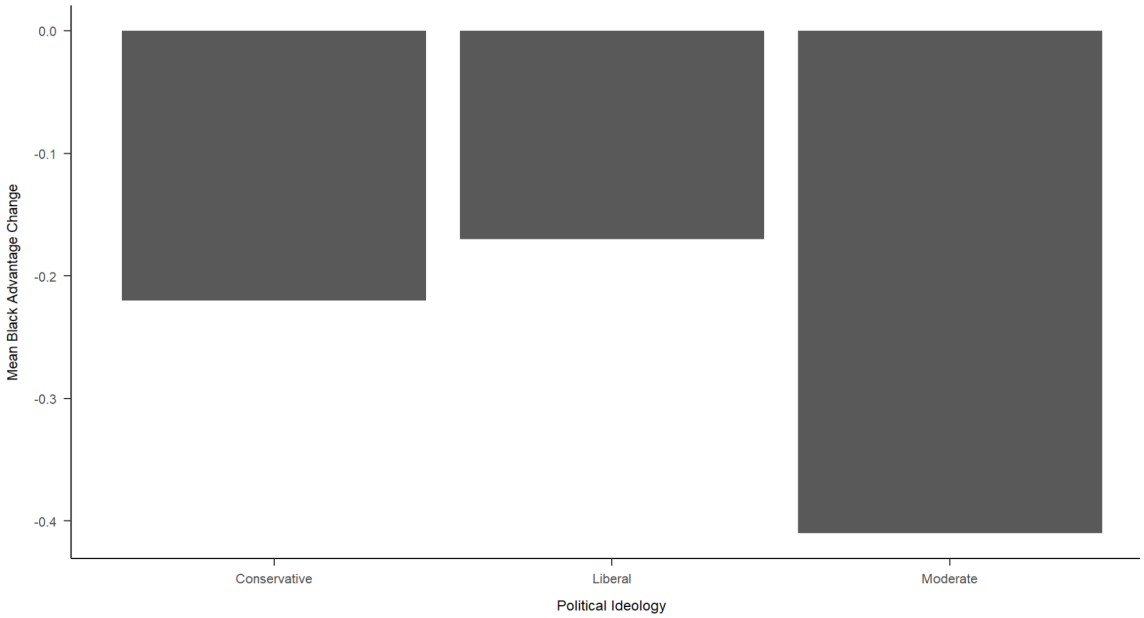



**Figure 10**

*Mean Black advantage perception change by political ideology(Study 3)*



erate political views change their perceptions, specifically of the level of disadvantage of Black Americans, more than either progressive or conservative Americans. This is partially because progressives have less room to shift; moderates still didn't perceive Blacks as being as disadvantaged as progressives did but started to 'catch up' after reading about racial inequities. Please see Table 10 for a summary of mean (SD) racial advantage perceptions (scored from 1 to 9) by political ideology group.

**Table 10**

*Means(SDs) of racial advantage perceptions by political ideology in Study 3.*

| | **Black advantage** | | **White advantage** | |
|---|---|---|---|---|
| | Time 1 | Time 2 | Time 1 | Time 2 |
| Progressives ($N$=242) | 2.43 (1.17) | 2.26 (1.30) | 8.11 (1.10) | 8.08 (1.04) |
| Moderates ($N$=358) | 4.14 (1.59) | 3.73 (1.53) | 6.44 (1.67) | 6.52 (1.59) |
| Conservatives ($N$=111) | 5.09 (1.73) | 4.87 (1.74) | 5.57 (1.73) | 5.47 (1.79) |

It is interesting that, in Study 2, conservatives were just as likely to shift their perceptions of Black advantage perceptions as moderates or progressives, though for White advantage perceptions it was again moderates who shifted most. In Study 3, moderates were the consistently the ones who were mostly likely to shift their views. Therefore, my hypothesis that political ideology would moderate shifts in advantage perceptions (H4) was supported, but not entirely consistently.

### Does racial identification moderate shifts in advantage perceptions?

***Study 2.***

In order to answer this question, I completed a general linear model to conduct an F-test and find parameter estimates with robust standard errors, as the Breusch-Pagan test indicated that there was heteroscedasticity in the data and a simple linear regression would not be appropriate ($p < .05$, rejecting the null hypothesis of homoscedasticity). I also controlled for possible effects of experimental condition

(which article framing they read). There was no significant relationship between racial identification and shifts in relative advantage perceptions: $F(1, 444) = .30$, $p = .585$. The same was true for shifts in White and Black advantage perceptions when tested separately.

***Study 3.***

There was no significant relationship between racial identification and shifts in relative advantage perceptions in Study 3, either: $F(2, 708) = 1.15$, $p = .318$. The same was true for shifts in White and Black advantage perceptions when tested separately. In contrast to my prediction (H4), I did not find any effect of racial identification and this was true for both aspects of relative (dis)advantage perceptions. Considering my main prediction was that stronger racial identification would lead to fewer shifts in White advantage perceptions, it is perhaps logical that there was no significant effect, since White advantage perceptions shifted so little on average that there was likely not enough variability to detect an effect of racial identification.

**Do emotions (sympathy, anger, sadness, guilt) predict greater shifts?**

***Study 2.***

Sympathy acted as a marginally significant predictor of shifts in relative advantage perceptions: $F(1, 444) = 2.92$, $p = .088$, R2 = .01, B = .08)[7], such that those who felt more sympathy shifted their perceptions slightly to acknowledge more disparity. It was not found to be a significant predictor of shifts in White advantage perceptions ($p = .258$) or shifts in Black advantage perceptions ($p = .127$) alone.

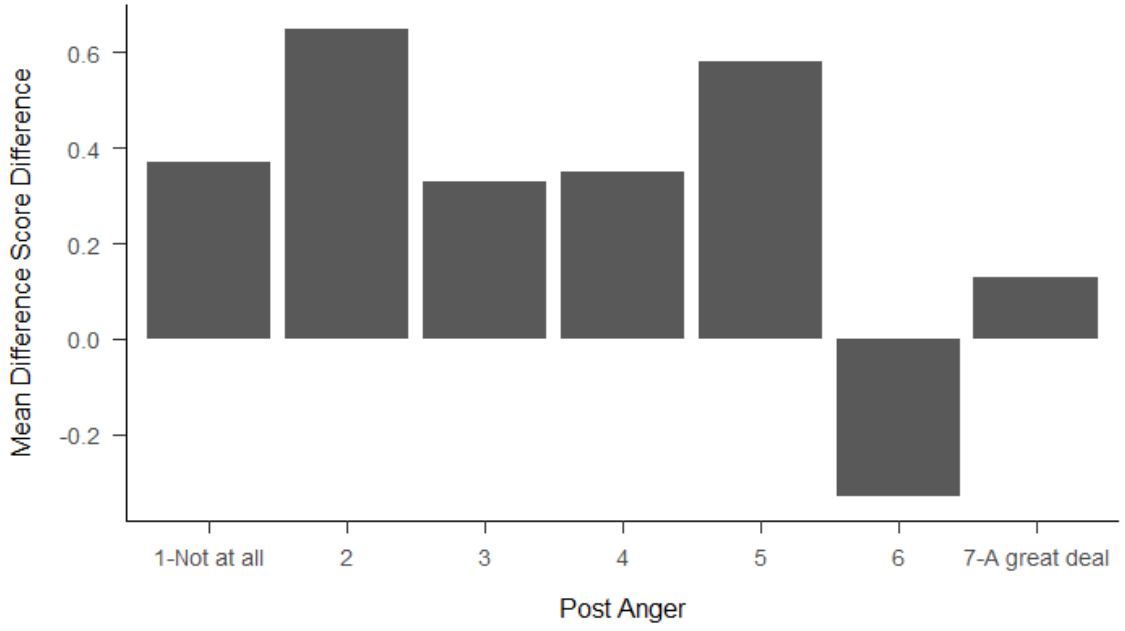
Guilt was not found to be a significant predictor of shifts in relative advantage perceptions $F(1, 444) = .32$, $p = .570$, nor Black or White advantage perceptions. Neither was sadness ($p = .353$) for relative advantage difference, or individual perception score.

Anger was marginally significant for relative advantage shifts $F(1, 444) =$

2.87, $p$ = .091, R2=.01, B = -.08, such that those who felt more anger perceived less racial disparity in time 2. [MOU2.1]This is driven by shifts in Black disadvantage perceptions; there was a marginally significant effect where those who experienced more anger were more likely to shift to see slightly more Black advantage, or less Black disadvantage ($F(1, 444) = 2.95$, $p$ = .087, r2 = .01, B = .05). White advantage shifts were not significantly related to anger, $p$ = .362). Thus, the anger associated with Black advantage perceptions may have been anger toward reading about inequality, rather than anger toward the inequality itself.

**Figure 11**

*Mean difference score post anger.*




***Study 3.***

When examining a possible relationship between emotion and shifts in (dis)advantage perceptions, there was no relationship between sympathy, guilt, or anger and the difference score, nor either of the separate advantage perceptions of White advantage

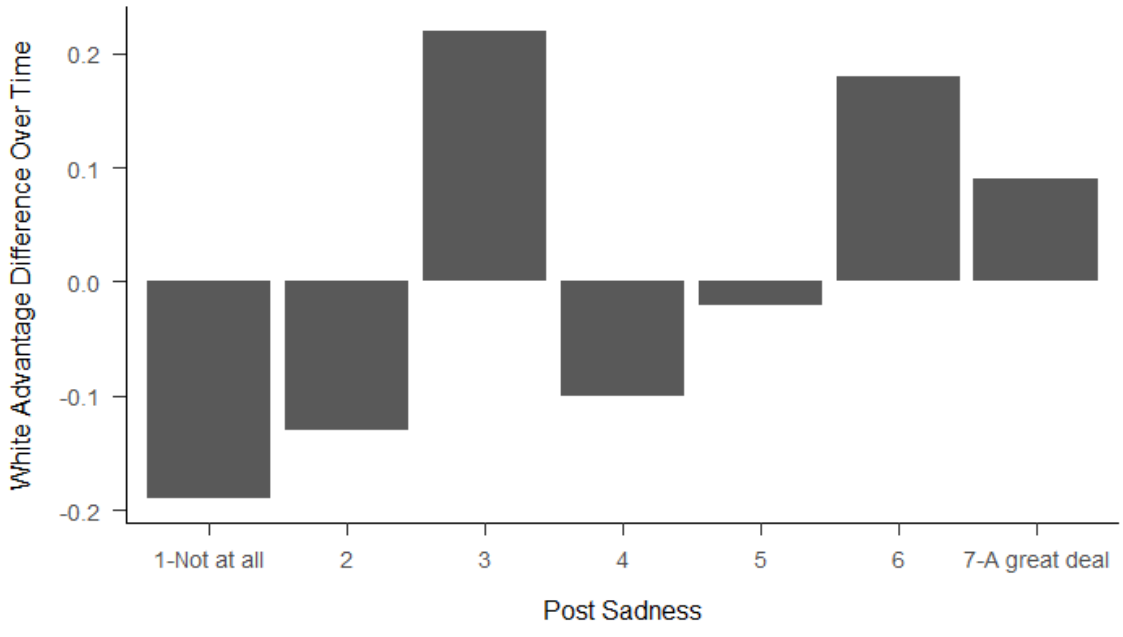
[7]The p-value does go up to .115 with robust standard errors but the rest remains the same.

or Black disadvantage (all $p$'s $> .3$).

Sadness was a marginally significant predictor of shifts in relative advantage perceptions; $F(1, 709) = 2.93$, $p = .087$, R2 = .00, B = .06, such that those who felt more sadness shifted their perceptions slightly to acknowledge more disparity. This was driven by a significant effect of sadness on shifts in White advantage perceptions, such that the sadder the article made them feel, the more people shifted their perceptions to acknowledge White privilege (B= .05, $p = .029$. $F(2, 708) = 4.82$, R2 = .01). Out of curiosity I checked whether there was an interaction between sadness and article frames on perceived White advantage shifts, but this was not significant. Shifts in Black advantage perceptions were not significantly related to sadness, $p = .594$.

**Figure 12**

*Mean difference score post sadness.*



## Discussion

In this chapter we attempted to gain a better understanding of whether and when White participants' perceptions of the relative (dis)advantages of Black and White Americans could be shifted. Whether wilful or accidental, ignorance and denial contribute to the maintenance of structural inequities in America. Understanding how to combat misperceptions and disinformation and ensure people have a more realistic view of current racial disparities is an important first step in gathering momentum for equity.

Relative advantage perceptions seem to be malleable, to a degree. New information about structural inequity shifted participants' perceptions despite various motivations promoting resistance to such change. After reading an article about racial disparities, people perceived greater differences between White and Black American (dis)advantages. This shift was driven by people perceiving Black Americans to be more disadvantaged after reading about structural inequity. Perceptions of White advantage did not change, and this was true regardless of whether the information was framed to focus on White advantage, Black disadvantage, or a balance of the two.

Framing did not, in fact, have an impact on any shifts in advantage perceptions, though both the neutral and Black advantage frame were somewhat more associated with shifts in Black advantage perceptions than the White advantage frame. Previous research on the impact of framing (Lowery et al., 2007, Chow et al, 2008, Lowery et al., 2012) did not examine shifts in perceptions, so these findings are overall an initial exploration. Furthermore, all shifts in perceptions were small in magnitude, which may have made it more difficult to detect patterns in those shifts, if indeed there were any.

It seems that White advantage perceptions are quite difficult to shift, which tracks given previous findings about White motivations to avoid cognitive dissonance and negative group esteem (Kraus et al., 2019; Lowery et al., 2007). However, it

is interesting to note that the average perceptions of White advantage were almost two points above the midpoint (M=6.86 across both studies), so it does seem that White participants are willing to acknowledge some advantage.

Who is more likely to shift their views? Our findings demonstrate that, overall, political ideology has a small impact, such that moderates most often seem to shift the most (except for Black advantage perception shifts in Study 2, where conservatives shifted slightly more, though the difference between moderates and conservatives was n.s.). Moderates had more room to shift than did liberals and are most likely less entrenched in their views than conservatives (de Bruin  FeldmanHall, 2025). It is unclear why conservatives were the exception in Black advantage shifts in Study 2, but the conservative sample was more variable on several measures than in other studies, so perhaps it was a function of natural sample differences. Alternately, there have been social and political shifts in the U.S. even between 2022 and 2024, when these two studies took place, so possibly there are contextual factors that could explain the discrepancy.

Racial identification was not associated in greater shifts in racial (dis)advantage perceptions. However, considering that if there were to be an effect, it would have been that those high in racial identity would be less likely to shift their White advantage perceptions, it is logical that no association was found, since no significant shifts in White advantage perceptions occurred and there was no variability to detect.

The relationship between emotions and shifts in (dis)advantage perceptions was not consistent, and most relationships were marginal. It was interesting, however, that more sadness was related to shifting to perceive more White advantage. Sadness is not usually an emotion that is investigated in relation to racial disparity interventions, possibly because it is not considered an emotion that fuels , but it can be associated with more systematic and analytical cognition (Clore et al., 2013; Forgas, 2013), so perhaps it is qualified to encourage shifts in dominant groups' perceptions of their own advantages.

**Implications, Contributions and Future research**

In this chapter I identified that Black disadvantage perceptions are more malleable than White advantage perceptions. Though on average White participants already acknowledge some degree of advantage, they are not easily willing to shift those perceptions further. Shifts were small, but the intervention was also small (a 200-300-word passage); future research could investigate in more depth whether informational messages that are more comprehensive and balanced in their language could expand these shifts, as Niederdeppe and colleagues also argue for in their review (2023). Future research could also investigate more longitudinally- are these shifts sustainable? One study has found that an informational intervention about the racial wealth gap maintained its effects for up to 18 months (Callaghan et al., 2021), but it is the only one of its kind.

The fact that moderates seem to be the most changeable in their perceptions has interesting implications for informational messaging and strategy. Moderates might be most fruitful place to focus on when it comes to informational interventions, and future research could further investigate the conditions under which moderates (vs other political ideologies) change their perceptions most.

It could also be useful to investigate under what conditions sadness is experienced- perhaps the structural element of disparity is what causes it and test whether or not it can lower White defences enough to shift their perspectives of White advantage. Given how powerful a predictor of policy support White advantage perception is, any variable that potentially contributes to shifts is of potential interest. Other emotions may bear further investigation as well, to identify possible mechanisms through which the relationship between various emotions and (dis)advantage perceptions are found consistent and confirmed.

Limitations include the lack of a condition where no information about racial disparity was presented, to control for variability in changes over time, and convenience sampling which may not have been nationally representative. The consistency

of the shifts across studies, however, indicates that a more expansive research design would only enhance those effects.

This chapter gives a better understanding of the applications of the measure of (dis)advantage perceptions, both experimentally and in the real world. Given that we now know Black advantage shifts are more likely across all information frames, and White advantage perceptions do not shift up (or down) as a function of framing either, that moderates have more room to shift, and that evoking certain emotions with an expected effect is inconsistent so far, future researchers and anti-racist policy messaging could investigate further and might adjust their expectations and strategies accordingly.

# Chapter 5

# The effects of and interactions with framing (of information and interventions)

### Introduction

So far, I have introduced a new measure capturing perceptions of relative (low) high status group (dis)advantage, established its strong predictive qualities, and found that perceptions of minority disadvantage were somewhat malleable. The framing of the message did not impact the extent to which perceptions of racial disparity changed –Black advantage perceptions shifted regardless of wording, and White advantage perceptions did not, regardless of wording.

Next, I turned to examine the impact of experimental frames on support for equity initiatives. In this chapter, the relative (dis)advantage measure will act as a moderator, to see whether mindset and message frames interact to influence outcomes. By doing so, I am combining an individual difference and experimental approach to studying conceptualisation of inequity, in the aim of expanding our understanding of whether and when support for equity interventions are impacted.

## Research background

### *Types of Message Frames*

When research conceptualises inequities and inequity messaging, it often focuses on how these concepts are framed. Framing refers to the variability with which we talk or think about different issues (Chong & Druckman, 2007; Entman, 1993). Two distinct ways to frame information are emphasis framing, which varies in what is communicated (Druckman, 2011), and equivalency framing, which shares the same information but differs in how it is presented (Tversky, 1977).

Emphasis framing is often discussed in the context of persuasive messaging; an example of this is studying whether a narrative about a single family struggling with poverty is more effective than giving statistics about poverty in general in eliciting donations (Saeri et al., 2023). Because I was more interested in perceptions and attitudes towards structural inequalities, and the effect of these (if any) on subsequent equity policy support, I focused solely on the impact of factual information. Research has also shown that messaging that sticks to broader statistics and facts is more effective when it comes to perceptions of societal inequities (Callaghan et al., 2021). Further, the goal of much psychological research on inequity is to get people to acknowledge the factual realities about existing inequities. Thus, messages conveying the facts seemed most appropriate for assessing receptiveness. It also offers a conservative estimate of the role of emotions: such facts about inequity are still anticipated to give rise to some degree of emotion, and I could measure which ones arise directly from the factual content if the content itself did not pull for any emotion in particular.

There are also different kinds of equivalency frames. One can use a different tone when discussing the same information – for instance, a study looking into crime-surveillance and hiring algorithms (Kodapakkanal et al., 2022) shared a message that used a moral tone, a pragmatic tone, or a control (neutral description, no argument) to argue against these technologies and found that while both tones were

persuasive, they resulted in different emotions and willingness to compromise. In my own unpublished study (Jansen, 2022), I found that for racial inequities, a neutral (vs. moral or pragmatic) presentation of information (borrowing a methodology from Luttrell et al., 2019) was the most effective and evoked stronger emotions- perhaps because racial disparities are already so polarised and emotional.

However, most research into attitudes and messaging about social inequities involves comparative framing, which is a type of equivalency framing that shifts the reference point of comparison but otherwise sharing the exact same information (Tversky, 1977). For instance, a disadvantage frame would emphasise that poor people have less money (than they should have, is implied), whereas an advantage frame would emphasise that wealthy people have more money than they should (Scheufele & Iyengar, 2014).

### *Comparative Frames and Responses to Inequity*

Experimental work manipulating comparative frames has demonstrated that they influence how people respond to inequity. Depending on whether an accidental work bonus discrepancy was described as one person getting more or less than the other, participants gave relatively more to the person who got less, or took away more from the person who got more, even though the inequality was the same magnitude (Lowery et al, 2009). Chow and Galak (2012) found that when income inequality was framed as the rich making more than the poor (vs the poor making less), conservatives closed the gap with liberals in their support for redistributive policies. On the other hand, framing economic inequality as lower-class disadvantages increased support for action to reduce inequality, which is driven by perceptions of injustice (Dietze & Craig, 2021). One study found that framing inequality as illegitimate outgroup disadvantage provoked predicted more support for equal opportunity actions via feelings of sympathy, whereas a focus on ingroup advantage caused feelings of guilt, which was less predictive of support for equity action (Harth et al., 2008). It

therefore seems that the evidence is mixed as to whether one frame systematically leads to more equity support than the other, depending on what kind of intervention is used and what moderators or mediators were included in the model (Malapally et al., 2026).

In the context of race, Dover (2022) showed that White Americans will exhibit more behavioural and cardiovascular indicators of threat when reading about and discussing White advantage (vs Black disadvantage), and when describing illegitimate (vs legitimate) inequality, privileged groups tend to use a disadvantage frame more. The link between threat and White privilege is supported in the other direction as well: threatening (vs affirming) feedback on intelligence or personality causes White people to report less privilege, though only if they were high in racial identity. White privilege beliefs subsequently predicted support for redistribute hiring policies (Lowey at al. 2007).

Though it may be more threatening, White advantage frames can be powerful. Students read or produced statements about White advantage or Black disadvantage, and those in the advantage condition felt more collective guilt and reported lower modern racism and racial identification (Powell et al., 2005). Both Iyer (at al., 2003) and Leach (et al., 2006) found that perceptions of ingroup advantage evoked more guilt and anger, and these correlated with more support for affirmative action and political action. Perceptions of discrimination against minorities provoked sympathy, but this predicted support only for compensatory policies, not other types of equity interventions.

There are some inconsistencies within these methodologies and findings, as Malapally and colleagues (2026) mention in their systematic review of experimental (dis)advantage framing research. Sometimes disadvantage framing provokes more support for policies, sometimes less, often dependent on moderators like perceptions of unfairness (Dietze & Craig, 2021), racial identification (Branscombe et al. 2007), and group-esteem (Lowery et al., 2007), though these have not always been consis-

tent or replicated either. Sympathy is sometimes more effective than guilt (Harth et al, 2008), and guilt is sometimes more effective than sympathy (Leach et al, 2006). Some studies focus on the effects of frames on neutral topics like someone's bonus at work (Lowery et al, 2009), or access to extracurricular sports at university (Harth et al., 2008), which means the results may not translate to more politicised topics.

To attempt to clarify a highly important area of research which has nonetheless seen an array of somewhat inconsistent findings, I aimed to conceptually replicate a study in which Lowery, Chow, Knowles and Unzueta (2012) manipulated inequitable hiring frames and how the outcome of a policy was presented (such that the percentage of Black vs. White] employees went up vs. down]). That work found no main effect of framing across two studies, but found that there was a frame by outcome interaction, such that those who read about White advantage (compared to those who read about Black disadvantage) showed greater support for the policy framed as declining White representation. In other words, reading about White advantage buffered the backlash that a White-loss might typically evoke.

Critically, extant research on experimental framing has not taken into account that these frames do not occur in a vacuum- people already have established ideas about Black and White (dis)advantage, which is something I wanted to explore using the relative racial (dis)advantage measure I established in the previous chapters. Testing whether these perceptions interact with equivalence communication frames can advance theory on framing and inequity and can also offer insights for applied efforts to communicate about inequality by identifying when different frames are likely to be most effective.

Thus, in this chapter I am interested in the relationship between natural perceptions of relative (dis)advantage, information frames, and intervention frames. Considering the prevalence and lack of consistency in the research so far in the relationship between emotions and policy support, I also looked to explore if different frames about racial disparity change people's emotional experience. It would make

sense for a Black disadvantage frame to evoke other-oriented emotions like sympathy and anger, while a White advantage frame might turn attention inward and evoke guilt, shame or sadness. Investigating the possible interplay of emotions, as well as political ideology and racial identification, which previous research has demonstrated are relevant for predicting equity policy support can help contribute a richer understanding of which frames are effective under what conditions and why.

## Current study

In addition to aiming to conceptually replicate Lowery's work, given the strong predictive ability of baseline views of dis/advantage in the first results chapter (Chapter 3), I was interested to see if these baseline views interact with various framing of both the stimulus (article worded as White advantage or Black disadvantage) and the intervention they are judging (framed in different ways, depending on the study).

First, I investigated the main effects of framing, both of racial disparity information, and of interventions. I looked at the impact framing information has on equity support (RQ1), as well as emotional reactions to the article based on framing (RQ2). I hypothesized that a Black disadvantage frame would be more effective in eliciting support for equity in general, and anti-racist policy specifically, whereas a White advantage frame may cause participants to react more defensively and lower support in response (H1). A balanced language frame may lower some of those defences and cause people to react more in line with a Black disadvantage frame. I expected this would partially be due to differential effects on emotions, where a Black disadvantage frame will evoke stronger other-oriented emotions (sympathy, anger), whereas a White advantage frame would evoke greater guilt and shame (H2). It's an exploratory question which, if any frame, would evoke more sadness.

I also investigated the main effects of how equity policy interventions (and their outcomes) are described on subsequent support for them. In study 2 I ex-

amined whether people were more supportive of indirect interventions (that would disproportionately help Blacks but was in fact based on wealth and therefore benefitted everyone to some degree), and direct interventions (aimed at helping Blacks only, as a form of reparation). This was not a frame of outcome but of target, as there was in fact a substantial difference between the two types of interventions- both would help Black Americans, but only one would exclusively help Black Americans. This intervention demonstrated whether people would be willing to support policies that were exclusively aimed at helping Black Americans, which has received a lot of resistance in the past (Akesson et al., 2026; Liu & Niederdeppe; Wozniak, 2019)(RQ3). I hypothesised that support for the policy helping everyone would be higher (H3), though perceptions of greater relative (dis)advantage may interact to cancel this effect (H4)[8].

In Study 3 I more directly replicated Lowery's intervention measure (2012) and framed the outcome of the same intervention (about anti-racist housing policy) differently, where the outcome was the same, but it was worded as the relative homeownership numbers of Blacks as going up, or as those of Whites going down, to see if this caused different levels support (RQ4). In this case, any differential support ratings would be only because of framing language, as the outcomes were in fact the same. I hypothesised, as Lowery did, that a loss-priming frame (White homeownership ratios going down) would lead to lower approval ratings or support for similar future policies (H5).

I tested Lowery's (et al., 2012) 2-way interaction between article frame and intervention frame on specific intervention support (RQ5), such that a White advantage frame is expected to mitigate the negative impact of an intervention framed as hurting White Americans (H6). Whether the balanced language condition (which did not exist in Lowery's experiment) would also interact was an exploratory ques-

[8]We did not examine the impact of intervention framing on emotions, as emotions were measured directly after reading the article as a response to that information, and *before* reading about different interventions, so it did not make sense to use emotions as a DV here.

tion (RQ6). Where I built on Lowery and others' work was to test the potential relationship is between White Americans' existing perceptions of racial disparity and the impact of information framing on support for equity initiatives (both more general support and support for specific interventions but controlling for how they were framed) (Study 3)(RQ7). This was somewhat exploratory, as this has not been investigated before, but I suspected that for people with high relative (dis)advantage perceptions (who perceive high levels of White advantage), there would not be an effect of article framing, since they are more likely to support equity initiatives either way, whereas for people scoring low in (dis)advantage perceptions (who perceive only Black disadvantage), the effect of article frames might be stronger(H7). There may have been be a matching effect here, where the interaction is strengthened when it direction of the effect matches what people are already inclined to believe.

I also checked to see if there is an interaction between relative racial (dis)advantage perceptions and the effect of intervention frames (Study 2 and 3). Again, someone who already perceives high disparities between the two races might be more willing to support targeted Black equity interventions in Study 2 (H8), or interventions that are framed as Whites losing ground in Study 3 (H9), thus cancelling out the effect of intervention type.

Lastly, I checked if there is a three-way interaction between existing racial advantage perceptions, article framing, and intervention framing (RQ8). This is a bit more difficult to predict, but again higher baseline perceptions of disparity may render the mitigating effect of White advantage framing ineffectual or irrelevant, and lower baseline perceptions may strengthen said effect(H10).

## Method

To test these research questions, I will be analysing the results from Studies 2 and 3. For a full and more detailed description of the methodology and design of those studies, please refer to the methodology (Chapter 2). Below I will describe

the aspects of each study that are relevant to the research questions in this chapter.

### Participants

Participants were recruited from MTurk via CloudResearch for Study 2, and from Prolific in for Study 3. Any participant (within CloudResearch) was free to sign up for Study 2, but only White participants were recruited via Prolific for Study 3, as I planned to only analyze the responses White Americans for the current research questions. After exclusions (in this chapter, the most relevant being that they were White and had spent a realistic amount of time reading the articles- see the methodology chapter for a full accounting), Study 2 included 676 participants in part 1, and 446 participants in part 2. Study 3 included 907 participants in part 1 and 719 participants in part 2. Of the 446 participants who completed both parts of study 2, their average age was 42.4 (SD = 12.6), and 68.6% identified as female. The average age of participants who completed both parts of Study 3 (N = 719) was 42.6 (SD 13.3), and 55.4% identified as female. See Table 7 in the previous chapter to see the full demographic characteristics, as they are based on the same sample groups.

### Design and Procedure

Both studies 2 and 3 consisted of two parts, administered approximately a week apart. Most critically for this chapter, in part 1, participants reported their baseline relative racial advantage perceptions. In part 2, they read an ostensibly real article which conveyed factually accurate information about inequality. Participants then rated their emotional reactions toward the article, rated their support for equity interventions in general and a specific intervention in each study, and completed the individual difference measures, including relative racial advantage perceptions a second time.

Study 2 involves one between-subjects experimental manipulation. The exper-

imentally manipulated independent variable is which intervention (related to baby bonds) the participant had read about and rated their support for. The measured predictors were relative racial advantage perceptions, political ideology and racial centrality. The dependent variables were general support for equity interventions, specific support for a baby bonds policy, and emotions (guilt, sadness, sympathy).

Study 3 is experimental, where participants were randomly assigned one of three articles to read with different framing; one emphasizing White advantage, one emphasizing Black disadvantage, and one using balanced language to discuss advantage and disadvantage. Participants were also asked to read about an existing equity campaign to help close the racial gap in homeownership. Participants were randomly assigned one of two conditions, where the outcome of the policy was identical, but described as successfully raising Black ratios of homeownership, or lowering White ratios of homeownership. The dependent variables were a mean score of general equity intervention support, specific support for the homeownership policy, and emotions (guilt, sadness, sympathy). Relative racial advantage perceptions, political ideology, racial centrality were added to interaction models.

### Measures

For a full overview of the measures used in each study please refer to the method chapter.

In Study 2, the variables were: (as IV) intervention type (universal vs targeted baby bonds) and (as DVs) general intervention support, support for baby bond interventions, emotions and (as moderators) political ideology, racial identification and relative racial (dis)advantage perceptions.

In Study 3, the variables were: (as IVs) article frame condition, and intervention frame (homeownership as lower White or higher Black ratios) and (as DVs) general intervention support, support for housing equity intervention, emotions and (as moderators) political ideology, racial identification and relative racial (dis)advantage

perceptions.

## Results

See Table 11 for an accounting of mean general and specific intervention support in Study 2 and 3.

**Table 11**

*Mean (SD) intervention support by group.*

| | **General support** | **Intervention-Specific support** |
|---|---|---|
| Study 2 ($N$=446) | 5.15 (1.8) | 4.40 (2.1) |
| Study 3 ($N$=719) | 3.69 (2.1) | 5.05 (1.7]) |

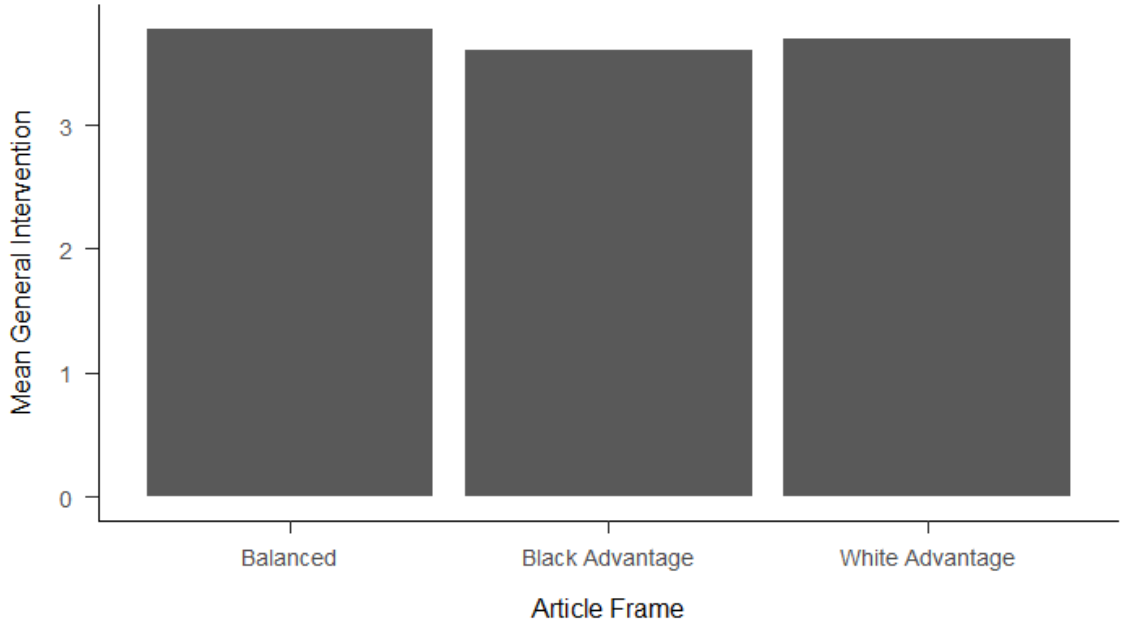
### Main effects

***Does framing racial inequity information affect support for equity interventions? (Study 3)***

A MANOVA was carried out to check for a main effect of article frame on both general intervention support (see Figure 13) and specific intervention support (using intervention framing as a covariate to control for its effects). I did not find a significant effect of article frame on group means of either general ($F(2, 716) = 0.46$, $p = .634$) or specific intervention support ($F(2, 716) = 0.12$, $p = .887$). This was contrary to my expectations that there would be some variability in the persuasive success of different informational frames, specifically that racial disparities framed as Black disadvantage (and possibly the balanced language frame) would lead to greater intervention support scores. However, Lowery and colleagues (2012) also did not find a simple effect of information frame.

**Figure 13**

*Mean support for general intervention by article framing.*




***Does framing racial inequity information affect emotional reactions to the information? (Study 3)***

A MANOVA was carried out to check for a main effect of article frame on several different negative emotions: guilt, sadness, sympathy, and shame[9].

There was a significant effect of article frame on levels of guilt felt, $F(2,716) = 3.30$, $p = .037$, eta-2 = .01. A Games-Howell post-hoc test[10] showed that people felt significantly more guilt in the balanced language frame condition (M=2.89, SD = 1.9) than the Black disadvantage frame condition (M = 2.46, SD = 1.7; Mdiff = .43, $p = .027$).

There was no significant difference between guilt in the White advantage frame

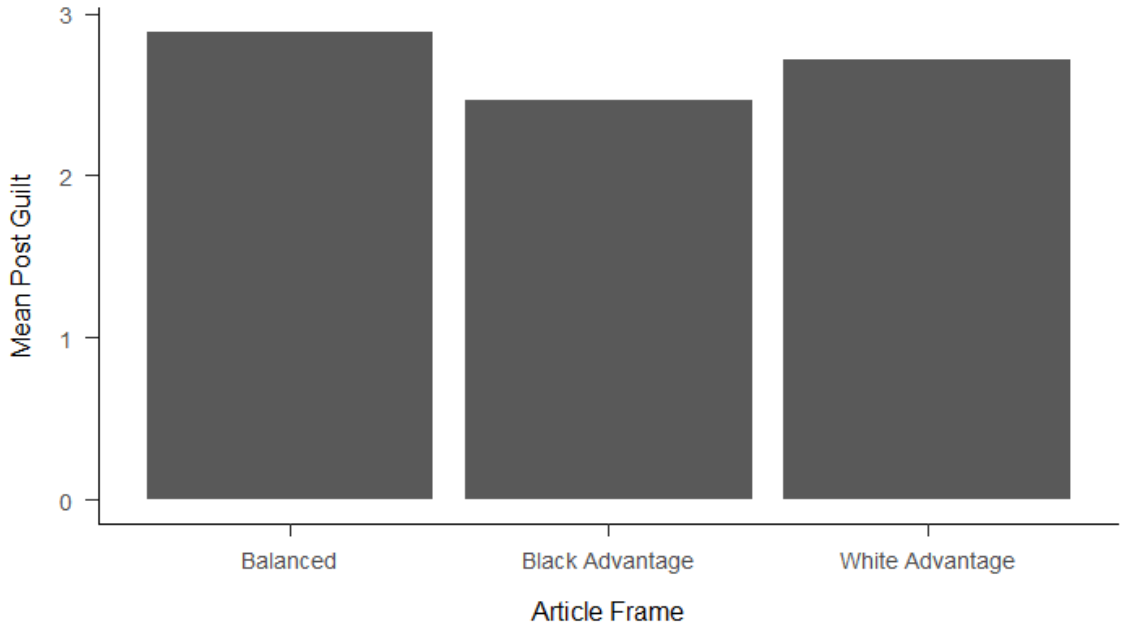
[9]No other emotion besides guilt showed differences by article frame:
Sadness: $F(2, 716) = 0.07$, $p = .934$
Sympathy: $F(2, 716) = 0.71$, $p = .491$
Shame: $F(2, 716) = 0.74$, $p = .480$

[10]Because Levene's test of homogeneity was significant, we performed a Games-Howell post-hoc test (and a separate one-way ANOVA to check Welch's test results- this produced similar results to the original MANOVA test of between-subjects effects: W(2, 467.9) = 3.40, $p = .034$)

condition (M=2.72, SD = 1.8) and either of the other two conditions. See Figure 14 for a visualisation of the three group means.

**Figure 14**

*Mean guilt by article frame.*




***Does framing the intervention in different ways affect support for equity interventions? (Study 2 and 3)***

In study 2, I performed a Mann-Whitney U test[11] to compare the effects of the two intervention conditions on support for interventions. I did not find a significant difference ($p$ = .222); support for universal baby bonds (M = 4.54 [2.0]) was not significantly higher than support for bonds for only Black babies (M = 4.25 [2.2]). I performed a Mann-Whitney U test[12] to compare the effects of the two intervention conditions on support for interventions in Study 3. The results were significant ($U$ = 59115.0, $p$ = .048, $R^2$ = .07). People who read about the outcome which mentioned Black homeownership rates going up were more supportive (M = 5.17

[11]Because of lack of normal distribution.

[12]Due to the data being quite negatively skewed and therefore not normally distributed.

[1.7]) than people who read about White homeownership rates going down (M = 4.94 [1.7])[13]. This was in line with my expectations that an ingroup-loss frame would make White people less supportive of this type of intervention.

### Moderation (2-way)

#### *Do article frames and intervention frames interact to impact support for equity interventions? (Study 3)*

An ANCOVA was run to check if article frames and intervention frames interacted to impact support for equity interventions, and the interaction term was not a significant predictor (p = .717). This goes against our expectations and does not replicate Lowery's (2012) findings that a White advantage framing of inequality helps to mitigate backlash against an intervention that is perceived to be hurtful to White outcomes.

#### *Do disparity perceptions (before reading about inequity) and information frames interact to impact support for equity interventions? (Study 3)*

Using a moderated multiple regression analysis estimating effects of the manipulation at low (-1 SD) and high levels (+1 SD) of the continuous variable (the difference score), I tested the2-way interaction of relative racial (dis)advantage perception x article condition on both general and merged specific intervention support. A test of highest order omnibus interaction showed no significant interaction of information frame and advantage perception on general intervention support ($F(2, 706)=.44$, $p = .643$). Nor was there an interaction of information frame and advantage perception on specific intervention support (controlling for intervention frame; $F(2,705)=.68$, $p = .508$). Therefore, it seems that someone's prior or baseline advantage perceptions do not change how strongly they predicts intervention support based on which article framing they read.

[13]An Independent samples t-test produced the following: $t(717) = 1.78$, $p = .075$, $d = .13$.

***Do disparity perceptions and intervention frames interact to impact support for equity interventions? (Study 2 and 3)***

Using a moderated multiple regression analysis estimating effects of the manipulation at low (-1 SD) and high levels (+1 SD) of the continuous variable (the difference score), I tested the2-way interaction of relative racial (dis)advantage perception x article condition on both general and merged specific intervention support. A test of highest order omnibus interaction showed no significant interaction of information frame and advantage perception on general intervention support ($F$(2, 706)=.44, $p$ = .643). Nor was there an interaction of information frame and advantage perception on specific intervention support (controlling for intervention frame; $F$(2,705)=.68, $p$ = .508). Perceptions of relative racial (dis)advantage do not seem to moderate the effects of policy frames on policy support.

***Do other individual difference measures interact with either information or intervention frames to affect support for equity interventions? (Study 2 and 3)***

**Study 2.** There was a significant interaction between political ideology and intervention condition in Study 2 ($F$(2,440) = 3.49, $p$ = .031, $\eta$2=.02). The means indicate that, while liberals seem equally supportive of either intervention (M = 5.53 vs 5.41), and conservatives seem relatively unsupportive either way (M = 2.86 vs 3.11), there is clearly a difference between moderates' support for all baby bonds (M=4.51) and Black baby bonds (M=3.61). Parameter estimates with robust standard errors (due to heterogeneity of variance and heteroskedasticity) showed a significant interaction term of moderate ideology x intervention type (B=1.15, $p$ = .035, partial-eta 2=.01). See Table 12 for the means and standard deviations of intervention support by type and political ideology for Study 2 and 3. There was no significant interaction between racial identification and intervention type ($F$(1,442) = 2.03, $p$ = .15) in Study 2.

**Study 3.** There was no significant interaction of political ideology and article frame on general support for interventions (F (4,709) =0.87, $p$ = .48) or on support for housing equity interventions (F (2, 713) = 1.11, $p$ = .33). There was a marginally significant interaction of political ideology by intervention frame, such that, even though liberals were most supportive of both overall, their support dropped a bit more than moderates and conservatives did from the Black gain to the White loss condition, $F(1, 715)$= 2.62, $p$ = .10, possibly because they had more room to drop.

There was no significant interaction effect between article frame and racial identification on general intervention support, $F(2, 713)$=1.63, p=.20, or on housing intervention support, $F(2, 713)$ = 1.20, $p$ = .30. Lastly, there was no significant intervention frame by racial identification ($F(1, 715)$ = 0.42, $p$ = .52) on support for an equitable housing intervention.

**Table 12**

*Mean (SD) Support for intervention by political ideology and intervention frame.*

| | **Study 2** | | | | **Study 3** | | | |
|---|---|---|---|---|---|---|---|---|
| | *N* | Universal baby bonds | *N* | Black baby bonds | *N* | Black housing gain | *N* | White housing loss |
| Liberal | 74 | 5.5 (1.4) | 87 | 5.4 (1.6) | 128 | 6.6 (0.6) | 115 | 6.2 (1.1) |
| Moderate | 115 | 4.5 (1.9) | 90 | 3.6 (2.2) | 18 | 5.0 (1.6) | 184 | 4.8 (1.6) |
| Conservative | 87 | 2.9 (2.0) | 38 | 3.1 (2.1) | 55 | 3.8 (1.8) | 56 | 3.9 (2.0) |
| Full sample | 231 | 4.5 (2.0) | 215 | 4.3 (2.2) | 364 | 5.4 (1.7) | 355 | 5.1 (1.8) |

***Do disparity perceptions, information frames, and intervention frames interact to impact support for equity interventions?***

A 3-way interaction model using Haye's PROCESS was run to see if there was an interaction between relative racial advantage perceptions, article framing and intervention framing on support for equity interventions in Study 3. The three-way interaction was not significant, $F(2, 700)$ = 1.37, p=.26, nor were any of the two-way interactions.

## Discussion

It is important to gain a clearer understanding of the differential effects of (dis)advantage framing and intervention frames, from both a theoretical and practical standpoint. In summary, there was no main effect of whether information was framed as White advantage, Black disadvantage or with balanced language. Intervention frame seems to matter more than informational frames in this study. As the previous chapter showed, any information seems to change attitudes to some degree, though there is no control condition without an article to compare the direct effect of reading any information about racial inequity on support for interventions.

That there was no difference in support for universal vs targeted baby bonds is encouraging, as often White people support policies less if they are explicitly helping Black people (English & Kalla, 2021). They had just read an article about widespread systemic inequities, however. This article was successful in increasing accuracy about Black disadvantage, so it would follow that they are then more supportive of something that would benefit Black people (Chow et al 2008).

It is interesting, however, that moderates did support Black baby bonds less than universal baby bonds. One possible explanation is that, like in the previous chapter where they were the ones who changed their perceptions the most, moderates are less entrenched in their views. Liberals already support policies like this, and conservatives often don't support policies like in general, whether for minorities or everyone. Moderates, however, may not have a strong opinion about policies like this, but a policy that helps only Black people may (a) bring out subconscious anti-Black affect, and (b) may sound less appealing because it doesn't help the ingroup in any way. However, as in my analyses any effects were small and the significance marginal, further research would be needed for conclusive interpretation. This has interesting implications for policy design and campaigning- as Niederdeppe and colleagues (2023) demonstrated, use of racial cues can undermine support, but there is promising evidence that longer-form messaging and those connecting structural

causes for racism with policies that can help can counteract that.

I did not measure support for equity policies before reading the article- it would be interesting to see if there was more of a gap in support for targeted and universal baby bonds which the information intervention then closed (though this was not the case, clearly, for moderates). The article in study 2 used balanced language, so it would also be worth investigating whether a Black disadvantage frame would further engender policies targeted at helping Black Americans- though in study 3, the balanced language frame seemed to have similar effects as the Black advantage frame, so perhaps it would be equally successful.

I did not replicate Lowery's (2012) findings of a two-way interaction of information framing and outcome framing on policy support. Though I did design my study to be quite similar to theirs, there were some small differences. Lowery's information was very brief and specific, about discrimination in hiring. The outcome that was framed was specifically about hiring. So, the intervention topic directly matched a specific, short message about hiring, while in the current study, the article comprised a broader set of facts about structural inequity, and the intervention was a specific policy addressing housing inequities. Perhaps a more closely matched frame/intervention design would have produced more similar results. Even so, this would indicate that there are narrow conditions under which a frame-by-frame interaction takes place, which is useful information in and of itself. Future research could look into the parameters under which informational and outcome framing interact.

Both (dis)advantage perceptions and intervention frames predict intervention support, but the framing of the article doesn't seem to matter- as a main effect, or in an interaction. This could also possibly be explained by a change in public discourse and awareness of systemic racial inequities- Lowery's study took place in 2012, whereas this study took place in 2022 and 2024, after the Black Lives Matter movement had occurred.

In applied terms, people are sensitive to an ingroup-loss framing of campaigns.

Therefore, when developing persuasive messaging or descriptions of policy proposals, (if gaining widespread support from White Americans is the goal) it is important to ensure that people are aware of the benefits for all and do not focus on (or address) the 'loss' to the dominant group. Given the results of study 2, this might be particularly important for political moderates: liberals are already supportive, to some degree, and conservatives are not going to be supportive either way, but White moderates are more variable. It would also be beneficial to examine ways to possibly achieve more 'buy-in' from conservatives, as Chow and Galak managed when they framed income inequality in different ways and closed the gap between liberal and conservative support for redistributive policies. Wealth and race are often conceived of in different ways, however (Jun et al, 2022), though some research has shown the benefit of taking a more intersectional approach and demonstrating the inequities of race and class (English & Kalla, 2021).

Overall, this work was not able to replicate previous findings about the interaction of information by intervention frame, nor did relative (dis)advantage perceptions interact with either of those variables, but did demonstrate some interesting findings about moderates' intervention support and the impact of intervention frames. I did contribute to a small expansion of theoretical knowledge of framing by demonstrating that there are some differences between dis/advantaged frames and a balanced frame, which correlates with higher feelings of guilt and in the previous chapter caused marginally greater shifts in Black disadvantage perceptions. This indicates a conceptual difference and potential practical applications that bear further exploration.

# Chapter 6

# The role of emotions in reactions to racial disparity

## Introduction

The last three chapters focused on investigating perceptions of relative (dis)advantage. Though I examined emotions as correlates of (dis)advantage perceptions and mechanisms of perception change, they were not the focus. Now, I move on to emotion and affective forecasting as the main point of interest. It is important to explore possible gaps between the emotional reaction to the mere mention of the topic of inequality and the emotional reaction to actually reading factual information about inequality. This could inform our understanding of the differential reactions to media-driven public discourse vs. deliberative consideration of the substantive information, and whether anticipated emotions based on the discourse act as a barrier to substantive engagement. This study is, as far as I could find, the only one on this topic that tracks changes between anticipated and actual emotions across timepoints, so it provides an important contribution as an initial foray into the study of affective forecasting and engagement with inequality discourse versus information.

### Research background

My goal in this chapter is to investigate both predicted and actual emotions in response to fact-based information about racial inequity, which does not utilise any kind of overt emotional tone. However, the topic itself can naturally invoke strong emotions, as the information may be associated with perceived threats to

emotional or physical well-being. High-status group members, as has been discussed in previous chapters, feel a sense of esteem threat when their (illegitimate) privilege is made salient (e.g. Chow et al., 2008; Dover, 2022; Lowery et al., 2012) and status threat when efforts at equity are perceived as costing their own group something (Craig & Richeson, 2014; Dover et al., 2016). Status threat can cause fear and anger (Outten et al., 2012), and esteem threat can elicit feelings of guilt or shame (Grzanka et al., 2019, Harth et al, 2008, Iyer et al., 2003).

Beyond a function of group membership, people employ coping mechanisms and emotion regulation strategies to deal with negative emotions. One such family of strategies is to disengage from the source of negative emotions by avoiding, denying or distracting from it (Carver et al., 1989; Gross, 1997). One of my research questions was, therefore, will people avoid the topic of racial inequality as a form of proactive emotion regulation? If so, are there certain anticipated emotions that would correlate with lower willingness to engage? For instance, if people anticipate strong feelings of fear, or shame and guilt when faced with a headline about racial inequity, would they signal less interest in reading that article (RQ1)?

One explanation for why people might disengage with the topic of racial inequity as a coping mechanism is because they are anticipating the negative emotions they might feel when they engage with it. Another aspect of emotion regulation is that people often forget that they have a psychological immune system (Gilbert et al., 1998) and therefore overestimate both the duration and intensity (Buehler & McFarland, 2001) of any negative emotions in the face of negative events. One experiment found that, though people predicted they would feel very upset in upon witnessing an act of racism, their actual reactions were quite muted (Kawakami et al., 2009). Will participants overestimate the strength of their negative emotions when they read about structural racial inequities? If so, which emotions will they most mispredict (RQ2)? Will they feel more or less actual sympathy than they expected? More or less actual guilt than they expected?

Lastly, Kawakami and colleagues (2009) found that, not only did participants overestimate how upset they would be when witnessing an act of racism, they also overestimated the degree to which they would socially penalise the perpetrator. This leads to my final research questions, which is that, while I assume stronger negative emotions in response to reading about racial inequity will correlate with greater support for equity interventions (RQ3), would change in emotions also correlate with support for interventions (RQ4)? In other words, if people felt more/less guilty or angry than they thought they would, is this associated with variance in intervention support?

### Current study

The main focus of this work is to investigate how people emotionally process information about racial inequity by examining whether they can accurately predict the strength of their emotions in reaction to reading about racial inequity. To summarise, with the current study I aim to answer the questions of A) whether stronger negative anticipated emotions will correlate with less interest in reading about racial inequity, B) whether people will mispredict the strength of their emotional reaction to reading about racial inequity, and if so, which emotions, and C) whether emotions or mispredictions of emotion are associated with support for equity policies. Some anticipated emotions may correlate with willingness to engage in the topic to begin with. Which ones is exploratory- it's possible that high anticipated shame, fear or sadness may correlate to less engagement, whereas high anticipated anger, disgust or sympathy my correlate to higher engagement (H1).

Given previous work on affective forecasting and that most people tend to overestimate the intensity of their response (Buehler & McFarland, 2001; Kawakami et al., 2009), I predicted that participants would overestimate the strength of their emotional reactions, with the exception of sympathy (H2), as it is a more complex emotion that is not considered purely negative (Malbois, 2022). I was also interested

in exploring who might mispredict their emotions the most. Given that liberals will likely expect to feel quite strongly about this topic and tend to believe they are more compassionate (Scheffer et al, 2022), they may overestimate their negative emotions more, especially anger, guilt and shame. Conservatives, on the other hand might feel anger and disgust for other reasons but overestimate them as well. I therefore predict that political ideology may moderate misprediction of emotions (H2a). Examining political ideology will also assist with teasing apart a classic immune neglect explanation for any interpretation from an ideology-related explanation. Overall, by investigating affective forecasting in the context of inequality reactions, I am expanding the potential theoretical understanding of how high-status group members respond to this information, and possibly new areas for interventions to target.

Lastly, I wanted to explore the possible relationship between emotions and emotion misprediction and policy support. Stronger emotions may correspond with stronger support for interventions, especially those that are considered action-oriented like guilt, anger and sympathy (H3), but it would be interesting to see whether change in emotion ratings (or misprediction) also has implications for policy support (H4). If people feel less strongly than they expected to, this could attenuate support for policies, as emotions tend to engender stronger reactions. Conversely, if people are reacting rationally rather than emotionally, it may allow them to be less defensive, and therefore more supportive of equity initiatives.

The current studies were not designed to manipulate emotion in any way, so testing for a relationship between emotions or affective forecasting and engagement or policy support (H1, 3, 4) is correlational and exploratory. Nevertheless, this study contributes an important initial look at these possible relationships. The main focus and contribution here is the application of an affective forecasting paradigm to inequality research, and that I am introducing willingness to engage with the topic as a dependent variable, which to my knowledge has not been utilised before, and could provide useful insights into barriers to engagement and a possible contribution to

explaining the persistent ignorance of high-status groups to the severity of structural group inequities.

## Method

### Design and Procedure

For a full overview of the design and procedure of each study, see the methodology chapter. In this chapter we are interested in examining emotions. Relevant to those, in Study 1, participants rated their interest in reading about racial inequity based on an article headline, as well as the strength of emotions they predicted they would feel if they read it. Other individual difference measures were taken then, like political ideology and relative racial (dis)advantage perceptions. Headline interest, predicted emotions, and relative racial advantage perceptions were measures in part 1 of both Study 2 and Study 3. In part two, the participants read an article about racial inequity, rated the strength of their emotional reactions to it, and rated their support for several different kinds of interventions.

### Participants

Participants were recruited from Mturk and Cloud Research in studies 1 and 2, and Prolific in study 3. For a full overview of exclusion criteria, see the Methods chapter. In Study one there were 121 Black participants and 137 White participants, (Mean age = 40.1, 57.2% female and 40.9% male). In study 2, there were 446 White participants that completed both parts of the study, whose mean age was 42.4, and was 68.6% female and 30% male. In study 3, there were 719 White participants that completed both parts, mean age 40.9, 55.4% female and 41.4% male.

### Measures

For a full overview of the measures used in each study please refer to the methods chapter. Predicted and post-article emotions were rated on a scale from

1-not at all to 7- a great deal.

In Study 1, the variables were: (IV) predicted emotions, (DV) headline interest, and (covariates) relative racial (dis)advantage, political ideology, social dominance orientation, belief in a just world, zero sum thinking, personal relative deprivation, and racial centrality.

In study 2, the variables were: (IV) predicted emotions and political ideology, (DVs) change in emotion, headline interest and support for a specific intervention (baby bonds), and (covariates) relative racial (dis)advantage, social dominance orientation, belief in a just world, zero sum thinking, personal relative deprivation, racial centrality, and need for closure.

In study 3, the variables were: (IV) predicted emotions and political ideology, (DVs) change in emotion, headline interest, and support for a specific intervention (housing equity), and (covariates) social dominance orientation, belief in a just world, zero sum thinking, personal relative deprivation, racial centrality, need for closure, and internal vs external attribution to inequity.

## Results

### Preliminary results

See below a Table 13 comparing the mean anticipated emotions between Black and White participants in Study 1. When considering how they might feel when reading about racial inequities, Black participants anticipated feeling more anger, fear, sadness and sympathy than White participants, while White participants anticipated feeling more guilt than Black participants, though the magnitude of guilt was still low.

**Table 13**

*Mean (SD) anticipated emotion by race in Study 1.*

| Emotion | Black participants ($N$=126) | White participants ($N$=138) |
|---|---|---|
| Anger | 4.33 (2.1) | 3.75 (1.9) |
| Fear | 3.63 (2.0) | 2.78 (1.8) |
| Guilt | 1.79 (1.4) | 2.72 (1.9) |
| Sadness | 4.49 (2.2) | 3.99 (2.1) |
| Sympathy | 4.56 (2.1) | 4.23 (2.2) |

**Do emotions correlate with willingness to engage with racial inequity information?**

When exploring how emotions related to willingness to engage in the topic of racial inequity (via headline interest) among White participants, I found that sympathy was most strongly correlated with headline interest, such that higher anticipated sympathy correlated to more interest in the headline. Anticipated anger, guilt, shame, and sadness also correlated significantly and positively with interest. See below for a table of correlations between emotions and headline interest. This is not in line with my hypothesis that stronger anticipated negative emotions might lead to greater avoidance, via lowered interest in the racial inequity article based on its headline. It would be logical for greater anticipated anger to lead to greater interest, but it does not necessarily follow that greater anticipated shame, guilt or sadness would correspond with more interest, since these are generally emotions people try to avoid. However, this analysis was correlational, and anticipated emotions were rated *after* interest in the headline, so the study design was not entirely suitable for linking these two variables causally. See Table 14 of correlations between emotions and headline interest.

After having read about racial inequity in Studies 2 and 3, White participants' emotions correlated moderately with racial (dis)advantage perceptions, social dom-

**Table 14**

*Correlations of anticipated emotions and headline interest (Studies 1, 2, 3)*

| **Emotion** | **Study 1 (N =141)** | **Study 2 (N =446)** | **Study 3 (N = 712)** |
|---|---|---|---|
| | M(SD): 4.6(2.6) | M(SD): 4.9(2.6) | M(SD): 4.6(2.6) |
| Anger | .40** | .38** | .46** |
| Guilt | .44** | .40** | .40** |
| Shame | —- | .43** | .41** |
| Sadness | .52** | .45** | .53** |
| Sympathy | .61** | .52** | .58** |

inance orientation, political ideology, inequality attribution, and weakly (but significantly) with personal relative deprivation, zero sum and just world beliefs, and racial identification. See Table 3 below for a full accounting of emotion correlations with individual differences. See Table 15 below for a full accounting of emotion correlations with individual differences.

**Do people mispredict the strength of their emotions when anticipating reading about racial inequities?**

See Table 16 for the means of each emotion before and after reading the article. See Table 4 for the means of each emotion before and after reading the article. See Figure 16 below for a visualisation of mean predicted vs. actual emotions after reading about structural inequities for Study 2 and 3. For a full table of the results of the paired-samples t-tests between each emotion for each study, see Appendix E When investigating whether people felt emotions more or less strongly than they predicted they would after reading about structural inequities, some results were consistent across studies, and some were different. Participants overestimated their anger, disgust, fear, and shame in Study 2 ($p$= <.001, <.001, < .001, .04). They underestimated how much sympathy ($p$ = <.001) and sadness ($p$ = .003) they would feel. Mean guilt did not change ($p$ = .80), however, when disaggregating the data, it

**Table 15**

*Correlations between White participants' emotions after reading about racial inequity and individual difference measures (Study 2 and 3).*

| Individual Differences Measures | Studies | Anger | Guilt | Shame | Sadness | Sympathy |
|---|---|---|---|---|---|---|
| White advantage | Study 2 | .46** | .46** | .39** | .49** | .55** |
| | Study 3 | .49** | .43** | .41** | .56** | .55* |
| Black disadvantage | Study 2 | .44** | .46** | .41** | .50** | .55** |
| | Study 3 | .46** | .36** | .36** | .55** | .54** |
| SDO | Study 2 | -.40** | -.30** | -.31** | -.45** | -.48** |
| | Study 3 | .46** | -.32** | -.34** | -.54** | .59** |
| Political ideology | Study 2 | -.42** | -.35** | -.30** | -.40** | -.46** |
| | Study 3 | -.42** | -.34** | -.33** | -.47 | -.48** |
| PRDS | Study 2 | -.10* | -.20** | -.13** | -.18** | -.12* |
| | Study 3 | -.07+ | -.20** | -.13** | -.10** | -.13** |
| Just world | Study 2 | -.29** | -.23** | -.24** | -.30** | -.35** |
| | Study 3 | -.37** | -.23** | -.24** | -.39** | -.40** |
| Zero sum | Study 2 | -.20** | -.23** | -.27** | -.22** | -.24** |
| | Study 3 | -.14** | -.10** | -.09* | -.16** | -.16** |
| Subjective SES | Study 2 | -.07 | .002 | -.03 | -.03 | -.04 |
| | Study 3 | -.04 | .08+ | .02 | -.03 | -.01 |
| Racial Identification | Study 2 | -.18** | -.17** | -.16** | -.16** | -.18** |
| | Study 3 | -.32** | -.19** | -.20** | -.30** | -.29** |
| Need for closure | Study 2 | -.09+ | .003 | -.002 | -.12* | -.11* |
| | Study 3 | -.02 | -.07+ | -.08* | -.05 | -.10** |
| Inequality attribution | Study 2 | — | — | — | — | — |
| | Study 3 | .42** | .29** | .32** | .45** | .47** |

*Note. Study 2 N = 446, Study 3 N = 718. All correlations are Spearman's rho. * p < .05, ** p < .01, + p < .10*

showed that while 40% of the sample did not change their guilt score, approximately 60% of the sample were equally likely to either over- or underestimate their guilt; these changes were not visible in the overall sample means because they cancelled each other out.

In Study 3, participants overestimated their anger, disgust, fear and guilt ($p < .001$, $p < .001$, $p < .001$, $p = .04$). They underestimated their sympathy ($p <$

.001). Their sadness ($p$ = .23) and shame ($p$ = .53) did not change significantly across time points.

**Table 16**

*Means (SD) of emotions before and after reading the article (Study 2 and 3)*

| | **Predicted** | | **Post-article** | |
|---|---|---|---|---|
| | Study 2 | Study 3 | Study 2 | Study 3 |
| Anger | 4.26 (1.7) | 4.12 (2.0) | 3.83 (2.0) | 3.69 (2.0) |
| Fear | 2.64 (1.7) | 2.41 (1.6) | 2.01 (1.5) | 1.94 (1.3) |
| Disgust | 4.28 (1.8) | 4.23 (2.0) | 3.95 (2.0) | 3.97 (2.1) |
| Guilt | 2.86 (1.8) | 2.82 (1.8) | 2.88 (1.9) | 2.71 (1.8) |
| Shame | 3.14 (1.9) | 3.04 (1.9) | 2.97 (2.0) | 3.01 (2.0) |
| Sadness | 4.32 (1.9) | 4.33 (2.0) | 4.58 (2.0) | 4.26 (2.0) |
| Sympathy | 4.71 (1.9) | 4.68 (2.0) | 4.96 (1.9) | 4.89 (1.9) |

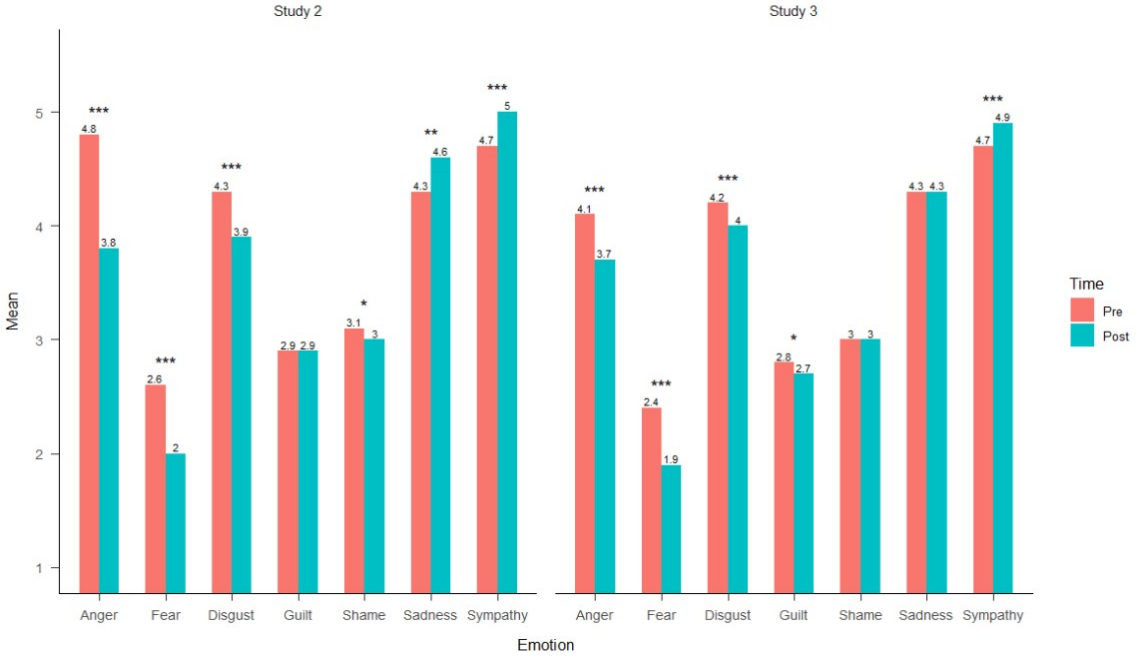
Sympathy was one of the strongest rated emotions both before and after reading the article, and is the only emotion that consistently went higher than people expected. Anger and Disgust were also high but dropped to below the midpoint after reading the article. Sadness was rated above the midpoint before and after the article in both studies. Fear was rated relatively low to begin with but also dropped more than any other emotion; perhaps the initial fear prediction was a more general apprehension about reading about negative content, and while participants felt other emotions after reading the article, there was nothing in the content for them to fear.

These findings are mostly in line with my hypothesis that negative emotions would be overestimated but sympathy would not. Guilt and shame were not consistently overestimated in both studies, and in Study 2, people were significantly sadder than they had predicted, while in Study 3 the pre-post difference was not significant, which is contrary to the hypothesis. This may be because the article in

Study 2 discussed health disparities, including infant mortality, which would likely evoke more sadness, whereas the article in Study 3, which was slightly shorter, did not.

**Figure 15**

*Pre-post emotion means (Study 2 and 3)*




**Who is changing their emotions the most?**

I investigated whether there was variability in how (in)accurate people were in their emotion predications as a function of political ideology. Overall, conservatives reported the weakest actual emotions after reading the article, and liberals the strongest.

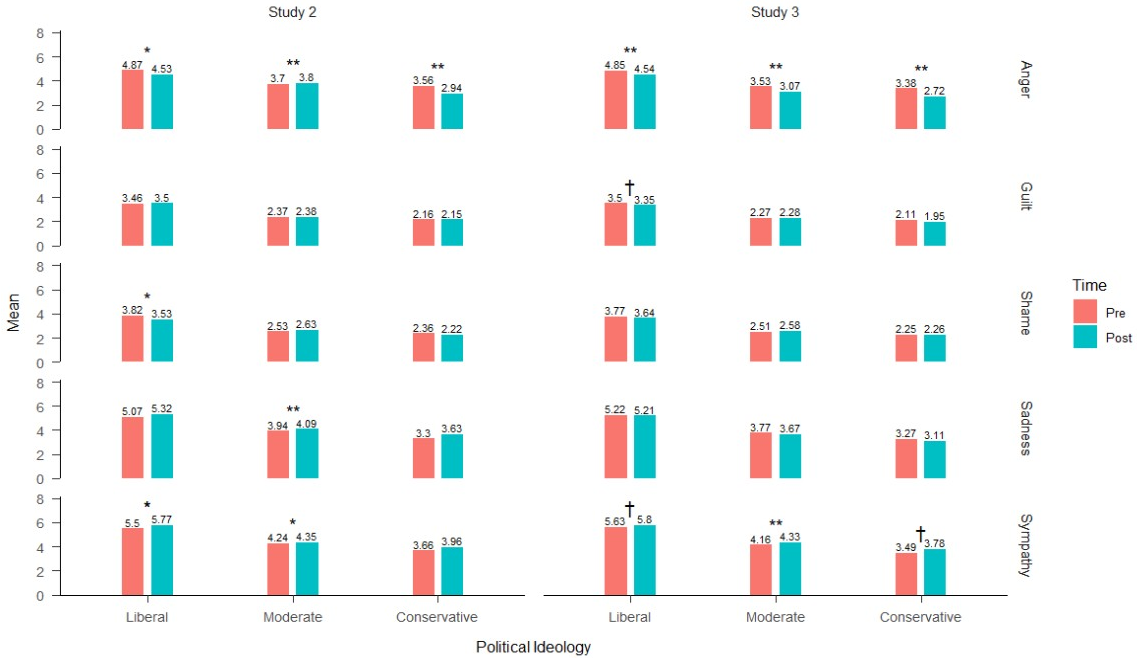
***Study 2***

Among liberals($n$ = 161), shame went down the most (from M = 3.96 to 3.56, $p$ = .01), but anger also went down significantly (from 5.05 to 4.79, $p$ = .03), and sympathy went up (from 5.63 to 5.94, $p$ = .01). Their guilt and sadness did not change significantly. Moderates' (n = 205) anger went down (3.89 to 3.46, p < .001),

and their sadness (3.88 to 4.27, $p = .003$) and sympathy went up (4.41 to 4.66, $p = .01$). Moderate guilt and shame did not differ significantly from what they predicted. Conservatives (n = 80) overestimated their anger by nearly a full point (3.64 to 2.84, $p < .001$), and this was the only emotion they significantly mispredicted. See Figure 16 for a visual representation of changes in emotion by political ideology group.

**Figure 16**

*Pre-post emotions by political group (Study 2 and 3).*




### *Study 3*

Among liberals ($n = 242$), anger was the only emotion to change significantly, from a mean of 5.05 to 4.76 ($p = .008$). However, there was a marginal overestimation of guilt as well (3.61 to 3.45, $p = .08$), and an underestimation of sympathy (5.81 to 5.97, $p = .07$). Moderates ($n = 359$) also overestimated their anger (3.74 to 3.26, $p < .001$), and underestimated their sympathy (4.33 to 4.53, $p = .01$). No other emotions changed significantly. Conservatives ($n = 111$) again overestimated their anger (3.34 to 2.71, $p = .001$), and marginally their sadness as well (3.33 to 3.02, $p$

= .06). They also marginally underestimated how much sympathy they would feel (3.38 to 3.66, $p = .08$).

**Which emotions predict what intervention support?**

To investigate whether participants' emotions correlated differently with different intervention types, I ran separate multiple regressions on each intervention type in study 2 and 3. For a forest plot of the standardised regression weights and their confidence intervals, please see Figure 17. In study two, the only emotion that predicted support for universal baby bonds (over and above the other emotions) was sympathy (Beta = .42, $t = 4.56$, $p < .001$) such that when people were more sympathetic after reading about racial inequities, they were more supportive of universal baby bonds. For support of Black baby bonds, both guilt ($B = .19$, $t = 2.11$, $p = .04$) and sympathy ($B = .36$, $t = 4.31$, $p < .001$) predicted support, such that more guilt and sympathy correlated with greater Black baby bond support.

In study 3, more anger ($B = .13$, $t = 2.36$, $p = .02$) predicted greater support for a housing intervention that was framed as improving Black homeownership ratios. Sadness marginally predicted support for increased Black homeownership ($B = .12$, $t = 1.69$, $p = .09$), and greater sympathy was strongly related to more support ($B = .54$, $t = 8.92$, p $< .001$). As for the housing intervention that was framed as decreasing White homeownership ratios, sympathy was still a strong predictor of more support ( $B = .48$, $t = 7.79$, p $< .001$). More shame ($B = .11$, $t = 1.68$, $p = .09$) and sadness ($B = .15$, $t = 1.91$, $p = .06$) also marginally predicted greater support. Whereas, strangely, there was a negative, marginally significant relationship between less guilt and higher housing support . This finding was unexpected and also not consistent with most literature about the role of guilt.

**Figure 17**

*Forest plot of standardized beta coefficients and 95% confidence intervals of emotions by intervention (study 2)*

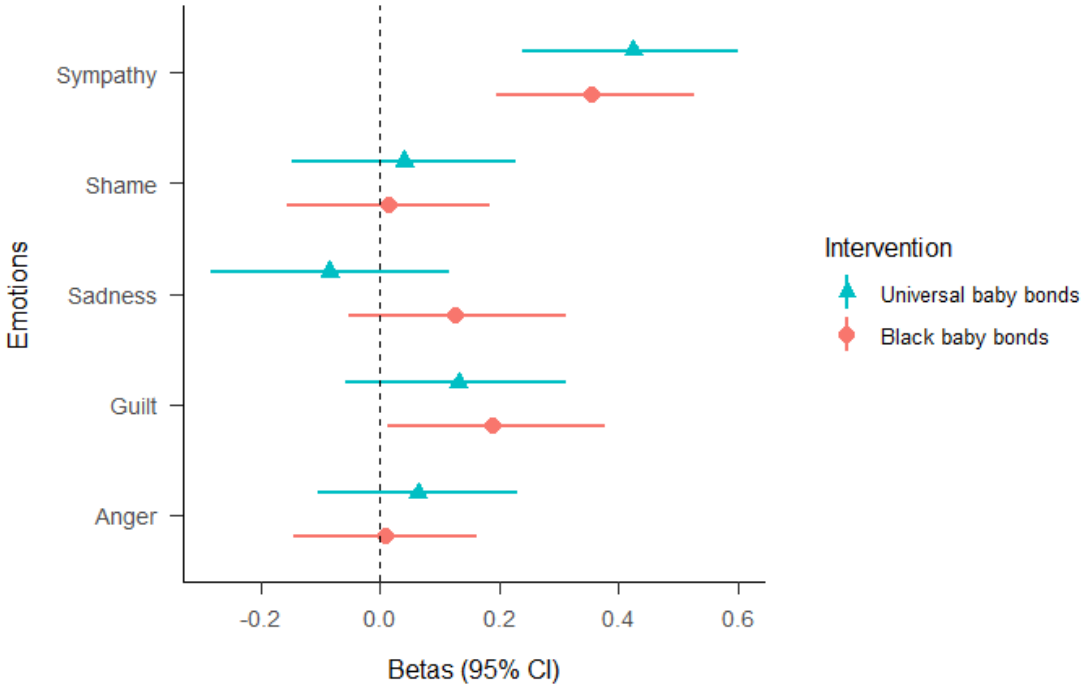
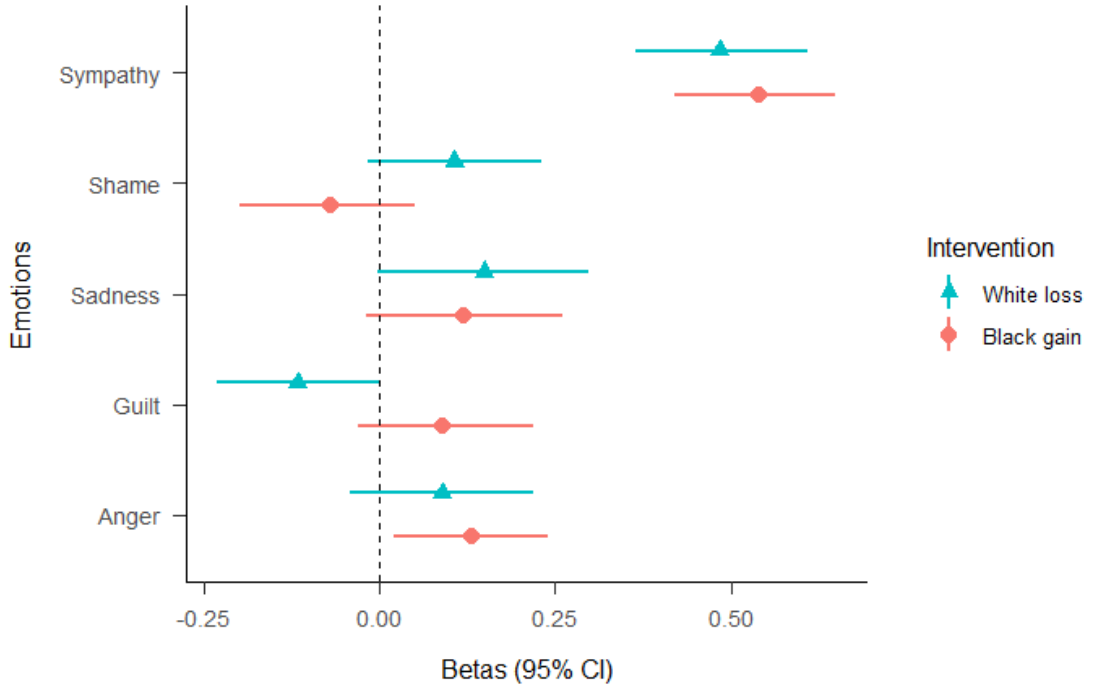


**Figure 18**

*Forest plot of standardized beta coefficients and 95% confidence intervals for support for intervention of emotion by intervention (study 3)*




**Does emotion over/underestimation correlate with intervention support?**

See Table 17 for the correlation coefficients of emotion change scores (the within-subject difference between predicted and actual emotions) and intervention support. In Study 2, those who underestimated their anger, disgust and guilt scored higher on support for a baby bond policy. In Study 3, those who underestimated their anger, disgust and sadness and overestimated their fear showed higher support for housing equity policies. All correlations were small. Because it is correlational, and we have limited information on who is underestimating their emotions, these findings are a bit difficult to interpret, and it is not possible to determine a causal relationship or direction. Generally, however, this supports the idea that stronger emotional reactions tend to coincide with greater support for interventions.

**Table 17**

*Correlations between emotion change and intervention support (Study 2 and 3)*

| | **Anger** | **Disgust** | **Fear** | **Guilt** | **Sadness** | **Shame** | **Sympathy** |
|---|---|---|---|---|---|---|---|
| Study 2: Support for baby bonds | .15** | .14** | -.05 | .16** | .05 | .02 | .03 |
| Study 3: Support for housing equity | .15** | .15** | -.14** | -.02 | .08* | .02 | .01 |

*Note.* * $p < .05$; ** $p < .01$

## Discussion

In this chapter I aimed to get a better sense of how accurately people predict their emotions when reading about racial inequity, and whether anticipated negative emotions might act as a barrier to engaging with the topic. Strong predicted (negative) emotions did not correlate to avoidance or less interest in engaging with the article as measured by headline interest. It is clear that people did, overall, overestimate the negative emotions they would feel when reading about racial inequity, which supports and expands on previous affective forecasting findings (Gilbert et al., 1998, Buehler & McFarland, 2001, Kawakami et al., 2009). Anger, fear, disgust were all consistently overpredicted, while guilt and shame were overpredicted in one study but not both. In Study 3, guilt was on average overestimated, but the effect was small. Guilt scores were well below the midpoint (range 2.71-2.88) at all measurement points, indicating that it is not the strongest emotion people feel.

The positive correlation between anticipated emotions and interest in reading about inequity is potentially explained by the fact that the strongest reported emotions were by liberals- there is a possible effect of social-desirability bias here- liberals are, generally, proponents of equality, so it may be that they feel more internal pressure to indicate an interest in social justice topics as well as more anticipated shame and guilt. There is certainly lay discourse about avoiding negative topics for one's own mental health (e.g. avoiding 'doomscrolling' or the news for periods of time) that would indicate that avoidance of certain topics is a proactive coping mechanism

to maintain more positive emotions and (in the case of high-status groups) avoid group esteem threat via being confronted by their unearned status. Future research could investigate engagement more thoroughly as a dependent variable. I measured engagement as self-reported interest in reading an article based on its headline, but more behaviour-focused measures could be developed to study whether people actually choose to engage with or avoid this topic, and whether engagement levels can be affected experimentally. This would also ensure more ecological validity, as it would be evident in real time whether people would choose to read about (/listen to/watch) or avoid material concerning systemic inequities.

These studies find that participants expected to feel more anger, fear, disgust, and (in Study 3 only) guilt upon seeing a headline about structural inequality than they actually ended up feeling after engaging with factual information about inequality.

Anger consistently went down, however the type of anger that conservatives and liberals were predicting was possibly different- such that liberals were reacting to the anticipated content of the article, whereas conservatives were reacting to its existence and perceived agenda. Future research could investigate this by following up with participants about what their emotional reactions were based on. This could have implications for policy and educational messaging; if conservatives are angry about the existence of the article, but are less angry after reading it, this is a promising sign. However, if liberals are less angry than predicted, this might have negative consequences for their willingness to act, given that anger tends to have a galvanizing effect (Darley & Pittman, 2003). Liberals still reported feeling more anger than either moderates or conservatives, however, so perhaps their overestimation thereof is irrelevant. Targeted messaging could attempt to redirect liberal anger to constructive action and aim to capitalise on lowered conservative anger to encourage acceptance of inequity. There is still much to learn about the mechanisms behind misprediction of emotion and its potential consequences for equity-supportive

behaviours and attitudes. This study is somewhat limited in its scope, but still contributes a useful expansion of current affective forecasting research, and acts as a n exploratory foray into potential future research and applications of emotion findings within the field of inequality research and informational messaging.

# Chapter 7

# General discussion

### Summary

This final chapter provides an integrated summary of the work presented in the thesis. It will summarise the research background and aims, and the main empirical findings. I will discuss the theoretical and practical implications of this work and consider the limitations of the research. Finally, I will conclude by considering key areas for future research that can expand on the findings and impact of this thesis.

### Research background and aims.

Historically, social science research has largely focused on inequity as a function of disadvantage and discrimination (Phillips et al, 2022). Recently, however, there has been a growing body of research into the elements of advantage, and in the context of race, Whiteness. Kraus and colleagues (2017; 2019; 2021) showed how robustly inaccurate White Americans were in perceiving true levels of current racial economic inequity and argued that this was a form of motivated cognition for the avoidance of discomfort and maintenance of group identity and status. Phillips and Lowery argue that the so-called invisibility of privilege is motivated, rather than accidental, and allows Whites to maintain their privilege and their innocence simultaneously. In her sociological analysis, Mueller (2020) argues that ignorance is in fact the cornerstone of White thought and identity. This is further analysed and supported in the framework of high-status identity management strategies (Knowles et al., 2014; Shuman et al., 2024), where advantaged groups will often deny or dis-

tance themselves from inequity as a way of maintaining positive group membership, or in more extreme cases, outright defend inequities or actively work to dismantle them.

The aims of this current research were to add to this body of work, specifically to expand on individual and contextual factors that explain whether and under what circumstances White resistance to perceiving racial inequity and supporting equity initiatives can be overcome.

Research has shown that people tend to naturally frame inequality using disadvantage language (Jun et al, 2022; Malapally et al., 2024; Phillips et al.,2022), and this is at least partially due to motivated cognition aimed at avoiding the discomfort of acknowledging unearned advantage among high status groups (Dover, 2022; Kraus et al., 2019). However, research has not examined people's perceptions of advantage or disadvantage simultaneously to quantify the relative difference between perceptions of advantaged and disadvantaged groups, what important outcomes this predicts in terms of reactions to the topic of inequality, and whether one perception is more malleable than the other in response to information about inequality. Research has also demonstrated the variable (and inconsistent) effects that framing inequality can have on emotions and equity support (Malapally et al., 2026), so this work also examined whether there is an interaction between an individual's natural perceptions of (dis)advantage and how inequities are framed when communicating about inequity. Lastly, research has shown that people tend to overestimate the intensity and duration of their negative emotions (Gilbert et al., 1998), so I aimed to extend these insights from research on affective forecasting to better understand reactions to racial inequity information.

## Empirical findings

### Chapter 3.

In the first empirical results chapter, I developed a simple measure of relative racial (dis)advantage perceptions that allowed for a direct equivocal comparison of people's acknowledgement of White advantage and Black disadvantage and quantified the relative gap between the two. On average, participants did generally perceive there to be a gap between the two racial groups, such that White Americans were perceived as having significantly more advantage. The two items were negatively correlated, such that when perceptions of Black disadvantage went up, so did perceptions of White advantage. The two were not perfectly equivalent, however, such that though White participants almost always rated White Americans to be advantaged (above the neutral midpoint), White participants rated more variability in Black disadvantage, to the point that some perceived Black Americans to be advantaged. White participants perceived less extreme relative advantage disparity than Black participants, who saw both White Americans as more advantaged and Black Americans as more disadvantaged than White participants did. Relative (dis)advantage perceptions correlated with other relevant variables like social dominance orientation, political ideology and racial identification, but not so strongly as to bring into doubt its distinctiveness as a construct. Notably, relative racial (dis)advantage perception was consistently one of the strongest predictors of outcome variables like engagement with the topic, support for various equity interventions, and feelings of guilt and sympathy, across all studies. White advantage perceptions was often the stronger predictor driving the power of the relative (dis)advantage score, but not always, and Black disadvantage perceptions also usually remained a significant predictor, indicating that capturing both sides of (dis)advantage perceptions is important.

**Chapter 4.**

In the next empirical chapter, I examined how malleable the (dis)advantage measure was. I found that, after reading about racial inequity, people did increase the magnitude of their relative (dis)advantage perception. This change was primarily driven by adjusting views of how disadvantaged Black Americans were, not by changes in White advantage perceptions. This held true even when inequity information was framed to focus only on the advantages of White Americans. This is in line with previous findings that views of White advantage can be particularly difficult to shift, because of the potential threat this presents to group-based esteem and status (Dover et al., 2022; Lowery et al., 2007). Looking at political ideology as a moderator showed that political moderates were on average the most likely to change their views, as liberals were already rating relative (dis)advantage quite high, and conservatives' ratings remained low.

**Chapter 5**

In the third empirical chapter, I examined the interplay between individuals' preexisting perceptions of relative (dis)advantage, framing information about inequity as White advantage vs. Black disadvantage, and framing of interventions (i.e., baby bonds aimed at helping all Americans vs. Black Americans; housing policy aimed at decreasing the proportion of White homeownership vs. increasing the proportion of Black homeownership). In Study 2, (in which information frame was not manipulation) there was no main effect of type of baby bond policy on support, but there was an interaction with political ideology such that moderates were less supportive of Black baby bonds than universal baby bonds. In study 3, there was no main effect of article frame, but there was an effect of framing the housing equity policy, such that participants were more supportive of the policy aimed at increasing Black homeownership. There was a small effect of article frame on guilt, such that people who read the article with balanced language felt guilt the most strongly.

There were no two-way interactions between (dis)advantage perceptions and information or intervention frames, or between information and intervention frames on equity support. There was no three-way interaction found between (dis)advantage perceptions, information and intervention frames. The studies therefore failed to replicate prior research, and individual differences in (dis)advantage frames failed to help expose the effects of frames.

**Chapter 6**

In the last empirical chapter, I investigated whether people were accurate in their predictions of their emotional reaction to reading about racial inequity, or if they would overestimate the intensity of the negative emotions. The results confirmed the latter, as anger, fear, and disgust were consistently overestimated, and either guilt or shame was overestimated depending on the study. Sympathy was consistently underestimated, and sadness was underestimated in Study 2 only (where the article was slightly more comprehensive and included health-related information, which might explain the inconsistency). These results generally suggest that people expect feeling emotions more negative (i.e., more angry, fearful, disgusted) toward the abstract notion of confronting inequity than they end up feeling (consistent with prior work on the impact bias in affective forecasting), but end up feeling more sympathetic to information about inequity (more sympathy/sadness) once they engage with factual information about inequity (inconsistent with a simple explanation based on impact bias). Sympathy, sadness and anger were the strongest rated emotions across all time points, while fear and guilt the weakest. A correlational analysis showed that predictions of sympathy were most strongly related to higher levels of interest in reading about racial inequity, but that anticipated anger, guilt, shame, and sadness were also all positively correlated with interest. Even though, on average, people overestimated their negative emotions, underestimations of anger, disgust and sometimes guilt and sadness were associated with greater intervention

support.

## Implications

### Theoretical and research implications

By developing a new measure of relative (dis)advantage perception, I have enabled the direct quantification and comparison of how people perceive the relative advantage and disadvantage of majority/high status and minority/low status groups. I examined the measure in the context of perceptions of White-Black economic disparities in the United States. The sustained consistency of similar results over several studies and DVs shows that this measure is relevant, influential, and important when examining attitudes and behavioural intentions related to racial inequities. In focusing conceptually on perceptions of inequity and to which group the source of inequity is attributed, rather than attitudinal support for inequity, it is conceptually distinct from other related measures. Empirically, it is moderately related to other individual difference measures like SDO and political ideology but is uniquely predictive of key outcomes and therefore a useful addition.

This measure was also designed to transfer easily to other ingroup/outgroup or high/low-status group comparisons. It is highly customisable and would enable direct comparisons of where people locate the source of disparities in the status of two (or more) groups in comparison to each other. Future research could also review whether perceptions are as highly predictive for other group-based equity support attitudes as they are for race-based policies in the U.S. to see if the measure has similar properties regardless of what groups are being compared.

I have also introduced a potential new dependent variable of interest in equality and (dis)advantage research, which is the degree to which people are willing to engage in the topic of racial inequity, as measured by their level of interest in reading an article about racial inequity based on its headline. Considering the motivated cognition of high-status groups (Kraus, et al., 2019) to avoid acknowledgement of

group-based inequities, a variable that directly measures engagement as a precursor to acknowledgement or support for equity initiatives could be an important variable to consider.

I did not find any main effects of information framing on intervention support, which seems to counter a majority of the research looking into the effects of (dis)advantage frames (Chow & Galak 2012, Chow et al., 2008, Harth et al., 2008; Lowery et al., 2009). Given that most of these studies are almost 20 years old, it is possible that shifts in the U.S. sociopolitical context may account for the different results. Additionally, Malapally and colleagues (2026) recently completed a systematic review of the effects of (dis)advantage framing, and they concluded that most findings of significant effects of (dis)advantage framing were dependent on moderators like group esteem, racial identification and guilt or sympathy. I extend those findings to conclude that the effect of (dis)advantage framing is not dependent on natural perceptions of (dis)advantage as a moderator. It is the main effect and seems to be most predictive of various equity-relevant dependent variables, which was the primary finding from this research regarding the manipulated framing variables.

Lastly, I provided a small but useful expansion of theoretical knowledge of affective forecasting to inequality studies and reactions to negative information. People do overestimate their negative emotions when predicting their reaction to racial inequity information, which could have implications for understanding the mechanisms behind avoidance and denial of inequity; if they are less angry, disgusted, fearful or guilty than they thought they would be, perhaps more rational, slow-thinking reactions could inform subsequent equity support decisions (Jung et al., 2014). They underestimated their sympathy, overcoming the impact bias making the opposite prediction, especially in the face of very factually-framed information, which is a promising sign, given that sympathy is associated with prosocial action (Harth et al., 2008).

## Practical implications

This research aimed to contribute to the body of knowledge about (changes) in perceptions, emotions and attitudes regarding inequity and equity policy, and in doing so, it also offers actionable insights for those attempting to improve equity in society. There are several ways in which interventions could strategically utilise some of the findings in this thesis.

### *Using the (dis)advantage measure.*

Trying to gauge levels of modern prejudice is difficult, as modern racism is often subtle and manifests itself in invisible ways (Reis & Foels, 2010; Nelson & Joselus, 2023). By measuring perceptions rather than an attitude, the relative (dis)advantage measure as a might mitigate effects of respondent sensitisation and social desirability bias, similar to Hammond's (1948) error-choice method of indirectly measuring attitudes. A primary strategy employed by high-status groups in maintaining the legitimacy of their status and their group-based esteem is to deny the extent of social inequities (Shuman et al., 2024). Thus, phrasing a measure in this way may either attenuate the need for denial and make admission of inequality more likely, or would at least help identify those most likely to engage in such denial.

Considering the mean baseline perception of White advantage was above the midpoint, however, it is worth considering if White Americans' views already have shifted to some extent in recent years due to changing political and social discourse (e.g. Black Lives Matter, 'check your privilege', critical race theory), but that there is limit to how much they will acknowledge. Future research could examine whether it is practical to attempt to shift that needle, or if attentions could better be shifted elsewhere.

## Limitations and Future Research

There are several ways in which this work was limited in its design and methodology. I will detail some of the limitations of this thesis (some within my control, some not) and connect them to suggestions for how future research could take these limitations into account.

### Context

People do not fill out surveys or develop their perceptions and attitudes in a vacuum, and the sociopolitical landscape (locally and nationally) in which they live is an important factor to consider, and one I was not able to consider. Some of the differences (though there were not many) between Study 2 and 3 could be explained by shifts in the political and cultural context between 2022 and 2024. Trump had not yet won the election in 2024 at the time of Study 3, but it was the election year, and his rhetoric and rise back to popularity have had an impact on the norms and attitudes of Americans (Arnold et al., 2026).

Another way that context can be taken into account is by eliciting richer data (via qualitative or mixed methods) to gain a better understanding of how and why perceptions, attitudes and emotions formulate. I could not differentiate between the different types of anger that I suspected in hindsight political liberals and conservatives might express, specifically the target of their anger (i.e. anger at the content of the inequity article or anger at the existence of the article), which was a limitation. More specific anger measures and qualitative research could delve into how people consciously experience their emotional reactions and what is driving them. It was also clear that White advantage perceptions are more intractable than Black disadvantage perceptions- yet some people's clearly have shifted to perceive extensive ingroup advantage, and it is unclear how and why that happened. Why have those people managed to shift their views so much, and how did they reckon with the discomfort and group esteem threat acknowledging privilege so clearly

provokes? Richer data could complement statistical trends to help us gain a deeper understanding of what works when, for whom, and why.

**Longitudinal design**

I would not consider this work's lack of longitudinal design a limitation per se, as it did take place over two time points, which in this subfield of social psychology is already quite rare. However, enabling an understanding of how perceptions shift over longer time periods, and whether successful information interventions remain effective over time (as Callaghan et al., 2021 found) would be very useful for gaining a better understanding of the real-world implications of information interventions and success. Taking a developmental lens (i.e. comparing the effects across different age groups) could also be fruitful. Future experimental research on framing should also include a no-information condition to control for receiving any information about structural inequity (regardless of whether it adopts a particular frame or not).

**Experimental investigation of emotion**

This study was mostly focused on exploring the construct of (dis)advantage perceptions and how they change and predict other outcomes. Therefore, the current methodology only allowed for correlational analysis of emotions and how they relate to (dis)advantage outcomes and equity support. However, it provided a promising expansion of the affective forecasting theory into the study of inequality perceptions, which was intended as an initial foray into a different, complex but potentially rewarding branch of research. Future research could experimentally induce specific emotions (and measure them using more than self-reporting) to determine the possible causal effects of emotions and emotion misprediction on equity support behaviours.

**Ecological validity**

For pragmatic (and budgetary) reasons, my research design needed to compromise between gathering a sufficiently large sample and the amount of detail that could be included in an online survey that enabled said large sample. However, this meant that I was limited how I operationalised my variables, and therefore ecological validity sometimes suffered. For instance, while it was an important contribution to conceptualise and measure a new variable of willingness to engage, it would be more meaningful to measure whether people actually chose to engage in the topic of racial inequity (I did not ultimately give them a choice). Future research could expand on what explains willing (and repeated) engagement with uncomfortable topics, by making engagement choice the main operationalised variable, in real-world conditions such as online site visits or social media engagement, or measures of more long-form reading/watching embedded within a newspaper or educational curriculum.

Similarly, it would be so valuable to employ measures of actual behavioural support for interventions. Research has shown that for instance, people high in egalitarianism reported much higher intentions to confront prejudice, but when actual behaviour is measured, they were no more likely to confront instances of prejudice than low-egalitarian participants (Szekeres et al., 2023). Politically liberal people (usually) enthusiastically espouse more equitable outcomes, but it is important to consider whether this is truly the case, or more performative. Active confrontations of racism or prejudice can be very stressful and are also often socially penalised (Kutlaca et al., 2020), but there are other real-world measures of equity support, such as voting behaviours, donations, and advocacy and protest behaviours, which would also give a more ecologically valid understanding of when people substantively support equity efforts.

## Conclusion

This thesis has investigated and contributed to the understanding of perceptions of racial inequity. I developed a new measure of relative (dis)advantage perceptions and demonstrated its divergent validity and unique and strong predictive power for engagement in, emotional reactions to, and support for the dismantling of systemic racial inequity. The empirical chapters demonstrated the importance of (dis)advantage perceptions, how they change after informational interventions, and how they (do not) interact with (dis)advantage frame manipulations, and an initial look at the relevance of affective forecasting in information and inequity research. The present findings enhance existing theoretical knowledge and provide insights for practical interventions intended to facilitate equity.

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# Appendices

# Appendix A

## Article text used in Study 2 and 3 (Back to Chapter 2)

### Study 2

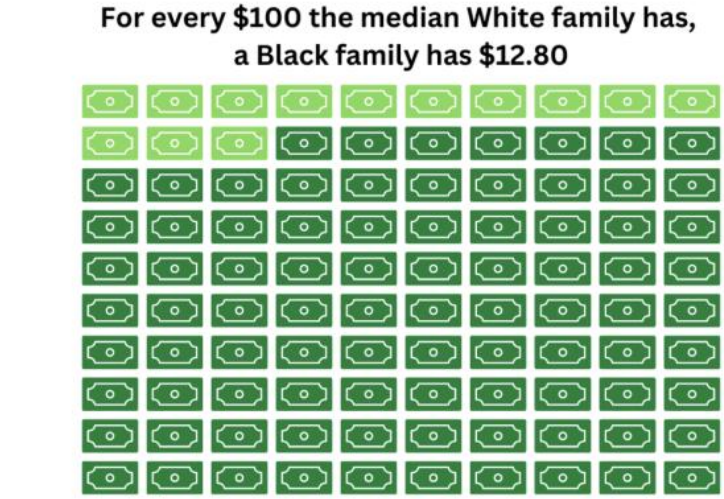
**Ways in Which Deep Racial Inequity Persists in the U.S.**

July 26, 2021

Many Americans underestimate or are unaware of the degree of racial disparity when it comes to wealth, health, education, and other measures of quality of life in the United States. See the following facts and figures below for a better understanding of the current situation as it applies to Black and White Americans.

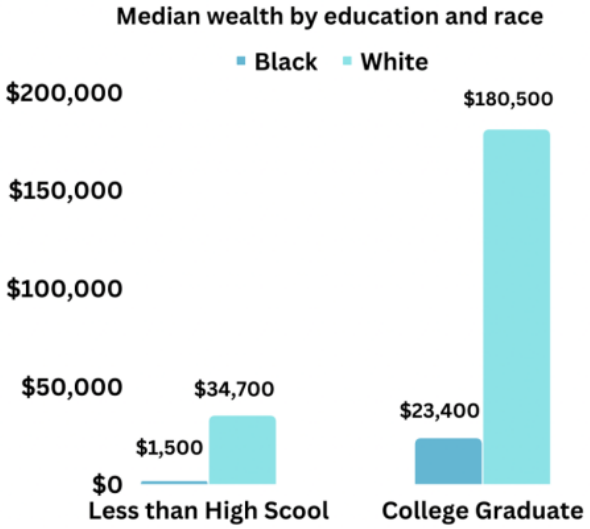
**Wealth**

When researchers asked more than one thousand Americans in 2016 to estimate the wealth (the total value of what you own minus what you owe) of the average White and Black family, they believed that for every $100 that White families had, Black families had $90[1]. In truth, the median White family has $188,200, while the median Black family has $24,100, which means for every $100 a White family has, a Black family has less than $13[2].




Source: Federal Reserve Board, 2019 Survey of Consumer Finances

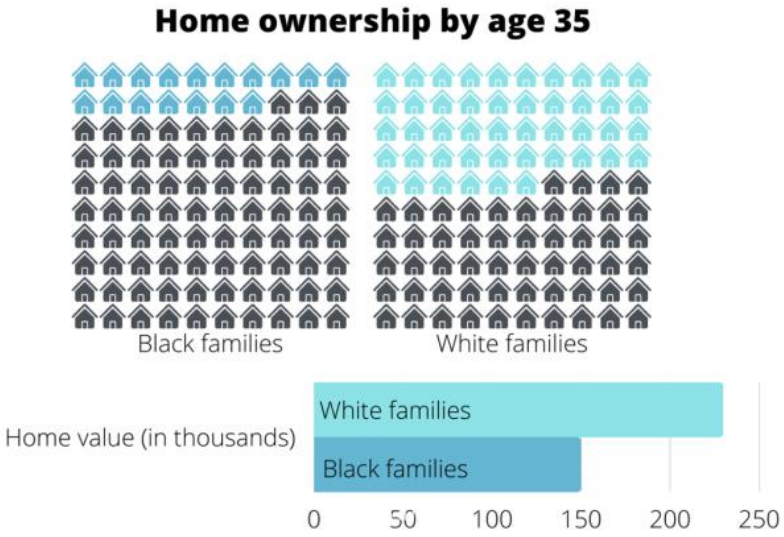
Some people might argue that this is due to differences in education, that fewer Black people go to college and therefore work in lower-paying jobs, and therefore accumulate less wealth. This cannot explain the wealth gap, however, because the average White household whose head dropped out of high school still has more wealth than the average Black household whose head graduated from college[3].




Source: U.S. Census Bureau, Survey of Income and Program Participation, 2011

### Housing

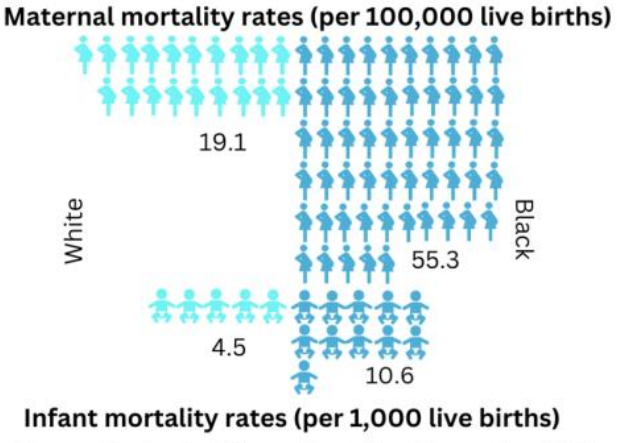
Homeownership is an important part of building wealth. White people are much more likely to inherit property, which can be passed down and increase chances to build wealth (from 1934-1964, 98% of federal housing loans went to White people[4]). Young Black families are less likely to receive financial assistance from their parents[5] and are less likely to receive loans. White homeowners whose income was less than $30,000 typically received a more favorable mortgage than Black homeowners earning more than $100,000[6].




Source: Federal Reserve Board, 2019 Survey of Consumer Finances

### Health

Black people are less likely to have health insurance, and more likely to live in areas that are underserved by health care workers. This can lead to preventable health crises, like the fact that Black women are almost three times more likely to die in childbirth, and Black infants are more than twice as likely to die in childbirth[7,8].




Source: Centers for Disease Control and Prevention, 2020

In conclusion, progress is possible and has been made, but less than many people think. Awareness and education are crucial if we want to successfully build a more equitable United States.

Sources:

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2: https://www.federalreserve.gov/econres/notes/feds-notes/disparities-in-wealth-by-race-and-ethnicity-in-the-2019-survey-of-consumer-finances-20200928.html
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5: https://www.federalreserve.gov/econres/notes/feds-notes/disparities-in-wealth-by-race-and-ethnicity-in-the-2019-survey-of-consumer-finances-20200928.html
6: https://www.brookings.edu/research/devaluation-of-assets-in-black-neighborhoods/
7: https://www.cdc.gov/nchs/data/hestat/maternal-mortality/2020/maternal-mortality-rates-2020.htm#:~:text=In%202020%2C%20861%20women%20were,20.1%20in%202019%20(Table).
8: https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm

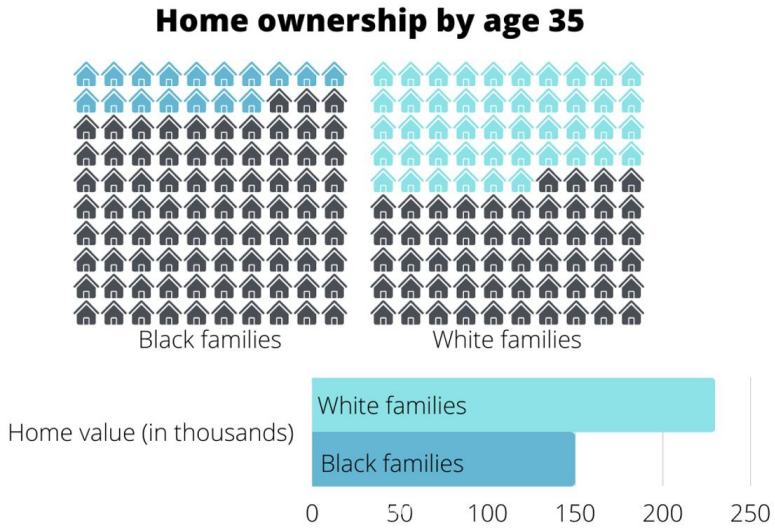
## Study 3

### Balanced condition

Prior research has led most social scientists to agree that, even today, America suffers from racial disparities, particularly in the realm of wealth and homeownership. See the facts and figures below for some examples of racial disparity as it applies to Black and White Americans, compiled from economic research.

Many Americans underestimate the racial wealth gap in the United States. Looking at total wealth, the median White family has $188,200, while the median Black family has $24,100, which means that for every $100 a White family has, a Black family has less than $13[2].

Homeownership is a crucial part of building wealth. White people are more likely to inherit property, which can be passed down and increases chances to build wealth (from 1934-1964, more than 98% of federal housing loans went to White people[3]). Young Black families are less likely to receive financial assistance from their parents (due to lack of wealth, not willingness) and are less likely to receive loans. Homes in White neighborhoods are valued higher than similar homes in Black neighborhoods, and Black homeowners whose income was more than $100,000 typically receive a less favorable mortgage than White homeowners earning less than $30,000[5].



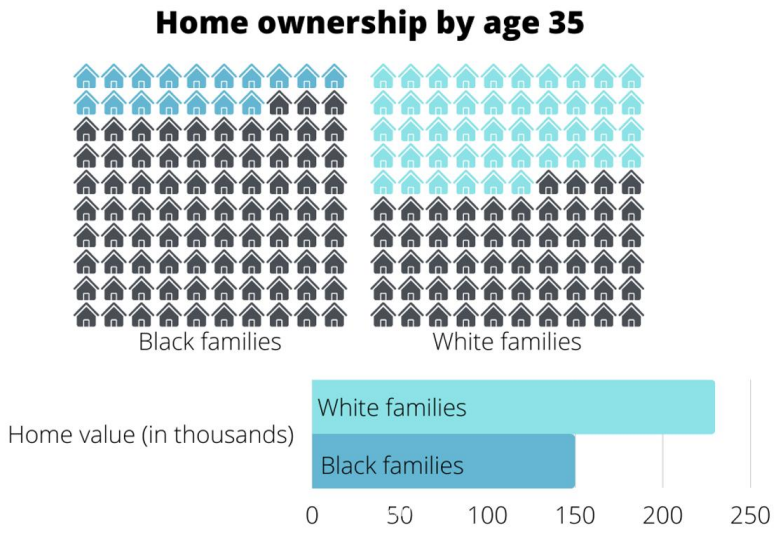

Source: Federal Reserve Board, 2019 Survey of Consumer Finances

### Black disadvantage condition

Prior research has led most social scientists to agree that, even today, Black people in America continue to suffer from undeserved disadvantages that White people do not, particularly in the realm of wealth and homeownership. See the facts and figures below for some ways in which Blacks are disadvantaged, compiled from economic research.

Many Americans underestimate the racial wealth gap in the United States. Looking at total wealth, the median Black family has $24,100, while the median White family has $188,200, which means that for every $100 a White family has, a Black family has less than $13[2].

Homeownership is a crucial part of building wealth. Black people are less likely to inherit property, which can be passed down and increases chances to build wealth (from 1934-1964, less than 2% of federal housing loans went to all people of color[3]). Young Black families are less likely to receive financial assistance from their parents (due to lack of wealth, not willingness) and are still less likely to receive loans[4]. Homes in Black neighborhoods are valued lower than similar homes in White neighborhoods, and Black homeowners whose income was more than $100,000 typically receive a less favorable mortgage than White homeowners earning less than $30,000[5].



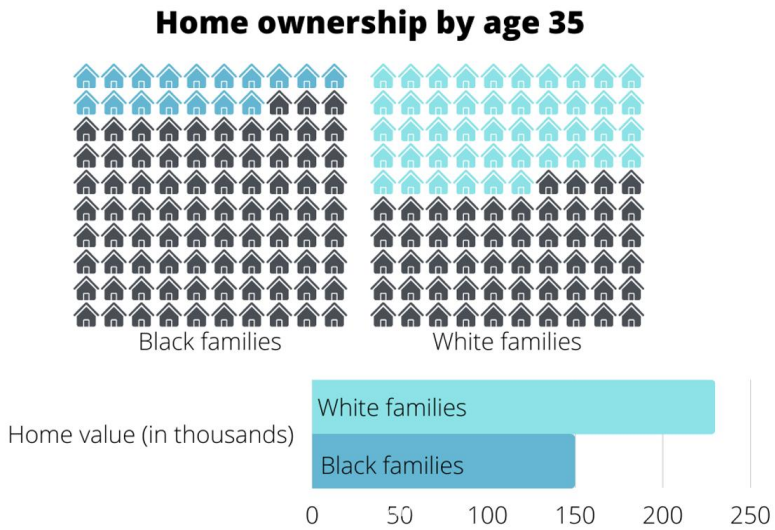

Source: Federal Reserve Board, 2019 Survey of Consumer Finances

**White advantage condition**

Prior research has led most social scientists to agree that, even today, White people in America continue to enjoy undeserved advantages that Black people do not, particularly in the realm of wealth and homeownership. See the facts and figures below for some ways in which Blacks are disadvantaged, compiled from economic research.

Many Americans underestimate the racial wealth gap in the United States. Looking at total wealth, the median White family has $188,200, while the median Black family has $24,100, which means that for every $100 a Black family has, a White family has more than $780[2].

Homeownership is a crucial part of building wealth. White people are more likely to inherit property, which can be passed down and increases chances to build wealth (from 1934-1964, more than 98% of federal housing loans went to White people[3]). Young White families are more likely to receive financial assistance from their parents (due higher wealth, not willingness) and are still more likely to receive loans[4]. Homes in White neighborhoods are valued higher than similar homes in Black neighborhoods, and white homeowners whose income was less than $30,000[5] typically receive a more favorable mortgage than Black homeowners earning more than $100,000[5].




Source: Federal Reserve Board, 2019 Survey of Consumer Finances

## Appendix B
## Study 1 Full Questionnaire

**Back to Chapter 2**

# Study 1 Questionnaire

Start of Block: Informed Consent

Q1

**Informed Consent** Study Titles: 1. News article preferences, 2. Opinions and Personality

These studies are being conducted by Emma Jansen (emma.jansen@uea.ac.uk) and Dr. Daniel Rovenpor (d.rovenpor@uea.ac.uk) at the School of Psychology at the University of East Anglia. We are combining two short studies for the sake of efficiency. In the first, we're interested in your media consumption. In the second, we're interested in how opinions about society are related to certain aspects of personality. Together, they should take about 8-10 minutes to complete.

We believe there are no known risks associated with this research study. You may not directly benefit from this research (beyond your compensation); however, we hope that your participation in this research may help contribute to the body of knowledge in psychology. Your participation is voluntary and you are free to stop at any time without giving any reason and without it affecting you at all. Your personal information will not be shared outside of the research team or published in the final report(s) from this study. Any information from this research will be anonymous and you have the right to stop at any point by closing your browser window.

If you choose to withdraw before the end of the questionnaire, your data will no longer be used in the research (and you will not be compensated). By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. You can also choose to leave some questions blank (and this will not affect compensation). Data will be anonymized and stored separately in a password protected file and will be securely disposed of as soon as it is no longer necessary and within 10 years. Only the research team will have access to the data. Should you wish to withdraw your data after completing the study, you can email the researchers with the completion code generated at the end of the survey. This will not impact your compensation.

If you have any questions about this study please contact the researchers using the contact information provided above. You may also contact the head of school (neil.cooper@uea.ac.uk) or ethics committee (ethics.psychology@uea.ac.uk).

**By clicking 'Continue' below, you acknowledge: that you are at least 18 years of age and that you voluntarily agree to participate in this study.**

Q3 Next you will be asked to participate in two different studies. The first is about your news article consumption and should take 3-4 minutes. You will then automatically proceed to study 2. Click 'Continue' to begin.

Page 1 of 13

Q4 Please answer the next several questions about your general news consumption: Which is your preferred method of getting the news, if you had to choose?

- Television broadcast (1)
- Newspaper, hard-copy (2)
- The internet (primarily news websites) (3)
- The internet (social media) (4)
- Radio (5)
- Magazines, hard-copy or online (6)

Q5 How often do you check the news, on average?

Multiple times a day (1)
Daily (2)
Weekly (3)
Monthly (4)
Rarely ever/never (5)

Q6 What types of articles do you consume most often? Choose up to 5 topics:

World news (1)
US news (2)
Politics (3)
Business (4)
Arts (5)
Opinion (6)
Tech (7)
Science (8)
Health (9)
Sports (10)
Book/movie reviews (11)
Food (12)
Travel (13)
Style (14)

Q7
In this task, we are interested in what you think about (news) articles.

On the next page, we have randomly selected several article headlines from a large archive of articles about all kinds of topics, and you will be asked to rate how likely you'd be to read each article.

Click 'Continue' to proceed.

Q8 Here are several article titles from the recent collection. Please rate how likely you would be to actually click on them and read the article.

Page 2 of 13

Q9 Based on its title, how likely are you to read *"Ways in which deep racial inequity persists in the US"?*

1 Extremely unlikely (1) -- 9 Extremely likely (9)

Q10 Based on its title, how likely are you to read "*10 perfect date ideas for Valentines day-regardless of budget*"?

1 Extremely unlikely (1) -- 9 Extremely likely (9)

Q11 Based on its title, how likely are you to read *"Bird species thought to be extinct found alive and well"*?

1 Extremely unlikely (1) -- 9 Extremely likely (9)

Q12 Based on its title, how likely are you to read *"Putin's War Is an Existential Crisis for the United Nations"* ?

1 Extremely unlikely (1) - 9 Extremely likely (9)

Q14 We'd like to know a bit more about what you think about these articles based on their titles. We've **randomly chosen one headline** for you to evaluate.

Q15

When you read the following headline: *"Ways in which deep racial inequity persists in the US"*, what

did you *think* you'd feel after reading it?
Please rate the extent to which you think the article would make you feel the following emotions:

| | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) |
|---|---|---|---|---|---|---|---|
| Anger (1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Fear/Dread (2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Boredom/apathy (3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Excitement (4) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Guilt (5) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Happiness (6) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Irritation/annoyance (7) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Pride (8) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Sadness (9) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Sympathy/empathy (10) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Other: (11) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Q17 Thank you for participating in Study 1. In the interest of time, we will not ask to you read a full article, and you can proceed directly to the second study, ***'Opinions and Personality,'*** where we are interested in how opinions about society are related to some aspects of personality, and will ask you to complete a few questionnaires.

Click 'Continue' to proceed to the second study. This study will take approximately 5-6 minutes. Please answer all questions carefully.

Page 4 of 13

Q19 On the next two pages, we will ask you some questions about parts of your personality. There are no right or wrong answers to any of these questions.

Q20 Please indicate the extent to which the following statements are true for you. I would prefer complex to simple problems.
Not at all true of me1 (1) - Very true of me 7 (7)

Q21 I like to have the responsibility of handling a situation that requires a lot of thinking.
Not at all true of me1 (1) - Very true of me 7 (7)

Q22 Thinking is not my idea of fun.
Not at all true of me1 (1) - Very true of me 7 (7)

Q23 I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.
Not at all true of me1 (1) - Very true of me 7 (7)

Q24 I really enjoy a task that involves coming up with new solutions to problems.
Not at all true of me1 (1) - Very true of me 7 (7)

Q25 I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
Not at all true of me 1 (1) - Very true of me7 (7)

Q26 I have high self-esteem.
Not at all true of me1 (1) - Very true of me 9 (9)

Q27 How confident are you in your present ability to:

| | Not at all confident 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | Very confident 7 (7) |
|---|---|---|---|---|---|---|---|
| Change your negative emotion to a positive emotion (1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Correctly identify your own negative emotions (2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Regulate your own emotions when close to reaching a goal (3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Calm down when feeling angry (4) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Regulate your own emotions when under pressure (5) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Regulate your own emotions when feeling upset (6) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Manage your feelings of anxiety (8) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Q28 Overall, how much control would you say you have over your emotions?
No control 1 (1) - Complete control 9 (8)

Q30 Next we have included some questionnaires measuring your opinions about American society.

Q31 There are many kinds of groups in the US: men and women, ethnic and religious groups, nationalities, political factions. How much do you support or oppose ideas about groups in general?

Please indicate the degree to which you agree with the following statements:

In setting priorities, we must consider all groups.
Strongly disagree1 (1) - Strongly agree7 (7)

Q32
We should not push for group equality.
Strongly disagree1 (1) - Strongly agree7 (7)

Q33 Group equality should be our ideal.
Strongly disagree1 (1) - Strongly agree7 (7)

Q34 Superior groups should dominate inferior groups.
Strongly disagree1 (1) - Strongly agree7 (7)

Q36 Next, we are interested in your thoughts about particular groups of people in society.

For the purposes of this question, we are specifically interested in how you perceive White Americans relative to all other Americans.

When you think about outcomes for White Americans, to what degree do you believe that this group tends to be advantaged versus disadvantaged?

| | Extremely disadvantaged | | | | | | | Extremely advantaged | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| White Americans are: () | | | | | | | | | |

Q37
When you think about outcomes for Black Americans, to what degree do you believe that this group tends to be advantaged versus disadvantaged relative to all other Americans?

| | Extremely disadvantaged | | | | | | | Extremely advantaged | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Black Americans are: () | | | | | | | | | |

Q39 Please indicate the degree to which you agree with the following statements:

When I think about what I have compared to others, I feel deprived.
Strongly disagree1 (1) - Strongly agree7 (7)

Q40 I feel privileged compared to other people like me.

Strongly disagree1 (1) - Strongly agree7 (7)

Q41 I feel resentful when I see how prosperous other people seem to be.

Strongly disagree1 (1) - Strongly agree7 (7)

Q42 When I compare what I have with others, I realize that I am quite well off.

Strongly disagree1 (1) - Strongly agree7 (7)

Q44 Please indicate the degree to which you agree with the following statements:

In general, you find society to be fair
Strongly disagree 1 (1) - Strongly agree7 (7)

Q45 In general, the American political system operates as it should.
Strongly disagree 1 (1) - Strongly agree7 (7)

Q46
Most policies serve the greater good.
Strongly disagree 1 (1) - Strongly agree7 (7)

Q47 Everyone has a fair shot at wealth and happiness.
Strongly disagree 1 (1) - Strongly agree7 (7)

Q48 Society is set up so that people usually get what they deserve.

Strongly disagree 1 (1) - Strongly agree7 (7)

Q50 Please indicate where on the scale you stand between the following two statements:

| | Wealth is like a pie. The more the rich have, the less there is for the poor. | | | | | | | | Wealth is like a forest. It can grow so there's enough for everyone |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Wealth is: () | | | | | | | | | |

Page 8 of 13

Q51 Please indicate the degree to which you agree with the following statements:

I feel that a person's efforts are noticed and rewarded.
Strongly disagree 1 (1) - Strongly agree7 (7)

Q52 I feel that people earn the rewards and punishments they get.
Strongly disagree 1 (1) - Strongly agree7 (7)

Q53 I feel that people who meet with misfortune have brought it on on themselves.
Strongly disagree 1 (1) - Strongly agree7 (7)

Q54 I basically feel that the world is a fair place.
Strongly disagree 1 (1) - Strongly agree7 (7)

Q56 Finally, please answer some questions about yourself:

Q57 How old are you?

_____

Q58 What gender are you?
Male (1)
Female (2)
Non-binary / third gender (3)
Prefer not to say (4)
Prefer to self-describe: (5) _____

Q59 What is your ethnicity?

_____

Q60 People may think about their racial or ethnic identity in different ways. Please respond how much you agree or disagree with the following statements.

Being a member of my racial group is an important reflection of who I am.
Strongly Disagree1 (1) - Strongly agree7 (7)

Q61
I have a strong attachment to other people from my racial group.
Strongly Disagree1 (1) - Strongly agree7 (7)

Q62 I have a strong sense of belonging with other people in my racial group.
Strongly Disagree1 (1) - Strongly agree7 (7)

Q63 Where would you place yourself politically on the following scale?
Far Left 1 (1) - Far Right 7 (7)

Q64 With which political party do you most closely identify?
Republican (1)
Democrat (2)
Independent (3)
Other (4) _____

Q65 What is the highest level of education you have attained?
Some high school (1)
High school diploma (2)
Vocational/technical school (3)
Some college (4)
Bachelor's degree (BA, BS, BSc) (5)
Master's degree (MA, MS, MSc) (6)
Doctoral or professional degree (PhD, MD, JD) (7)

Q66 What is your current occupation?

_____

Q67 What is your own personal approximate income per year?

- Less than $10,000 (1)
- $10,000 - $19,999 (2)
- $20,000 - $29,999 (3)
- $30,000 - $39,999 (4)
- $40,000 - $49,999 (5)
- $50,000 - $59,999 (6)
- $60,000 - $69,999 (7)
- $70,000 - $79,999 (8)
- $80,000 - $89,999 (9)
- $90,000 - $99,999 (10)
- $100,000 - $149,999 (11)
- More than $150,000 (12)
- Prefer not to say (13)

Q68 Think of this ladder as representing where people stand in the United States. At the top of the ladder are the people who are the best off – those who have the most money, the most education, and the most respected jobs. At the bottom are the people who are the worst off – those who have the least money, least education, the least respected jobs, or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.

Where would you place yourself on this ladder? Please use your mouse cursor to click on (or, if using a touchscreen, use your finger to tap) the rung where you think you stand at this time in your life relative to other people in the United States.

Q70 Is English your first language?
Yes (1)
No (2)

*Display this question:*
*If Is English your first language? = No*

Q71 For how many years have you been speaking English?

_____

Q72 Did you experience any **technical difficulties** or **language difficulties** while taking this survey? If so, please describe the difficulty.
Yes (1) _____
No (2)

Q73 Was any part of this study unclear to you? Do you have any other comments about this study that you would like to share?

_____

Q74 To what extent did you take this survey seriously? Your answer to this question will not affect the payment that you will receive for completing this survey, so please answer honestly. Your answer will assist in analysing and interpreting your survey responses.

Not at all seriously Extremely seriously

1 2 3 4 5 6 7 8 9

() 

Q76
**Debriefing Form**

Thank you for participating in this study, we appreciate your help!

There were several questions we were interested in exploring in this study. Mainly, we were interested in whether people choose to engage in political articles about racial inequity, and whether their anticipated emotions (as well as other personality traits or attitudes about society) would affect this choice.

(If you would like to read the article upon which our headline was based, you can find it here: https://www.latimes.com/opinion/story/2022-02-28/american-perception-racial-inequality-u-s)

Another question we wanted to answer is whether people see one race's advantage as being the same thing as another race's disadvantage. So, if you think Black Americans are disadvantaged, do you automatically see white Americans as advantaged? Research has shown that people have different reactions depending on how this issue is framed, so it would be useful to know whether people tend to see it a certain way from the start.

So in fact, the two studies were *one* study, and the headline you evaluated was *not* randomly chosen, because we are specifically interested in learning how certain attitudes about society might relate to different (emotional) reactions to political articles. Participants were misled about these details, because as psychologists we are interested in assessing how people react naturally to these topics, and knowing our research questions ahead of time might have changed your responses.

Now that you are more informed about the purposes of this study, you have the opportunity to withdraw your data from consideration. If you would like to have your data deleted, please email emma.jansen@uea.ac.uk with this survey completion code (${e://Field/RandomID}) by the end of the day. This will not affect your compensation in any way.

If you have any questions or comments about this research or are interested in learning about the results, please feel free to contact us at emma.jansen@uea.ac.uk or d.rovenpor@uea.ac.uk for further information. You may also contact the head of school (neil.cooper@uea.ac.uk) or ethics committee (ethics.psychology@uea.ac.uk).

This research would not have been possible without your help, and we would like to extend our deepest thanks to you.

**End of Block: Debrief**

# Appendix C
# Individual difference measures and intervention conditions used in Studies 2 and 3

(Back to Chapter 2 )

## Measures/Items Used in Study 2 and 3

**Social Dominance Orientation**

There are many kinds of groups in the US: men and women, ethnic and religious groups, nationalities, political factions. How much do you support or oppose ideas about groups in general?

Please indicate the degree to which you agree with the following statements:

An ideal society requires some groups to be on top and others to be on the bottom. (1 Strongly disagree – 7, Strongly Agree)

Group equality should be our ideal. (1 Strongly disagree – 7, Strongly Agree)

We should not push for group equality. (1 Strongly disagree – 7, Strongly Agree)

**Personal Relative Deprivation**

Please indicate the degree to which you agree with the following statements: (1 Strongly disagree – 7, Strongly Agree)

When I compare what I have with others, I realize that I am quite well off.

When I think about what I have compared to others, I feel deprived.

I feel privileged compared to other people like me.

**Just world beliefs**

Please indicate the degree to which you agree with the following statements: (1 Strongly disagree – 7, Strongly Agree)

Society is set up so that people usually get what they deserve.

I feel that a person's efforts are noticed and rewarded.

I basically feel that the world is a fair place.

**Zero sum belief**

Please indicate where on the scale you stand between the following two statements: 1: Wealth is like a pie. The more the rich have, the less there is for the poor, 8: Wealth is like a forest. It can grow so there's enough for everyone

**Racial identification**

People may think about their racial or ethnic identity in different ways. Please respond how much you agree or disagree with the following statements. (1 Strongly disagree – 7 Strongly agree)

The racial/ethnic group(s) I belong to are an important reflection of who I am.

I often regret that I belong to the racial/ethnic group(s) I do.

I have a strong attachment to other people from my racial/ethnic group(s).

In general, I'm glad to be a member of the racial/ethnic group(s) I belong to.

Overall, my racial/ethnic group membership has very little to do with how I feel about myself.

**Need for closure**

Please indicate the extent to which the following statements are true for you. (1 Not at all true of me – 7 Very true of me)

When thinking about a problem, I consider as many different opinions on the issue as possible.

I dislike questions which could be answered in many different ways.

When considering most conflict situations, I can usually see how both sides could be right.

I dislike it when a person's statement could mean many different things.

I feel uncomfortable when I don't understand the reason why an event occurred in my life.

I don't like situations that are uncertain.

## Study 2 Intervention support measures

**General intervention support:**

To what extent do you feel that action should be taken to address the Black-White wealth gap? (1 Not at all – 7 Extremely strongly)

**Baby bonds:**

Next, you will be given a potential intervention aimed at reducing the wealth gap between White and Black Americans. Please read about the plan and answer the questions about it.

**Intervention: Baby bonds (Black baby condition)**

As a form of reparation for all the opportunities denied them historically, all Black babies who are descended from U.S. chattel slaves would be granted a savings account at birth that is federally managed and federally guaranteed to grow at a rate of 1.5-2%. The program would be for all Black babies in the U.S. but the starting amount would depend on the parents' existing wealth: those with the least wealth would be given the highest amount. People could access it at age 21 and use it for things like purchasing a home or starting a business.

**Intervention: Baby bonds (Universal condition)**

At birth, babies would be granted a savings account that is federally managed and federally guaranteed to grow at a rate of 1.5-2%. The program would be for all babies in the U.S. but the starting amount would depend on the parents' existing wealth: those with the least wealth would be given the highest amount. People could access it at age 21 and use it for things like purchasing a home or starting a business.

**Items**

Would you support this initiative, for instance by voting yes to a referendum, or voting for a congressional candidate who supports it? (1 Definitely not – 4 Might or might not – 7 Definitely)

## Study 3 Intervention support measures

**General intervention support:**

To what extent would you be willing to sign a petition to a local politician demanding they address the racial wealth gap? (1 Definitely not – 7 Definitely yes)

To what extent would you support a government policy that provides all Black Americans who are descended from slaves with some form of reparations? (1 Not at all – 7 Completely)

If you were given 10 dollars right now, how much of it would you be willing to donate to organizations that address systematic racial inequities? (0 -10 dollars)

**Housing intervention:**

Below, you will read about one city council's previous efforts to address some of the racial inequities in their city. Please read the paragraph below carefully, and then answer the three questions below it.

A city council in Georgia set up an oversight board in 2016 to try to address racial inequity in home ownership. Specifically, the board's instructions were to reduce racial disparities in lending and mortgage rates. The board implemented new regulations to enforce existing anti-discrimination laws and required transparent reporting from all lending organizations.

**(Black homeownership up condition)**

Five years later, the proportion of all homeowners in the city that were Black went up from 10% to 22%. Black people make up 35% of the city's population, so this home-owning ratio has become more representative of the city's ethnic make-up.

**(White homeownership down condition)**

Five years later, the proportion of all homeowners in the city that were White went down from 84% to 72%. White people make up 65% of the city's population, so this home-owning ratio has become more representative of the city's ethnic make-up.

**Items**

To what extent do you approve or disapprove of the policy implemented in Georgia? (1 Strong disapprove – 7 Strongly approve)

To what extent do you believe that members of racial minorities experience barriers

to homeownership in your own town? (1 Not at all – 7 Very much)

To what extent would you support a similar policy in your town? (1 Not at all – 7 Very much)

# Appendix D
## Regression Tables of (dis)advantage perception on engagement, intervention support and emotions

**(Back to Chapter 3)**

**Table 18**

*Regression results predicting likelihood of reading an article about racial inequity based on its headline (White advantage model)*

| | Study 1 | | | | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | sr2 | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| White Advantage | .48 | (.23-.73) | .33 | .28 | .45 | (.28 - .61) | .30 | .23 | .26 | (.12 - .39) | .17 | -.07 |
| Social Dominance Orientation | -.15 | (-.51-.20) | -.09 | -.06 | -.34 | (-.54 - -.14) | -.20 | -.15 | -.26 | (-.40 - -.11) | -.16 | -.12 |
| Political Ideology | -.41 | (-.70–.12) | -.28 | -.21 | -.18 | (-.34 - -.02) | -.13 | -.10 | -.23 | (-.36 - -.10) | -.16 | -.13 |
| Personal Relative Deprivation | .17 | (-.20-.54) | .08 | .07 | .02 | (-.19 - .22) | .01 | .01 | .08 | (-.07 - .23) | .04 | .02 |
| Just World Belief | .05 | (-.50-.60) | .03 | .01 | .14 | (-.08 - .36) | .07 | .05 | -.03 | (-.20 - .13) | -.02 | -.01 |
| Zero Sum Attitude | -.01 | (-.20-.17) | -.01 | -.01 | -.09 | (-.19 - .02) | -.08 | -.07 | .04 | (-.03 - .11) | .04 | .03 |
| Subjective SES | -.04 | (-.30-.22) | -.03 | -.02 | .14 | (-.01 - .28) | .09 | .08 | .04 | (-.08 - .16) | .03 | .02 |
| Racial Identification | .04 | (-.21-.28) | .03 | .02 | -.17 | (-.39 - .04) | -.07 | -.07 | -.16 | (-.32 - .00) | -.07 | -.06 |
| System Justification | .10 | (-.37-.58) | .06 | .03 | -.21 | (-.48 - .06) | -.07 | -.07 | -.18 | (-.35 - -.01) | -.07 | -.06 |
| Need for Closure | — | — | — | — | — | — | — | — | .02 | (.01 - .03) | .20 | .16 |
| Attribution | — | — | — | — | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 19**

*Regression results predicting likelihood of reading an article about racial inequity based on its headline (Black advantage model)*

| | **Study 1** | | | | **Study 2** | | | | **Study 3** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | sr2 | b | b 95% CI | Beta | $sr^2$ |
| Black Advantage | -.32 | (-.58 - -.06) | -.24 | -.19 | -.19 | (-.35 - -.02) | -.13 | -.10 | -.14 | (-.27 - -.01) | -.10 | -.07 |
| Social Dominance Orientation | -.16 | (-.53 - .21) | -.10 | -.07 | -.45 | (-.65 - -.25) | -.26 | -.20 | -.28 | (-.43 - -.13) | -.18 | -.12 |
| Political Ideology | -.54 | (-.82 - -.25) | -.36 | -.29 | -.28 | (-.44 - -.12) | -.20 | -.15 | -.27 | (-.41 - -.14) | -.19 | -.13 |
| Personal Relative Deprivation | .17 | (-.22 - .56) | .08 | .07 | -.09 | (-.29 - .12) | -.04 | -.04 | .04 | (-.10 - .19) | .02 | .02 |
| Just World Belief | .03 | (-.54 - .60) | .02 | .01 | .20 | (-.03 - .43) | .10 | .08 | -.02 | (-.19 - .14) | -.01 | -.01 |
| Zero Sum Attitude | -.01 | (-.20 - .18) | -.01 | -.01 | -.08 | (-.19 - .03) | -.07 | -.07 | .03 | (-.04 - .10) | .03 | .03 |
| Subjective SES | -.02 | (-.30 - .25) | -.02 | -.01 | .14 | (-.02 - .29) | .10 | .08 | .05 | (-.07 - .16) | .03 | .02 |
| Racial Identification | .06 | (-.19 - .32) | .05 | .04 | -.17 | (-.39 - .06) | -.07 | -.06 | -.16 | (-.32 - .00) | -.07 | -.06 |
| System Justification | .24 | (-.26 - .73) | .14 | .07 | -.20 | (-.48 - .07) | -.07 | -.06 | -.16 | (-.34 - .01) | -.06 | -.06 |
| Need for Closure | — | — | — | — | — | — | — | — | .02 | (.01 - .03) | .22 | .16 |
| Attribution | — | — | — | — | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 20**

*Regression results predicting likelihood of reading an article about racial inequity based on its headline (Black and White advantage model)*

| | **Study 1** | | | | **Study 2** | | | | **Study 3** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | sr2 | b | b 95% CI | Beta | $sr^2$ |
| White Advantage | .43 | (.13 - .72) | .30 | .22 | .46 | (.27 - .64) | .31 | .21 | .24 | (.09 - .39) | .16 | .10 |
| Black Advantage | -.10 | (-.40 - .19) | -.08 | -.05 | .03 | (-.15 - .21) | .02 | .01 | -.03 | (-.18 - .12) | -.02 | -.01 |
| Social Dominance Orientation | -.14 | (-.50 - .22) | -.08 | -.06 | -.34 | (-.54 - -.15) | -.20 | -.15 | -.25 | (-.40 - -.10) | -.16 | -.11 |
| Political Ideology | -.41 | (-.70 - -.12) | -.28 | -.21 | -.18 | (-.34 - -.02) | -.13 | -.10 | -.23 | (-.36 - -.09) | -.16 | -.11 |
| Personal Relative Deprivation | .19 | (-.19 - .57) | .09 | .08 | .01 | (-.19 - .22) | .01 | .01 | .08 | (-.07 - .23) | .04 | .03 |
| Just World Belief | .06 | (-.50 - .61) | .03 | .02 | .13 | (-.09 - .35) | .06 | .05 | -.03 | (-.19 - .14) | -.01 | -.01 |
| Zero Sum Attitude | -.01 | (-.20 - .18) | -.01 | -.01 | -.09 | (-.19 - .02) | -.08 | -.07 | .04 | (-.03 - .11) | .04 | .03 |
| Subjective SES | -.02 | (-.29 - .24) | -.02 | -.01 | .13 | (-.02 - .28) | .09 | .08 | .04 | (-.08 - .16) | .03 | .02 |
| Racial Identification | .04 | (-.20 - .29) | .03 | .03 | -.18 | (-.39 - .04) | -.07 | -.07 | -.16 | (-.32 - .00) | -.07 | -.06 |
| System Justification | .14 | (-.35 - .62) | .08 | .04 | -.21 | (-.48 - .06) | -.07 | -.07 | -.18 | (-.35 - -.01) | -.07 | -.06 |
| Need for Closure | — | — | — | — | — | — | — | — | .02 | (.01 - .03) | .20 | .15 |
| Attribution | — | — | — | — | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 21**

*Regression results predicting likelihood of reading an article about racial inequity based on its headline (difference score model)*

| | **Study 1** | | | | **Study 2** | | | | **Study 3** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | sr2 | b | b 95% CI | Beta | $sr^2$ |
| Difference Score | .26 | (.12-.41) | .34 | .27 | .21 | (.12 - .31) | .26 | .19 | .13 | (.06 - .21) | .17 | .11 |
| Social Dominance Orientation | -.13 | (-.49-.23) | -.08 | -.05 | -.36 | (-.56 - -.16) | -.21 | -.15 | -.25 | (-.40 - -.10) | -.16 | -.10 |
| Political Ideology | -.44 | (-.73–.16) | -.30 | -.23 | -.20 | (-.36 - -.04) | -.14 | -.11 | -.24 | (-.37 - -.10) | -.16 | -.11 |
| Personal Relative Deprivation | .21 | (-.16-.59) | .10 | .09 | .00 | (-.20 - .21) | .00 | .00 | .07 | (-.08 - .22) | .04 | .03 |
| Just World Belief | .06 | (-.50-.61) | .03 | .02 | .19 | (-.03 - .41) | .09 | .07 | -.01 | (-.18 - .15) | -.01 | -.01 |
| Zero Sum Attitude | -.01 | (-.19-.18) | -.01 | -.01 | -.08 | (-.18 - .03) | -.07 | -.06 | .04 | (-.04 - .11) | .04 | .03 |
| Subjective SES | -.01 | (-.27-.26) | -.01 | .00 | .15 | (-.00 - .30) | .10 | .08 | .04 | (-.08 - .16) | .03 | .02 |
| Racial Identification | .06 | (-.19-.30) | .04 | .03 | -.16 | (-.38 - .06) | -.07 | -.06 | -.16 | (-.32 - .00) | -.07 | -.06 |
| System Justification | .19 | (-.28-.67) | .12 | .06 | -.21 | (-.49 - .06) | -.07 | -.07 | -.17 | (-.34 - .00) | -.06 | -.06 |
| Need for Closure | — | — | — | — | — | — | — | — | .02 | (.01 - .03) | .20 | .15 |
| Attribution | — | — | — | — | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 22**

*Regression results predicting general intervention support(White advantage model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| White Advantage | .36 | (.26 - .46) | .33 | .26 | .14 | (.11 - .18) | .28 | .20 |
| Social Dominance Orientation | -.51 | (-.62 - -.39) | -.42 | -.31 | -.15 | (-.19 - -.11) | -.27 | -.18 |
| Political Ideology | -.12 | (-.21 - -.03) | -.12 | -.09 | -.07 | (-.10 - -.03) | -.13 | -.09 |
| Personal Relative Deprivation | -.09 | (-.20 - .03) | -.06 | -.05 | -.05 | (-.10 - -.01) | -.09 | -.07 |
| Just World Belief | -.10 | (-.23 - .03) | -.07 | -.06 | -.04 | (-.08 - .01) | -.05 | -.04 |
| Zero Sum Attitude | .03 | (-.03 - .09) | .04 | .03 | .00 | (-.02 - .02) | -.01 | -.01 |
| Subjective SES | -.03 | (-.12 - .06) | -.03 | -.02 | .01 | (-.03 - .04) | .02 | .01 |
| Racial Identification | .04 | (-.08 - .16) | .03 | .02 | -.07 | (-.12 - -.03) | -.10 | -.08 |
| System Justification | -.11 | (-.26 - .05) | -.05 | -.05 | -.03 | (-.07 - .02) | -.03 | -.03 |
| Need for Closure | — | — | — | — | .00 | (.00 - .01) | .12 | .09 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 23**

*Regression results predicting general intervention support(Black advantage model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| Black Advantage | -.24 | (-.34 - -.14) | -.23 | -.17 | -.10 | (-.14 - -.07) | -.21 | -.15 |
| Social Dominance Orientation | -.53 | (-.65 - -.41) | -.44 | -.32 | -.16 | (-.20 - -.11) | -.29 | -.19 |
| Political Ideology | -.16 | (-.26 - -.07) | -.16 | -.13 | -.08 | (-.12 - -.05) | -.17 | -.12 |
| Personal Relative Deprivation | -.14 | (-.26 - -.02) | -.11 | -.09 | -.07 | (-.11 - -.03) | -.12 | -.09 |
| Just World Belief | -.07 | (-.20 - .07) | -.04 | -.04 | -.03 | (-.07 - .02) | -.04 | -.03 |
| Zero Sum Attitude | .03 | (-.03 - .09) | .04 | .04 | -.01 | (-.03 - .01) | -.02 | -.01 |
| Subjective SES | -.04 | (-.13 - .06) | -.03 | -.03 | .01 | (-.02 - .04) | .02 | .02 |
| Racial Identification | .04 | (-.09 - .17) | .03 | .02 | -.08 | (-.12 - -.03) | -.10 | -.09 |
| System Justification | -.13 | (-.29 - .03) | -.06 | -.06 | -.02 | (-.06 - .03) | -.02 | -.02 |
| Need for Closure | — | — | — | — | .01 | (.00 - .01) | .14 | .10 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 24**

*Regression results predicting general intervention support (Black and White advantage model)*

| | **Study 2** | | | | **Study 3** | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| White Advantage | .32 | (.20 - .43) | .29 | .20 | .12 | (.08 - .16) | .24 | .15 |
| Black Advantage | -.09 | (-.20 - .03) | -.08 | -.05 | -.05 | (-.09 - -.01) | -.10 | -.06 |
| Social Dominance Orientation | -.49 | (-.61 - -.38) | -.41 | -.29 | -.14 | (-.18 - -.10) | -.26 | -.17 |
| Political Ideology | -.11 | (-.20 - -.01) | -.11 | -.08 | -.06 | (-.10 - -.02) | -.12 | -.08 |
| Personal Relative Deprivation | -.07 | (-.19 - .05) | -.05 | -.04 | -.05 | (-.10 - -.01) | -.09 | -.07 |
| Just World Belief | -.09 | (-.22 - .04) | -.06 | -.05 | -.03 | (-.07 - .02) | -.04 | -.03 |
| Zero Sum Attitude | .03 | (-.03 - .09) | .04 | .04 | .00 | (-.02 - .02) | -.01 | -.01 |
| Subjective SES | -.02 | (-.11 - .06) | -.02 | -.02 | .01 | (-.03 - .04) | .02 | .01 |
| Racial Identification | .05 | (-.08 - .17) | .03 | .03 | -.07 | (-.12 - -.03) | -.10 | -.08 |
| System Justification | -.11 | (-.27 - .05) | -.05 | -.05 | -.02 | (-.07 - .02) | -.03 | -.03 |
| Need for Closure | | | | | .00 | (.00 - .01) | .11 | .08 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 25**

*Regression results predicting general intervention support(difference score model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| Difference Score | .20 | 0.344 | .34 | .25 | .08 | (.06 - .11) | .31 | .20 |
| Social Dominance Orientation | -.49 | -0.404 | -.40 | -.29 | -.14 | (-.18 - -.10) | -.26 | -.17 |
| Political Ideology | -.11 | -0.111 | -.11 | -.08 | -.06 | (-.10 - -.03) | -.12 | -.08 |
| Personal Relative Deprivation | -.07 | -0.055 | -.06 | -.04 | -.06 | (-.10 - -.02) | -.09 | -.07 |
| Just World Belief | -.08 | -0.053 | -.05 | -.04 | -.02 | (-.07 - .02) | -.03 | -.02 |
| Zero Sum Attitude | .03 | 0.041 | .04 | .04 | -.01 | (-.02 - .02) | -.01 | -.01 |
| Subjective SES | -.02 | -0.021 | -.02 | -.02 | .01 | (-.03 - .04) | .02 | .01 |
| Racial Identification | .05 | 0.031 | .03 | .03 | -.07 | (-.12 - -.03) | -.10 | -.08 |
| System Justification | -.12 | -0.055 | -.06 | -.05 | -.02 | (-.07 - .03) | -.02 | -.02 |
| Need for Closure | — | — | — | — | .00 | (.00 - .01) | .11 | .08 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 26**

*Regression results predicting guilt (White advantage model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| White Advantage | .34 | (.21 - .48) | .30 | .23 | .24 | (.14 - .35) | .23 | .16 |
| Social Dominance Orientation | -.10 | (-.26 - .05) | -.08 | -.06 | -.08 | (-.20 - .03) | -.07 | -.05 |
| Political Ideology | -.06 | (-.18 - .07) | -.06 | -.04 | -.10 | (-.20 - .01) | -.09 | -.06 |
| Personal Relative Deprivation | -.31 | (-.47 - -.15) | -.22 | -.17 | -.19 | (-.31 - -.07) | -.15 | -.11 |
| Just World Belief | -.03 | (-.20 - .15) | -.02 | -.01 | -.11 | (-.23 - .02) | -.08 | -.06 |
| Zero Sum Attitude | -.07 | (-.16 - .01) | -.09 | -.08 | .01 | (-.05 - .06) | .01 | .01 |
| Subjective SES | -.07 | (-.19 - .05) | -.06 | -.05 | .03 | (-.07 - .12) | .02 | .02 |
| Racial Identification | -.17 | (-.34 - -.01) | -.10 | -.09 | -.11 | (-.24 - .02) | -.07 | -.06 |
| System Justification | -.01 | (-.22 - .21) | .00 | .00 | -.04 | (-.17 - .10) | -.02 | -.02 |
| Need for Closure | — | — | — | — | .00 | (.00 - .01) | .03 | .02 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 27**

*Regression results predicting guilt (Black advantage model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| Black Advantage | -.28 | (-.41 - -.14) | -.25 | -.19 | -.13 | (-.23 - -.03) | -.13 | -.09 |
| Social Dominance Orientation | -.12 | (-.27 - .05) | -.09 | -.07 | -.11 | (-.22 - .01) | -.09 | -.06 |
| Political Ideology | -.09 | (-.22 - .04) | -.08 | -.06 | -.14 | (-.24 - -.03) | -.13 | -.09 |
| Personal Relative Deprivation | -.35 | (-.51 - -.19) | -.24 | -.20 | -.23 | (-.34 - -.11) | -.18 | -.14 |
| Just World Belief | .01 | (-.16 - .19) | .01 | .01 | -.10 | (-.23 - .03) | -.07 | -.05 |
| Zero Sum Attitude | -.07 | (-.16 - .01) | -.09 | -.08 | .01 | (-.05 - .06) | .01 | .01 |
| Subjective SES | -.07 | (-.19 - .06) | -.06 | -.05 | .03 | (-.06 - .12) | .03 | .02 |
| Racial Identification | -.17 | (-.34 - .00) | -.10 | -.09 | -.11 | (-.24 - .01) | -.07 | -.06 |
| System Justification | -.03 | (-.25 - .18) | -.01 | -.01 | -.02 | (-.16 - .11) | -.01 | -.01 |
| Need for Closure | — | — | — | — | .00 | (-.00 - .01) | .06 | .04 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 28**

*Regression results predicting guilt (Black and White advantage model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| White Advantage | .27 | (.12 - .43) | .24 | .16 | .23 | (.11 - .35) | .22 | .14 |
| Black Advantage | -.14 | (-.29 - .01) | -.12 | -.08 | -.03 | (-.14 - .09) | -.02 | -.02 |
| Social Dominance Orientation | -.08 | (-.24 - .08) | -.06 | -.04 | -.08 | (-.20 - .04) | -.07 | -.05 |
| Political Ideology | -.04 | (-.17 - .09) | -.04 | -.03 | -.09 | (-.20 - .01) | -.09 | -.06 |
| Personal Relative Deprivation | -.29 | (-.45 - -.13) | -.20 | -.16 | -.19 | (-.31 - -.07) | -.15 | -.11 |
| Just World Belief | -.01 | (-.19 - .16) | -.01 | -.01 | -.10 | (-.23 - .03) | -.07 | -.05 |
| Zero Sum Attitude | -.07 | (-.15 - .01) | -.09 | -.08 | .01 | (-.05 - .06) | .01 | .01 |
| Subjective SES | -.06 | (-.18 - .06) | -.05 | -.04 | .03 | (-.07 - .12) | .02 | .02 |
| Racial Identification | -.17 | (-.33 - .00) | -.10 | -.09 | -.11 | (-.24 - .02) | -.07 | -.06 |
| System Justification | -.02 | (-.23 - .20) | -.01 | -.01 | -.04 | (-.17 - .10) | -.02 | -.02 |
| Need for Closure | — | — | — | — | .00 | (-.00 - .01) | .03 | .02 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 29**

*Regression results predicting guilt (difference score model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| Difference Score | .21 | (.13 - .28) | .33 | .24 | .13 | (.07 - .19) | .22 | .15 |
| Social Dominance Orientation | -.08 | (-.23 - .08) | -.06 | -.04 | -.08 | (-.20 - .04) | -.07 | -.05 |
| Political Ideology | -.04 | (-.17 - .08) | -.04 | -.03 | -.10 | (-.21 - .01) | -.10 | -.07 |
| Personal Relative Deprivation | -.29 | (-.45 - -.13) | -.20 | -.16 | -.20 | (-.32 - -.08) | -.16 | -.12 |
| Just World Belief | .00 | (-.18 - .17) | .00 | .00 | -.09 | (-.22 - .04) | -.07 | -.05 |
| Zero Sum Attitude | -.07 | (-.15 - .01) | -.09 | -.08 | .01 | (-.05 - .06) | .01 | .01 |
| Subjective SES | -.06 | (-.18 - .06) | -.05 | -.04 | .03 | (-.07 - .12) | .03 | .02 |
| Racial Identification | -.16 | (-.33 - .00) | -.10 | -.09 | -.11 | (-.24 - .01) | -.07 | -.06 |
| System Justification | -.02 | (-.23 - .19) | -.01 | -.01 | -.03 | (-.16 - .10) | -.02 | -.02 |
| Need for Closure | — | — | — | — | .00 | (-.00 - .01) | .03 | .02 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 30**

*Regression results predicting sympathy(white advantage model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| White Advantage | .26 | (.14 - .38) | .23 | .18 | .24 | (.15 - .33) | .22 | .15 |
| Social Dominance Orientation | -.39 | (-.53 - -.25) | -.31 | -.23 | -.42 | (-.52 - -.32) | -.36 | -.24 |
| Political Ideology | -.14 | (-.26 - -.03) | -.14 | -.11 | -.03 | (-.12 - .06) | -.03 | -.02 |
| Personal Relative Deprivation | -.13 | (-.27 - .02) | -.09 | -.07 | -.09 | (-.19 - .01) | -.07 | -.05 |
| Just World Belief | -.06 | (-.21 - .10) | -.04 | -.03 | -.08 | (-.19 - .03) | -.05 | -.04 |
| Zero Sum Attitude | .02 | (-.05 - .10) | .03 | .03 | .01 | (-.04 - .06) | .01 | .01 |
| Subjective SES | .03 | (-.08 - .14) | .03 | .02 | .04 | (-.04 - .12) | .04 | .03 |
| Racial Identification | -.01 | (-.16 - .14) | -.01 | -.01 | -.10 | (-.20 - .01) | -.06 | -.05 |
| System Justification | -.16 | (-.35 - .03) | -.07 | -.07 | -.04 | (-.16 - .07) | -.02 | -.02 |
| Need for Closure | — | — | — | — | .00 | (.00 - .02) | .13 | .10 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 31**

*Regression results predicting sympathy(Black advantage model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| Black Advantage | -.25 | (-.37 - -.13) | -.24 | -.18 | -.25 | (-.34 - -.17) | -.23 | -.17 |
| Social Dominance Orientation | -.38 | (-.52 - -.24) | -.31 | -.23 | -.42 | (-.52 - -.31) | -.35 | -.24 |
| Political Ideology | -.15 | (-.27 - -.04) | -.15 | -.12 | -.04 | (-.13 - .05) | -.04 | -.03 |
| Personal Relative Deprivation | -.14 | (-.28 - .01) | -.10 | -.08 | -.11 | (-.21 - -.01) | -.08 | -.06 |
| Just World Belief | -.02 | (-.18 - .13) | -.02 | -.01 | -.04 | (-.15 - .07) | -.03 | -.02 |
| Zero Sum Attitude | .02 | (-.05 - .10) | .03 | .03 | .01 | (-.04 - .05) | .01 | .01 |
| Subjective SES | .04 | (-.07 - .14) | .03 | .03 | .04 | (-.04 - .12) | .04 | .03 |
| Racial Identification | .00 | (-.15 - .15) | .00 | .00 | -.10 | (-.21 - .01) | -.06 | -.05 |
| System Justification | -.18 | (-.38 - .01) | -.08 | -.08 | -.03 | (-.14 - .09) | -.01 | -.01 |
| Need for Closure | — | — | — | — | .01 | (.00 - .02) | .13 | .10 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 32**

*Regression results predicting sympathy(Black and White advantage model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| White Advantage | .18 | (.04 - .31) | .16 | .11 | .15 | (.05 - .25) | .14 | .09 |
| Black Advantage | -.17 | (-.30 - -.03) | -.15 | -.10 | -.18 | (-.28 - -.09) | -.17 | -.11 |
| Social Dominance Orientation | -.36 | (-.50 - -.21) | -.29 | -.21 | -.40 | (-.50 - -.30) | -.34 | -.22 |
| Political Ideology | -.12 | (-.24 - -.01) | -.12 | -.09 | -.01 | (-.10 - .08) | -.01 | -.01 |
| Personal Relative Deprivation | -.10 | (-.24 - .05) | -.07 | -.06 | -.08 | (-.18 - .02) | -.06 | -.05 |
| Just World Belief | -.04 | (-.20 - .12) | -.03 | -.02 | -.04 | (-.15 - -.07) | -.03 | -.02 |
| Zero Sum Attitude | .02 | (-.05 - .10) | .03 | .03 | .01 | (-.04 - .05) | .01 | .01 |
| Subjective SES | .04 | (-.07 - .15) | .04 | .03 | .04 | (-.04 - .11) | .03 | .03 |
| Racial Identification | .00 | (-.15 - .15) | .00 | .00 | -.10 | (-.21 - .01) | -.06 | -.05 |
| System Justification | -.17 | (-.36 - .02) | -.08 | -.08 | -.03 | (-.15 - .08) | -.02 | -.02 |
| Need for Closure | — | — | — | — | .01 | (.00 - .01) | .12 | .09 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

**Table 33**

*Regression results predicting sympathy(difference score model)*

| | Study 2 | | | | Study 3 | | | |
|---|---|---|---|---|---|---|---|---|
| | b | b 95% CI | Beta | $sr^2$ | b | b 95% CI | Beta | $sr^2$ |
| Difference Score | .17 | (.10 - .24) | .29 | .21 | .17 | (-.12 - .22) | .28 | .19 |
| Social Dominance Orientation | -.36 | (-.50 - -.21) | -.29 | -.21 | -.40 | (-.50 - -.30) | -.34 | -.22 |
| Political Ideology | -.12 | (-.24 - -.01) | -.12 | -.09 | -.01 | (-.10 - .08) | -.01 | -.01 |
| Personal Relative Deprivation | -.10 | (-.24 - .05) | -.07 | -.06 | -.08 | (-.18 - .02) | -.06 | -.05 |
| Just World Belief | -.04 | (-.19 - .12) | -.03 | -.02 | -.05 | (-.16 - .06) | -.03 | -.02 |
| Zero Sum Attitude | .02 | (-.05 - .10) | .03 | .03 | .01 | (-.04 - .05) | .01 | .01 |
| Subjective SES | .04 | (-.07 - .15) | .04 | .03 | .04 | (-.04 - .11) | .03 | .03 |
| Racial Identification | .00 | (-.15 - .15) | .00 | .00 | -.10 | (-.21 - .01) | -.06 | -.05 |
| System Justification | -.17 | (-.36 - .02) | -.08 | -.08 | -.04 | (-.15 - .08) | -.02 | -.02 |
| Need for Closure | — | — | — | — | .01 | (.00 - .01) | .12 | .08 |
| Attribution | — | — | — | — | — | — | — | — |

*Note.* — *indicates this predictor was not measured in this study.* $sr^2$ *refers to the unique proportion of variance explained by that one predictor.*

## Appendix E

## Table of Paired Samples T-tests of predicted and post-article emotions

(Back to Chapter 6 )

**Table 34**

*Study 2*

| | **Mdiff** | **SD** | **95% CI** | | ***t*** | **Df** | ***p*** | ***d*** |
|---|---|---|---|---|---|---|---|---|
| | | | **LL** | **UL** | | | | |
| Anger | -.43 | 1.7 | -.59 | -.28 | -5.42 | 445 | <.001 | -.26 |
| Disgust | -.33 | 1.9 | -.50 | -.15 | -3.69 | 445 | <.001 | -.18 |
| Fear | -.63 | 1.6 | -.78 | -.48 | -8.24 | 444 | <.001 | -.39 |
| Guilt | .02 | 1.6 | -.13 | .17 | .26 | 445 | .796 | .01 |
| Sadness | .25 | 1.8 | .09 | .42 | 3.02 | 444 | .003 | .14 |
| Shame | -.17 | 1.8 | -.34 | -.01 | -2.03 | 443 | .043 | -.10 |
| Sympathy | .25 | 1.5 | .11 | .40 | 3.43 | 445 | <.001 | .16 |

**Table 35**

*Study 3*

| | **Mdiff** | **SD** | **95% CI** | | ***t*** | **Df** | ***p*** | ***d*** |
|---|---|---|---|---|---|---|---|---|
| | | | **LL** | **UL** | | | | |
| Anger | -.44 | 1.76 | -.57 | -.31 | -6.63 | 711 | .000 | -.25 |
| Disgust | -.26 | 1.94 | -.40 | -.12 | -3.55 | 711 | .000 | -.13 |
| Fear | -.47 | 1.52 | -.59 | -.36 | -8.29 | 711 | .000 | -.31 |
| Guilt | -.11 | 1.45 | -.22 | .00 | -2.02 | 711 | .044 | -.08 |
| Sadness | -.07 | 1.64 | -.19 | .05 | -1.19 | 711 | .234 | -.05 |
| Shame | -.04 | 1.66 | -.16 | .08 | -.63 | 711 | .529 | -.02 |
| Sympathy | .20 | 1.47 | .09 | .31 | 3.66 | 711 | .000 | .14 |