People Think the Everyday Effects of the COVID-19 Pandemic Are Not as Bad

for People in Poverty

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Abstract

Many of the everyday restrictions caused by the COVID-19 pandemic (e.g., lockdowns, being apart from loved ones) are even worse for those with fewer financial and material resources, but a series of experiments (total $N = 1,452$) suggests that people think the opposite. Indeed, participants consistently displayed a "thick skin bias," whereby they perceived effects of the pandemic such as sheltering at home or remaining apart from loved ones as less harmful for people in poverty. Directly providing information that contradicted this misguided stereotype reduced, but did not completely reverse, the thick skin bias. A failure to understand the full impact of the pandemic for those with the fewest resources may perpetuate and exacerbate inequalities during and after this unprecedented global crisis, making the identification of strategies to counteract biased understandings of poverty a pressing priority for future research.

Keywords: thick skin bias, poverty, COVID-19, pandemic, inequality

Public Significance Statement

The present research reveals that people sometimes show a dramatic misunderstanding by thinking that people of lower socioeconomic status (SES) are *less* rather than more harmed by the everyday restrictions caused by the COVID-19 pandemic. This bias leads people to assume that low-SES individuals need less interpersonal support than higher-SES individuals. Informational interventions such as those provided by news media may be able to at least somewhat change this stereotype, though the bias did not fully reverse even when participants were directly provided with opposing information. The thick skin bias has potentially profound implications for inequality and inequity during the coronavirus pandemic and beyond, but informational interventions may be a promising path to reducing it.

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The COVID-19 pandemic is the greatest global disaster in recent history, dramatically changing the lives of people around the world. Yet, despite claims that the coronavirus is the "great equalizer" (e.g., Jones & Jones, 2020), its effects are not universal—some, such as people in poverty, have disproportionately suffered. Indeed, individuals from low-socioeconomic status (SES) backgrounds face not only a heightened risk of contracting and dying from COVID-19 (Wadhera et al., 2020), but a more severe financial crisis and a greater burden in everyday life than those from higher-SES backgrounds (e.g., Bottan et al., 2020; Fancourt et al., 2021; Hall et al., 2021; Pieh et al., 2020; Recchi et al., 2020; Valentino-DeVris et al., 2020; von Braum et al., 2020; Wade, 2020).

Financial and Health Effects of COVID-19

Some of the disproportionate consequences for low-SES individuals may be obvious: job loss and increased healthcare costs, for example, are fairly transparently greater problems for people with lower incomes and fewer resources. Public polling (e.g., Salvanto et al., 2020) shows that Americans have recognized that COVID-19 generally has a greater impact on "the working-class" than on "the wealthy," and research has similarly shown that, on average, people think that those in poverty have been negatively impacted by the pandemic (Wiwad et al., 2021). This pattern holds for judgments of more specific COVID-related events with obvious financial or health implications—in a supplemental study (reported for brevity in the Appendix), participants from Prolific judged events such as having to miss work for caregiving responsibilities, seeking medical treatment for coronavirus symptoms, or having electric and heating bills increase to be more harmful for individuals in poverty than for higher-SES individuals. Hence, people show

some understanding that the pandemic poses a greater financial and health burden for lower-SES individuals.

Everyday Effects of COVID-19

But people in poverty are more deeply affected by the pandemic in many other ways that are perhaps less immediately obvious. Many of the "everyday effects" of COVID-19—those restrictions that shape daily life, sometimes profoundly, for most people even if they do not become sick or lose their job—are also worse for those with fewer resources at their disposal. Cancelling travel plans is more disappointing if new plane tickets cannot be easily purchased when travel restrictions abate. Maintaining social distance from loved ones is more painful if one cannot simply log onto Zoom with a high-quality camera and high-speed Internet on an easily-accessed computer. Sheltering in place, which may be frustrating for all, is more painful when done in a small apartment shared with several roommates and outfitted with only what can be afforded on a tight budget.

Indeed, research conducted during the pandemic has shown that low-SES individuals were more negatively affected by lockdowns—including in terms of potentially severe mental health outcomes such as depression and anxiety—than higher-SES individuals (e.g., Fancourt et al., 2021; Hall et al., 2021; Pieh et al., 2020). Social distancing was harder, more distressing, and caused more loneliness for people in poverty (e.g., Bu et al., 2020; McQuaid et al., 2021; Williams et al., 2020), especially when accompanied by reduced access to the technology and reliable internet access that would facilitate connecting with loved ones (Beaunoyer et al., 2020; Chiou & Tucker, 2020). And living in less comfortable and higher-density housing with fewer available outdoor spaces made sheltering in place more stressful and more harmful for the mental health of people in poverty (Akbari et al., 2021; Bower et al., 2021; DeParle, 2020; Groot et al.,

2022; Pancani et al., 2021; Yang & Xiang, 2021). These findings dovetail with more general research showing that negative life events, regardless of their relation to finances, tend to be experienced more deeply and more severely by people who have been affected the chronic hardships, trauma, and stress of poverty (e.g., Barwood et al., 2017; Bucchianeri et al., 2014; Evans, & Cassells, 2014; Seery et al., 2016).

Do people generally recognize that the everyday effects of the COVID-19 pandemic are worse for those with fewer resources? It might be expected that they do: much of life is harder for those with less, and ongoing news coverage has also highlighted the magnified impact of the pandemic for those already facing financial problems (e.g., Fernandez, 2020; North, 2020; Valentino-DeVris et al., 2020). It might also be hoped that they do: correctly understanding the effects of the pandemic for different populations is likely to be a crucial precursor to effective responses to it. For instance, when people make judgments about others' experiences during the pandemic, one important perception may be about how much others are suffering—that is, the extent to which the consequences of the coronavirus have harmed their well-being. Indeed, mental health during the pandemic has dramatically worsened, and offering appropriate interpersonal support is a potentially powerful strategy to help others during this ongoing crisis (e.g., Grey et al., 2020; Li et al., 2021; Wu et al., 2021). Accordingly, understanding potential biases in the perception of others' experiences, as well as approaches to reducing those biases, represents a pressing area of research during the pandemic.

The present research investigates one such potential bias—namely, the possibility that people erroneously perceive those in poverty as less harmed by the everyday effects of the COVID-19 pandemic. If people think that individuals from lower socioeconomic status (SES) backgrounds are indeed suffering less during the pandemic, they may also think that those

individuals need less support: less comfort is needed by those who are less distressed. Such a bias may therefore leave those with the fewest material resources at a loss for invaluable social resources as well, magnifying the inequalities already shaping their lives before and during the pandemic. However, the present research also provides an initial examination of a potential strategy for reducing this biased perception of the experiences of people in poverty, testing the debiasing effect of explicitly providing contradictory information. The following studies thus explore how SES-based stereotypes may exacerbate inequality during a global crisis, as well as one method of reducing the influence of those stereotypes during the pandemic and beyond.

The Thick Skin Bias

The hypothesis that people may perceive the everyday effects of COVID-19 as less harmful for lower-SES individuals emerges from recent research on what Cheek and Shafir (2020) called the "thick skin bias." Building on work by Hoffman and Trawalter (2016), Cheek and Shafir (2020) found that people appear to think that the hardship of living in poverty "toughens" people, such that they are less harmed by new negative events. For example, participants thought that lower-SES individuals would be less inconvenienced when their heating broke in the middle of winter, less hurt when treated rudely by those around them, and even less upset when falsely accused of a crime by the police. This bias was widespread: lay participants in a nationally representative sample of the U.S. displayed the bias, as did several professional populations—teachers, social workers, and customer service employees. People also appear to think that the hardship of poverty makes people less vulnerable to physical pain (Cheek & Shaifr, 2020; Hoffman & Trawalter, 2016; Summers et al., 2021) and that lower-SES women are less harmed than higher-SES women by sexual harassment and domestic abuse (Cheek et al., 2022).

Importantly, substantial empirical research contradicts the thick skin bias. Instead of rendering people in poverty less vulnerable to harm, the hardship and stress of poverty *exacerbate* the impact of future negative events (e.g., Barwood et al., 2017; Bucchianeri et al., 2014; Evans, & Cassells, 2014; Seery et al., 2016). Why, then, do people think the opposite? The bias does not appear to emerge because of a stereotype that people in poverty expect bad things to befall them: participants in Cheek and Shafir's (2020) studies thought that low-SES individuals would be less harmed even by events that were equally unexpected for low- and high-SES individuals. Nor do people simply think that high-SES individuals have gotten so used to a life of luxury that they overreact to even minor inconveniences: participants also thought that people in poverty would be less harmed by negative events than middle-class people (Cheek & Shafir, 2020). Dehumanization also fails to explain the bias, because people often expect that positive events have a *greater* impact on people in poverty (Cheek & Shafir, 2020; Cheek et al., 2021), whereas dehumanization perspectives posit that low-SES individuals have weaker emotional reactions regardless of valence (Loughnan et al., 2014; Sainz et al., 2020).

Rather, the thick skin bias appears to emerge because people apply their sometimes-accurate intuition that human experience adapts to prior levels of exposure—e.g., people understand that a novel object feels less heavy after lifting a heavier object compared to a lighter object (Helson, 1964)—to the inappropriate context of poverty (Cheek, 2022a; Cheek & Shafir, 2020; Deska et al., 2020; Hoffman & Trawalter, 2016; Summers et al., 2021). That is, people mistakenly think that those in poverty adapt to their circumstances by becoming "tougher," whereas, in reality, poverty makes people *more* vulnerable to future harm (Barwood et al., 2017; Bucchianeri et al., 2014; Seery et al., 2016). Drawing on these recent findings, the present

research examined the potential of the thick skin bias to shape people's judgments about the everyday effects of the COVID-19 pandemic.

The Thick Skin Bias During the COVID-19 Pandemic

The present research extends the thick skin bias to the context of the COVID-19 pandemic by testing the possibility that people perceive many of the pandemic's everyday effects as less harmful for people in poverty. Because, as shown by Cheek and Shafir (2020), the thick skin bias shapes judgments across many contexts, it may also extend to the new situations created by the coronavirus. Yet, there are at least two features of the pandemic that may counteract judgments about people in poverty's invulnerability to harm. First, the pandemic's effects are ubiquitous, severe, and, most importantly, observable. Accordingly, it may be easier for people to see and understand the disproportionate effects of the pandemic restrictions on low-SES individuals. Second, there has been considerable media coverage on the devastating effects of the pandemic for people in poverty (e.g., Fernandez, 2020; North, 2020; Valentino-DeVris et al., 2020), which may also have increased public awareness of class disparities in the effects of COVID-19 restrictions. Thus, how people perceive the everyday effects of the pandemic remains an open question.

If the thick skin bias does shape perceptions of the everyday effects of COVID-19, it may also shape downstream judgments about others' needs. To test this possibility, the present research examines whether people perceive low-SES individuals as less in need of interpersonal support during the pandemic, and whether this perception is mediated by judgments that they are less harmed by the pandemic's everyday effects. If people indeed show these thick skin perceptions, the present research would suggest that the thick skin bias persists even during a global crisis, with the potential to neglect those most in need of care and consolation during

ongoing periods of lasting hardship. Indeed, because many of the everyday effects of COVID-19, such as government-imposed travel restrictions, cannot be immediately resolved, interpersonal support is one of the most available and necessary resources (Grey et al., 2020; Li et al., 2021; Wu et al., 2021). The thick skin bias may lead people to misperceive the extent to which such support is needed.

Perceptions of Harm for White and Black Individuals

Research on the thick skin bias converges with research on racial bias in perceptions of others' suffering. Work by Trawalter, Hoffman, and colleagues (Trawalter et al., 2012; Hoffman & Trawalter, 2016; Hoffman et al., 2016) has shown that people think that Black individuals feel less physical pain than White individuals in the same situations, and Deska et al. (2020a, 2020b) recently showed that people perceive Black individuals as less vulnerable to social pain than White individuals, feeling less hurt, embarrassed, and upset in a variety of negative social situations. Consistent with these findings, Cheek and Shafir (2020, Study 14) found that people thought that high-SES Black individuals would be less harmed by negative events than equivalently-described high-SES White individuals. This finding may be partly explained by the stereotype that Black individuals have thicker skin than White individuals, as well as by the tendency to perceive Black individuals as lower status than White individuals (e.g., Dupree et al., 2021; Lei & Bodenhausen, 2017). Taken together, existing research suggests that both class and race shape judgments of others' vulnerability, and that high-SES White individuals may be perceived as particularly vulnerable to harm (despite their socioeconomic and racial privilege). The present research thus examines the potential effects of the thick skin bias for perceptions of both White and Black people's experiences.

Counteracting the Thick Skin Bias

Given the potential of the thick skin bias to drive the neglect and mistreatment of people

in poverty, a pressing question is whether and how people's judgments of low-SES individuals

can be debiased. One possibility is that the thick skin bias is readily amenable to adjustment

through the provision of corrective information. Indeed, the widespread publication of news

articles about the disproportionate effects of the pandemic on people in poverty (e.g., Fernandez,

2020; North, 2020; Valentino-DeVris et al., 2020) seems to suggest that journalists and news

outlets assume that providing the public with this information will help people understand the

experiences of others during COVID-19. The present research tests the possible efficacy of this

approach to counteracting the thick skin bias by providing some participants with an excerpt

ostensibly taken from a news article about the increased vulnerability of people in poverty both

to the effects of the pandemic and to the effects of other negative life events. If this simple

intervention reduces the thick skin bias, it may be a promising strategy for larger scale attempts

to fight biased perceptions of people in poverty. On the other hand, the thick skin bias may be so

strong that even the provision of explicitly contradictory information is relatively unsuccessful at

curbing its effects.

The Present Research

The present research investigated the possibility of a thick skin bias in perceptions of the

pandemic's everyday effects. In Study 1, participants rated how negatively affected a low-SES

target individual and a high-SES target individual would be by six everyday effects of the

pandemic. Study 2 replicated Study 1 in a between-subjects design that also manipulated the

gender and race of the target individuals. In Study 3, to test whether informational primes can

reduce the thick skin bias, participants were randomly assigned to read either a control article

excerpt or an excerpt that explicated the magnified impact of COVID-19 restrictions on people in

poverty. Finally, Study 4 provided a conceptual replication of Study 3 by testing the debiasing

potential of an informational prime for judgments about the impacts of everyday negative events

unrelated to the pandemic. Together, these studies test the possibility that people dramatically

misunderstand class-based disparities in the everyday impacts of the coronavirus pandemic, as

well as a potential approach to correcting this misunderstanding.

Transparency and Openness

All measures, manipulations, and sample size determinations are reported for all studies.

Data, materials, and analysis code for all studies are available through the Open Science

Framework (OSF): osf.io/5xvuf (Cheek, 2022b). Studies 2-4 were pre-registered. All studies

received ethics approval from Princeton University's Institutional Review Board prior to data

collection.

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Study 1

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Study 1 tested the core hypothesis that people think the everyday restrictions during the

pandemic are less harmful for lower-SES individuals. Participants read about a relatively high-

SES individual and a relatively low-SES individual and rated how negatively affected each

would be by a series of pandemic-related events.

Method

Participants

Previous research on the thick skin bias has found relatively large effect sizes (e.g., $d > 1$;

Cheek & Shafir, 2020), but to be conservative, enough participants were recruited to have

sufficient power to detect substantially smaller effects. The goal was to recruit 300 participants

to achieve a final sample of at least 199 to allow for an 80% chance of detecting a small effect of

$d = .20$ with $\alpha = .05$ in a within-subjects design. In total, 301 participants were recruited through

Amazon's Mechanical Turk (MTurk) using CloudResearch (Litman et al., 2017). Of these, 223

met the inclusion criteria (passing three attention check questions and confirming nonrandom

responding). One hundred participants were women, 122 were men, and one participant did not

identify within this binary. Thirty-three participants identified as Black or African American, 15

identified as Asian or Asian American, 143 identified as White or European American, 20

identified as Latinx or Hispanic, 8 identified as Native American, and 4 identified as Multiracial.

The average age of participants was 35.02 (range 18-75). Additional demographic characteristics

(e.g., political orientation) are reported in supplemental material for this and subsequent studies.

Materials and Procedure

Participants read about two target individuals in a counterbalanced design adapted from

previous studies (Cheek & Shafir, 2020; Hoffman & Trawalter, 2016). Both targets were

described as men who were "born and raised in a large U.S. city." The low-SES target, "Jordan,"

was further described as living in poverty:

> He has experienced many financial difficulties in his life. Jordan and his siblings were
> raised by parents who struggled to find steady work to pay the bills. Jordan's family is
> financially unstable; they often struggle to have enough money for food, rent, or other
> basic things.

The high-SES target, "Thomas," was instead described as living in relative affluence:

> He has not experienced any financial difficulties in his life. Thomas and his siblings were
> raised by parents who comfortably supported them by working well-paying jobs.
> Thomas's family is financially stable; they never struggle to have enough money for
> food, rent, or other basic things.

After reading about each target, participants rated the extent to which each would be

affected by six negative events related to the coronavirus pandemic. Events included less severe

inconveniences (not being able to get a haircut) upsetting social and emotional disappointments

(having to cancel a vacation), and more severe interpersonal and practical consequences (not

being able to see loved ones, lockdown restrictions; see Table 1 for all events).

Following Cheek and Shafir (2020), participants rated the impact of each event on each

target on a 0 to 10 scale, with higher numbers indicating a more severe impact. Each event was

rated on a specific emotional reaction, such as how disappointed, sad, upset, or frustrated the

target would be in that situation. Ratings for the six events were averaged together to create an

index of perceived harm ($\alpha_{low\text{-}SES}$ = .90; $\alpha_{high\text{-}SES}$ = .90).

[Insert Table 1 here]

Results

Consistent with the thick skin bias, participants thought that the high-SES target would be

more negatively affected by the events (M = 7.38, 95% CI [7.16, 7.60]) than the low-SES target

(M = 6.15, 95% CI [5.88, 6.42]), $t(222)$ = 8.13, $p < .001$, d = .54, 95% CI [.36, .73].[1] This effect

held for each individual item, including both the more trivial (haircut) and the more severe

(lockdown) events. Thus, people appear to show a thick skin bias in perceptions of the

pandemic's everyday consequences. The generalizability and downstream effects of this bias

were examined in the following study.

Study 2

Study 2 extended Study 1 in several ways. First, Study 2 employed a between-subjects

design in which the contrast between the low- and high-SES targets was less salient. Second, the

target's gender (man vs. woman) and race (White vs. Black) were varied to examine the

generalizability of the thick skin bias. As discussed in the introduction, people may perceive

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[1] Effect size d for within-subjects designs were calculated using the 'esc' package (Lüdecke, 2019) for R (R Core Team, 2021), which follows Lipsey and Wilson's (2001; Wilson, 2017) recommended formula where $d = (\overline{X_1} - \overline{X_2}) \div S_{pooled}$.

high-SES White targets as especially vulnerable to the everyday effects of the COVID-19

pandemic because of converging stereotypes about race and status (Deska et al., 2020a; Dupree

et al., 2021; Lei & Bodenhausen, 2017). Third, Study 2 examined a potential downstream

consequence of the thick skin bias—the perception that lower-SES individuals are less in need of

interpersonal support during the pandemic because they are less impacted by its everyday effects.

Study 2 was pre-registered through AsPredicted.org:

https://aspredicted.org/blind.php?x=5be2jn. The main pre-registered analyses were comparisons

between judgments about the low- and high-SES targets. Additional analyses concerning the

effects of SES for targets of different genders and races were pre-registered as exploratory and

are therefore reported as such.

Method

Participants

Unsure of what effect size to predict for interactions, this study aimed to recruit 700

participants through MTurk to have enough power to detect moderate to large effects of target

SES, as well as potential moderately-sized interactions between target SES and target race or

gender. In total, 701 participants completed the study, of whom 603 met the inclusion criteria

from Study 1. Three hundred forty-four participants were women, 255 were men, and 4 did not

identify within this binary. Fifty-five participants identified as Black or African American, 59

identified as Asian or Asian American, 410 identified as White or European American, 44

identified as Latinx or Hispanic, 9 identified as Native American, 23 identified as Multiracial,

and 3 did not identify with these categories. The average age of participants was 36.05 (range 18-

72).

Materials and Procedure

Participants were randomly assigned to read about one of two targets, both named

Jordan—a low-SES target described in the same way as the low-SES target in Study 1, or a high-

SES target described in the same way as the high-SES target in Study 1. Accompanying the

description was a photo of either a man or a woman who was either Black or White (from

Minear & Parker, 2004). After reading about the target, participants rated how affected the target

would be by the six negative events from Study 1 (α = .88).[2] For each of these events,

participants also rated how much comfort the target would need—"How much comfort would

Jordan need (e.g., from friends, family, etc.) in this situation?"—on a scale from 0 (very little) to

10 (a great deal). These latter ratings were averaged to create a perceived need for comfort scale

(α = .92).

Results

Descriptive statistics for Study 2 are presented in Table 2.

[Insert Table 2 here]

Perceived Harm

Pre-Registered Primary Analysis. As in Study 1, participants thought that the low-SES

target would be less harmed by the negative events than the high-SES target, $t(601) = 7.69$, $p <$

.001, d = .63, 95% CI [.46, .79].

Exploratory Analyses. An exploratory 2 (target SES) × 2 (target gender) × 2 (target

race) ANOVA on the composite harm index (see Table 3 for all effects) yielded, as before, a

large main effect of target SES, $F(1, 595) = 58.84$, $p < .001$, η_p^2 = .09, 90% CI [.06, .13]. There

was no significant interaction between target SES and target gender, $F(1, 595) = .11$, $p = .735$,

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[2] Following previous research (Cheek & Shafir, 2020; Hoffman & Trawalter, 2016), participants also rated how affected they would be by the events to allow for self-other comparisons. For brevity, these results are presented in the supplemental material.

η_p^2 = .00, 90% CI [.00, .01], nor was there a significant three-way interaction between target

SES, gender, and race, $F(1, 595)$ = 1.05, p = .306, η_p^2 = .00, 90% CI [.00, .01].

[Insert Table 3 here]

However, there was a significant interaction between target SES and race, $F(1, 595)$ =

10.16, p = .002, η_p^2 = .02, 90% CI [.00, .04]. Participants thought the low-SES target would be

less affected by the negative events than the high-SES target both when presented with a White

target, $t(306)$ = 7.69, $p < .001$, d = .88, 95% CI [.64, 1.11], and when presented with a Black

target, $t(293)$ = 3.18, p = .002, d = .37, 95% CI [.14, .60], but the effect of SES was larger for the

White target than for the Black target (see Figure 1).

[Insert Figure 1 here]

Perceived Comfort Needed

Pre-registered Primary Analysis. As predicted, participants thought that the low-SES

target would be less in need of comfort than the high-SES target, $t(601)$ = 5.30, $p < .001$, d = .43,

95% CI [.27, .59].

Exploratory Analyses. A three-way ANOVA on perceived comfort needed (see Table 3

for all effects) similarly yielded a significant main effect of target SES, $F(1, 595)$ = 27.01, $p <$

.001, η_p^2 = .05, 90% CI [.02, .07]. There was no significant interaction between target SES and

target gender, $F(1, 595)$ = .23, p = .635, η_p^2 = .00, 90% CI [.00, .01], nor was there a significant

three-way interaction, $F(1, 595)$ = .18, p = .675, η_p^2 = .00, 90% CI [.00, .01].

There was, however, a significant interaction between target SES and target race, $F(1,$

595) = 17.63, $p < .001$, η_p^2 = .03, 90% CI [.01, .05]. Participants thought that the low-SES White

target would need less comfort than the high-SES White target, $t(306)$ = 6.84, $p < .001$, d = .78,

95% CI [.55, 1.01], whereas there was no significant difference between the comfort perceived to

be needed by the low-SES and high-SES Black targets, $t(293) = .84$, $p = .401$, $d = .10$, 95% CI [-.13, .33] (see Figure 2).

[Insert Figure 2 here]

Pre-Registered Mediation Analysis

Participants may perceive low-SES targets as less in need of comfort because they perceive them to be less harmed by negative events. If so, perceived harm should mediate the effect of target SES on perceived comfort needed. A bootstrap mediation analysis with 5,000 samples using Hayes' (2013) PROCESS macro for SPSS yielded a significant indirect effect of target SES on perceived comfort needed with perceived harm as a mediator: .94, 95% CI [.69, 1.22] (see Figure 3).

[Insert Figure 3 here]

Discussion

As in the previous study, participants in Study 2 thought that the everyday effects of COVID-19 would be less harmful for the low-SES target individual. This judgment translated into downstream judgments about the need for interpersonal support—participants thought that the low-SES target would need less comfort from friends and family than the high-SES target would. This pattern of judgments was qualified, however, by the effect of target race. Specifically, participants thought that the lower-SES target would be less impacted by the effects of the pandemic for both White and Black targets, but this effect was smaller for Black targets. Moreover, for judgments of comfort, SES did not even significantly affect perceptions of comfort needed for Black targets. Taken together, these results suggest that people perceive low-SES individuals as less vulnerable to the everyday effects of COVID-19 and that the effect of SES interacts with race to influence these judgments, causing people to think that high-SES

White individuals would be most in need of support in response to events they are actually likely to weather with the least harm (Grinstein-Weiss & Gupta, 2020; Oppel et al., 2020; Yancy, 2020). Biased understandings of toughness and hardship may thus exacerbate existing inequalities by depriving those in poverty of the interpersonal support they most need.

Given the potential of the thick skin bias in judgments about the everyday effects of COVID-19 to magnify class-based disparities, it is crucial to identify strategies to reverse the bias and to help people realize that those in poverty are in fact most harmed by a wide variety of negative events. The relatively large amount of media coverage dedicated to explicating the outsized effects of the pandemic for low-SES individuals suggests that journalists and others in media assume that informational interventions can correct the public's misguided intuitions about people in poverty. The following two studies tested this assumption by exposing participants to debiasing or control articles in an attempt to reduce the effects of the thick skin bias in judgments about those in poverty.

Study 3

Study 3 tested whether reading an excerpt from an article could counteract the thick skin bias by making it more salient to participants that financial resources shape the effects of a wide range of events during the pandemic. Before rating the impact of everyday restrictions during the pandemic, participants were randomly assigned to read either a debiasing article excerpt about how poverty exacerbates the effects of COVID-19 or a control article excerpt unrelated to poverty or the pandemic. If informational primes are effective, participants in the debiasing condition should show a reduced thick skin bias or, ideally, a reversal of judgments whereby they perceive the low-SES target as more harmed by the negative events in the study. This study was pre-registered through AsPredicted.org: https://aspredicted.org/blind.php?x=e8pw24.

Method

Participants

This study aimed to recruit 350 participants through Prolific, with the goal of achieving a final sample of at least 276. This sample allows for a 95% chance of detecting a moderate interaction effect of $\eta_p^2 = .06$ in a 2 (within) × 2 (between) design with $\alpha = .05$ and an assumed correlation of $r = .30$ between ratings (parameter values were conservative estimates based on a preliminary study; Faul et al., 2007). Three hundred fifty-one participants completed the study, of whom 325 met the inclusion criteria from previous studies. One hundred sixty-seven participants were women, 150 were men, and 8 did not identify within this binary. Twenty-three participants identified as Black or African American, 50 identified as Asian or Asian American, 205 identified as White or European American, 25 identified as Latinx or Hispanic, 14 identified as Multiracial, and 8 did not identify with these categories. The average age of participants was 31.78 (range: 18-71).

Materials and Procedure

As in Study 1, participants read about both a low-SES and high-SES individual, after which they rated how affected the individuals would be by everyday effects of the pandemic ($\alpha_{low\text{-}SES} = .86$; $\alpha_{high\text{-}SES} = .89$). Unlike in Study 1, the targets were described as either men or women (between subjects) and either White or Black (between subjects).

Before reading about the targets, half of the participants were randomly assigned to read an ostensible excerpt from a news article that explicated how the pandemic's everyday effects are worse for lower-SES individuals. The article, entitled "The Pandemic Is Worse When You Have Less," was adapted from news articles written about the unequal effects of the pandemic (e.g., DeParle, 2020; North, 2020; Tensley, 2020). The other half of participants read an excerpt

adapted from an article about working memory (Santora, 2019; see supplemental material for full texts). Immediately after reading either article, participants were asked to write a brief summary of its main points as a filler task before being presented with the high- and low-SES targets.

Results

Descriptive statistics for Study 3 are presented in Table 4.

[Insert Table 4 here]

Pre-Registered Primary Analyses. A 2 (target SES condition: low-SES vs. high-SES) × 2 (article condition: debiasing vs. control) mixed ANOVA on perceived harm again yielded a significant main effect of target SES, $F(1, 323) = 35.26$, $p < .001$, $\eta_p^2 = .10$, 90% CI [.05, .15]. There was no significant main effect of article condition, $F(1, 323) = .12$, $p = .733$, $\eta_p^2 = .00$, 90% CI [.00, .01]. Importantly, there was a significant interaction between target (low-SES vs. high-SES) and article condition (debiasing vs. control), $F(1, 323) = 19.82$, $p < .001$, $\eta_p^2 = .06$, 90% CI [.02, .10] (see Figure 4). Participants who read the control article about memory thought the low-SES target would be less affected by the negative events than the high-SES target, $t(159) = 8.85$, $p < .001$, $d = .70$, 95% CI [.47, .93]. For participants who read the debiasing article, however, the difference between the low-SES and high-SES targets was smaller and nonsignificant, $t(164) = .93$, $p = .356$, $d = .07$, 95% CI [-.14, .29]. Broken down differently, participants thought that the low-SES target would be more harmed by the negative events after reading the debiasing article, $t(323) = 2.67$, $p = .008$, $d = .30$, 95% CI [.08, .51], whereas participants thought that the high-SES target would be less harmed after reading the debiasing article, $t(323) = -3.34$, $p < .001$, $d = -.37$, 95% CI [-.59, -.15].

[Insert Figure 4 here]

Exploratory Analyses. A 2 (target: low-SES vs. high-SES) × 2 (article condition:

debiasing vs. control) × 2 (target gender: man vs. woman) × 2 (target race: White vs. Black)

mixed ANOVA yielded no evidence that either target gender or target race moderated the effect

of the debiasing article (see Table 5 for full results). As an additional exploratory analysis to

ensure participants paid careful attention to the experimental materials, a research assistant

unaware of all details of the study coded the summaries of the article participants were asked to

write. Excluding participants who wrote irrelevant or nonsensical answers when summarizing the

passage yielded the same pattern of results (see supplemental material).

[Insert Table 5 here]

Discussion

Study 3 tested the potential efficacy of an informational prime to counteract the thick skin

bias in judgments about the everyday effects of the COVID-19 pandemic. Information indeed

reduced the thick skin bias—participants exposed to the debiasing article did not display a

significant thick skin bias, whereas participants in the control condition again thought the low-

SES target would be less harmed by the everyday effects of the pandemic. Interestingly, there

was no effect of target race in this study; the debiasing article was equally effective for White

and Black targets. It is worth noting, however, that target race was only manipulated with a

written description, rather than an image as in Study 2, and thus the race manipulation in this

study may have been less salient. Nonetheless, there is preliminary support for the idea that

informational primes may reduce the thick skin bias in judgments about both White and Black

targets.

On the other hand, even in a study with potential demand characteristics, participants

who read an article explicitly outlining how the pandemic disproportionately affects those in

poverty still perceived the low- and high-SES targets to be equally affected by the everyday effects of COVID-19. Thus, although the informational intervention was beneficial, direct counterinformation did not reverse the thick skin bias. Because people in poverty are likely to be impacted negatively both by many everyday COVID-19 restrictions and by others' failure to see those restrictions' effects, the ideal outcome for an informational intervention would be a full reversal. Nonetheless, the present results point to the potential efficacy of providing information about the disproportionate effect of negative events on low-SES individuals—indeed, the effect size in this study is relatively large (Lovakov & Agadullina, 2021; Richard et al., 2003).

To further explore the potential impact of informational interventions, the final study examined the effect of reading a debiasing article on the thick skin bias in judgments about everyday negative events unrelated to the COVID-19 pandemic.

Study 4

Study 4 was a conceptual replication of Study 3 in the context of everyday events unrelated to the coronavirus. Participants were again randomly assigned to read either a debiasing article or a control article, after which they rated the impact of various negative events on a low- and a high-SES target. Study 4 was pre-registered through AsPredicted.org: https://aspredicted.org/blind.php?x=uj4yh7.

Method

Participants

This study aimed to recruit 350 participants through Prolific based on the power analysis from Study 3. Three hundred fifty-three participants completed the study, of whom 301 met the same inclusion criteria used in previous studies. One hundred forty participants were women, 153 were men, and 8 did not identify within this binary. Twenty-six participants identified as

Black or African American, 41 identified as Asian or Asian American, 195 identified as White or European American, 26 identified as Latinx or Hispanic, one identified as Native American, 10 identified as Multiracial, and 2 did not identify with these categories. The average age of participants was 31.57 (range 18-71).

Materials and Procedure

Participants read about a low-SES and a high-SES target using the descriptions from Study 1 with an additional between-subject manipulation of target gender. Using materials from Cheek and Shafir (2020, Study 1a), participants rated how harmed each target would be by 11 negative events (e.g., having heating break during winter, having an abusive boss, being kept awake all night by noise; see supplemental material for all events). The impact of each event was rated on a 0-to-10 scale for a particular emotional reaction, as in previous studies ($\alpha_{\text{low-SES}} = .89$; $\alpha_{\text{high-SES}} = .87$). Before reading about the low- and high-SES targets, participants were randomly assigned to read either the control article excerpt about working memory from Study 3, or an article excerpt entitled "Everything Is Worse When You Have Less" that explicated the frequently exacerbated effect of negative events on people in poverty (see supplemental material for full texts).

Results

Descriptive statistics for Study 4 are presented in Table 6.

[Insert Table 6 here]

Pre-Registered Primary Analyses

A 2 (article condition) × 2 (target SES) mixed ANOVA yielded a significant main effect of target SES, $F(1, 299) = 103.40$, $p < .001$, $\eta_p^2 = .26$, 90% CI [.19, .32], but no significant main effect of article condition, $F(1, 299) = .24$, $p = .627$, $\eta_p^2 = .00$, 90% CI [.00, .01]. Importantly,

there was a significant interaction between target SES and article condition, $F(1, 299) = 6.47$, $p =$

.011, $\eta_p^2 = .02$, 90% CI [.00, .06]. Participants thought that the low-SES target would be less

affected by the negative events than the higher-SES target in both the control article condition

($M_{low\text{-}SES} = 6.15$, 95% CI [5.89, 6.42] vs. $M_{high\text{-}SES} = 7.74$, 95% CI [7.52, 7.95]), $t(148) = 10.58$, p

$< .001$, $d = .87$, 95% CI [.63, 1.04], and the debiasing article condition ($M_{low\text{-}SES} = 6.41$, 95% CI

[6.12, 6.69] vs. $M_{high\text{-}SES} = 7.36$, 95% CI [7.10, 7.62]), $t(274) = 4.79$, $p < .001$, $d = .39$, 95% CI

[.16, .62]. However, the effect was smaller in the debiasing condition by about half a standard

deviation.

Broken down differently, participants thought that the high-SES target would be less

harmed by negative events after reading the debiasing article, $t(299) = -2.24$, $p = .026$, $d = -.26$,

95% CI [-.49, -.03], whereas the perceived impact of the negative events for the low-SES target

did not vary significantly between article condition, $t(299) = 1.27$, $p = .205$, $d = .15$, 95% CI [-

.08, .37].

Exploratory Analyses

A 2 (target: low-SES vs. high-SES) × 2 (article condition: debiasing vs. control) × 2

(target gender: man vs. woman) mixed ANOVA yielded no evidence that target gender

moderated the effect of the debiasing article (see Table 7 for full results). As in Study 3,

excluding participants who wrote irrelevant or nonsensical answers when summarizing the

article did not change the pattern of results (see supplemental material).

[Insert Table 7 here]

Discussion

Unlike in Study 3, the thick skin bias persisted even after participants read a debiasing

article explicitly arguing against its veracity. Thus, the debiasing article reduced the perception

that people in relative affluence are more vulnerable to the effects of everyday negative events, but, even in a design with potential demand characteristics, perceptions about the thick skin of the low-SES target remained unaffected. The effect of the debiasing article was still meaningful; indeed, it was larger than the average effect size in social psychological research (Lovakov & Agadullina, 2021; Richard et al., 2003). Thus, an informational intervention such as that provided by news articles may indeed be an effective and important tool in beginning to address the thick skin bias (especially given a lack of alternative interventions), though they may be most effective when paired with additional interventions or strategies to further debias people's judgments.

Interestingly, the effect of the debiasing article in this study was driven by judgments about the high-SES target rather than the low-SES target. Perhaps by making the role of finances in ameliorating the effects of the negative events more salient, the informational prime caused participants to see the high-SES targets as more protected from—and thus less harmed by—the negative events in this study. Although changing judgments about the harm experienced by the high-SES target reduced the thick skin bias in the sense that it reduced the difference between judgments about the low-SES and high-SES target, it is unclear whether the effects of the informational prime would translate into more equitable outcomes for people in poverty if perceptions of low-SES individuals remain unchanged. Perhaps the preferential treatment of higher-SES individuals and prioritization of their needs over others' would decrease, but would the information provided actively translate into greater concern, care, and resources for people in poverty? Future research should thus explore the effects of informational interventions as they relate to the experiences of and outcomes for people in poverty in particular.

General Discussion

Pandemic effects like a cancelled vacation, being deprived of social interaction, or having to shelter at home, are typically worse for those with fewer material resources (e.g., Beaunoyer et al., 2020; Bu et al., 2020; Fancourt et al., 2021; Hall et al., 2021; Pieh et al., 2020), but the present research shows that people appear to think the opposite. Though people correctly intuit that pandemic effects transparently related to finances and health are worse for those in poverty (Salvanto et al., 2020; Wiwad et al., 2021; see also Appendix), Study 1 showed that people think that low-SES individuals are less harmed by several everyday effects of pandemic-related restrictions, converging with previous research on the thick skin bias in judgments about people in poverty (Cheek & Shafir, 2020). Study 2 replicated this effect and showed that poverty and race intersect to shape judgments about vulnerability to harm—high-SES White individuals were perceived as most impacted by COVID-19 restrictions (Cheek & Shafir, 2020; Deska et al., 2020a, 2020b; Hoffman & Trawalter, 2016). Study 2 also documented a consequence of the thick skin bias for downstream judgments about the needs of others, showing that people think that low-SES individuals need less interpersonal support during many COVID-19-related situations, despite the fact that such support may be one of few potentially available resources for those facing the greatest financial difficulties.

Building on these initial findings, Study 3 tested an assumption that seems to drive much of the reporting about poverty and the pandemic: that information can correct people's biased perceptions of the experiences of low-SES individuals during COVID-19. In support of the potential usefulness of informational interventions, providing participants with article excerpts that explicitly argued that poverty exacerbates the effects of the pandemic reduced the thick skin bias to nonsignificance. Similarly, in Study 4, information substantially reduced the thick skin bias, though it remained significant. The effects of the informational intervention in Studies 3-4

are relatively large compared to typical effects in social psychology (Lovakov & Agadullina, 2021; Richard et al., 2003), and may thus offer a promising initial path to addressing the thick skin bias.

Nonetheless, even this somewhat heavy-handed approach was unable to reverse people's judgments. And the information provided in Study 4, which extended Study 3's design to judgments about negative events unrelated to the pandemic, did not fully eliminate the thick skin bias or change judgments about low-SES targets. This incomplete effect of information is likely due at least in part to the original size of the bias—for example, in Study 4, the thick skin bias in the control condition ($d = .87$) was larger than many social psychological effects. As a result, it might be unrealistic to expect a complete reversal from a brief article. Thus, an appropriate conclusion about the effectiveness of the information provided in Studies 3-4 may be that it is somewhat effective at reducing the thick skin bias, though it will likely need to be complemented by other approaches to fully reverse the bias. Taken together, the four studies in the present research reveal a troubling bias in people's lay understandings of everyday restrictions during COVID-19, as well as the potential strengths and limitations of attempting to reduce this bias with direct informational appeals.

Theoretical and Applied Implications

The present research suggests that the thick skin bias may prevent people in poverty from receiving the support they need as the COVID-19 pandemic continues to spread around the world. Social support may be a crucial buffer for mental health during the pandemic (Grey et al., 2020; Li et al., 2021; Wu et al., 2021), but if others think that low-SES individuals are less affected by these disruptions to their everyday lives, critical comfort and consolation may be withheld. This neglect need not arise from antipathy or malice, but rather a misunderstanding of

people in poverty's lived experiences. For example, that informational primes in Study 3 reduced

the bias suggests that many people are open to adjusting their misunderstandings when explicitly

corrected.

The thick skin bias may also have more systemic consequences for inequality and for

relief efforts during the pandemic. If policymakers and advocates underestimate the harm

experienced by many people in poverty, there may be insufficient attention or effort directed

toward providing help and support. Indeed, many people around the world have felt that

governmental responses to the pandemic have been insufficient, and this feeling of unmet need

predicts worse well-being (Hansel et al., 2021). Thus, the thick skin bias poses a potential

obstacle to the provision of interpersonal and institutional resources to those most in need.

Though the global pandemic is far from over, and COVID-19 will likely become

endemic, eventually the crisis will abate. A potential implication of the present research,

however, is that the thick skin bias may shape responses to other crises as well. New pandemics

will be more likely in the future (Dobson et al., 2020; Gibb et al., 2020), and people in poverty

are often neglected during other crises and disasters such as wildfires (Mutter, 2015; Ojerio et al.,

2011). Moreover, people in poverty regularly receive insufficient mental and physical healthcare

(Green et al., 2006; Kugelmass, 2016), and are ignored by the public officials supposedly

representing them (Butler, 2014). Hence, although the COVID-19 emergency will end, the

potential of the thick skin bias to perpetuate and magnify inequalities likely will not.

These potentially profound consequences of the thick skin bias underline the importance

of identifying strategies to reduce its effects on judgments about people in poverty. The present

research tested the efficacy of information provision and found that it had some success. In both

Studies 3 and 4, providing information had a relatively large effect on participants' judgments.

Yet, even direct exposure to explicitly contradictory information could not reverse the thick skin bias. Moreover, in Study 4, the effect of the prime was driven by judgments about high- rather than low-SES targets. Although this approach may reduce the difference between judgments of people in affluence and people in poverty, interpersonal and institutional responses to the needs of low-SES individuals might not change as hoped unless judgments about the harm experienced by people in poverty in particular are changed.

In the real world beyond the tight experimental control of the present studies, the effect of any given informational intervention—for example, reading one news article—might be weaker. People might pay less direct attention, be distracted quickly after reading, or be bombarded by additional unrelated information that adds a cognitive load. As a result, reading one or two articles may not durably counteract the thick skin bias for those who have long thought that hardship "toughens" people in poverty. But perhaps repeated exposure over longer periods of times would be more effective, and the present studies offer initial evidence that information can reduce the bias in controlled settings. Future longitudinal research exploring the efficacy of informational interventions outside the lab can thus test the benefits and potential limitations of information provision as a strategy to reduce the thick skin bias.

Finally, because the informational primes did not fully reverse the thick skin bias, researchers should explore additional methods of debiasing beyond informational appeals. Attempting to increase perspective taking or positive intergroup contact, for example, may be effective approaches to fighting the bias (Allport, 1954; Galinsky et al., 2005; Pettigrew & Tropp, 2006). Given the potential of the thick skin bias to drive neglect and mistreatment of people in poverty, researching additional approaches is a pressing direction for future work.

Limitations and Constraints on Generalizability

The present studies relied on U.S. convenience samples from online crowdsourcing platforms. Future work is thus needed to generalize the findings across different populations, though previous research has found the thick skin bias in more varied samples including several professional populations (e.g., teachers, social workers) and in a nationally-representative sample of the U.S. population (Cheek & Shafir, 2020). Moreover, future research should continue to examine how the thick skin bias potentially shapes judgments during other crises and disasters (e.g., floods, fires, hurricanes) and when judging others of different races, ethnicities, and other intersecting social identities.

Although there was a filler task in Studies 3 and 4 to separate the exposure to the debiasing article and the thick skin ratings task, it may be that participants felt some experimental demand. This is a potential limitation, but it can also be considered useful to the extent that it represents a strong first attempt to reduce the thick skin bias with information. That these informational primes could not reverse the thick skin bias even with potential demand characteristics reveals that information alone may not fully counteract the thick skin bias even under optimal circumstances, underlining the complexity of changing people's intuitions about the toughening effects of poverty. Future work should continue to explore methods to reduce the thick skin bias with more subtle provision of information, as well as with other strategies. Such work may be essential to ensuring more equal provision of interpersonal and institutional resources in the context of the COVID-19 pandemic and beyond.

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Appendix

To test whether people think that pandemic-related events with relatively obvious economic or health repercussions are more impactful for lower-SES individuals, participants in a supplemental study rated the effects of six such events for a low-SES and a high-SES target individual. This study was pre-registered through AsPredicted.org (https://aspredicted.org/blind.php?x=sg9eb7).

Method

Participants

The preregistered goal was to recruit 300 participants to achieve a final sample of at least 199 to allow for an 80% chance of detecting a small effect of $d = .20$ with $\alpha = .05$ in a within-subjects design. In total, 302 participants were recruited through Prolific, of whom 276 met the inclusion criteria (passing three attention check questions and confirming nonrandom responding).

Materials and Procedure

The procedure was similar to that of Study 1, except that the events rated by participants were replaced by consequences of the pandemic that were more obviously linked to finances and health and economic outcomes. The target was either a man ("Jordan" in low-SES condition; "Thomas" in high-SES condition) or a woman ("Jordan" in low-SES condition; "Tanya" in high-SES condition) and participants read about both a low-SES target and a high-SES target in counterbalanced order. The events participants rated (with names and pronouns changed as appropriate) were:

1. Jordan may have to miss work to care for a family member who is showing COVID-19 symptoms.
2. Jordan's company lays off half of its employees, including Jordan, because of the economic consequences of the pandemic.

3. Jordan begins showing symptoms consistent with those of COVID-19 and needs to seek medical care.
4. After transitioning to working from home, Jordan's electricity and heating bills have increased.
5. The property company managing Jordan's apartment insists that all tenants pay rent as usual, regardless of the pandemic.
6. Because local stores have run out of essential supplies like toilet paper and hand sanitizer, Jordan must shop online where sellers have jacked up the prices of in-demand items.

As in the preceding studies, ratings for these events were averaged to create a perceived harm index ($\alpha_{\text{low-SES}}$ = .82; $\alpha_{\text{high-SES}}$ = .85).

Results

Participants thought that the low-SES target would be more affected by the negative financial events (M = 8.86, 95% CI [8.74, 8.99]) than the high-SES target (M = 5.97, 95% CI [5.75, 6.19]), $t(275)$ = -23.86, p < .001, d = -1.44, 95% CI [-1.62, -1.25]. Target gender did not interact with target SES, $F(1, 274)$ = 1.71, p = .192, η_p^2 = .01, 90% CI [.00, .03]. Thus, rather than displaying a thick skin bias, participants thought that the obviously financial or health-related events would indeed be worse for the low-SES target.

Table 1: Pandemic-Related Events and Descriptive Statistics from Study 1

Events	Low-SES Target	High-SES Target
1. Thomas [Jordan] must cancel an upcoming party because of new "social distancing" measures.	6.28 [5.95, 6.60]	7.37 [7.11, 7.63]
2. Because of "social distancing" measures, Thomas [Jordan] will not be able to see many close friends in person for several weeks.	6.88 [6.60, 7.16]	7.43 [7.18, 7.69]
3. Thomas [Jordan] cannot get a haircut for several weeks and begins to feel unattractive.	5.51 [5.16, 5.85]	7.06 [6.78, 7.35]
4. The café Thomas [Jordan] typically grabs coffee from in the morning must close for at least four weeks.	5.00 [4.63, 5.36]	7.02 [6.74, 7.31]
5. The governor of the state Thomas [Jordan] lives in has ordered residents to shelter in place, preventing Jordan from leaving the house for anything but essential trips for several weeks.	6.53 [6.22, 6.84]	7.43 [7.17, 7.70]
6. Thomas [Jordan] must cancel an upcoming vacation because of newly implemented travel restrictions.	6.70 [6.35, 7.06]	7.95 [7.70, 8.19]

Note. SES = socioeconomic status. The target's name was Jordan in the low-SES condition and Thomas in the high-SES condition. 95% confidence interval given in brackets. The high-SES target was perceived as more affected by each event, all p's < .001, d's range from .23-.69.

Table 2: Average Perceived Harm and Need for Comfort by Condition in Study 2

	Low-SES Target		High-SES Target	
Perceived Harm	Male Target	Female Target	Male Target	Female Target
White Target	6.06 [5.66, 6.47]	5.35 [4.87, 5.84]	7.81 [7.45, 8.17]	6.89 [6.47, 7.32]
Black Target	6.17 [5.77, 6.58]	6.27 [5.84, 6.69]	6.65 [6.19, 7.10]	7.15 [6.71, 7.59]
Perceived Need for Comfort				
White Target	4.22 [3.75, 4.68]	3.78 [3.29, 4.28]	5.98 [5.45, 6.51]	5.53 [4.98, 6.07]
Black Target	3.85 [3.29, 4.41]	5.02 [4.50, 5.55]	4.20 [3.69, 4.72]	5.04 [4.50, 5.59]

Note. 95% confidence interval given in brackets.

Table 3: All effects from exploratory ANOVA from Study 2

Effects	F-test
Perceived Harm	
Main effect of SES	$F = 58.84, p < .001, \eta_p^2 = .09$, 90% CI [.06, .13]
Main effect of gender	$F = 2.89, p = .090, \eta_p^2 = .01$, 90% CI [.00, .02]
Main effect of race	$F = .036, p = .850, \eta_p^2 = .00$, 90% CI [.00, .00]
SES × gender	$F = .11, p = .735, \eta_p^2 = .00$, 90% CI [.00, .01]
SES × race	$F = 10.16, p < .001, \eta_p^2 = .02$, 90% CI [.00, .04]
Gender × race	$F = 13.50, p < .001, \eta_p^2 = $, 90% CI [.01, .05]
SES × gender × race	$F = 1.05, p = .306, \eta_p^2 = $, 90% CI [.00, .01]
Perceived Need for Comfort	
Main effect of SES	$F = 27.01, p < .001, \eta_p^2 = .05$, 90% CI [.02, .07]
Main effect of gender	$F = 2.27, p = .132, \eta_p^2 = .00$, 90% CI [.00, .02]
Main effect of race	$F = 3.46, p = .063, \eta_p^2 = .01$, 90% CI [.00, .02]
SES × gender	$F = .23, p = .635, \eta_p^2 = .00$, 90% CI [.00, .01]
SES × race	$F = 17.63, p < .001, \eta_p^2 = .03$, 90% CI [.01, .05]
Gender × race	$F = 15.14, p < .001 , \eta_p^2 = .02$, 90% CI [.01, .05]
SES × gender × race	$F = .18, p = .675, \eta_p^2 = .00$, 90% CI [.00, .01]

Table 4: Average Perceived Harm by Condition in Study 3

	Low-SES Target		High-SES Target	
	Male Target	Female Target	Male Target	Female Target
Control Article Condition				
White Target	5.63 [5.07, 6.20]	6.37 [5.79, 6.95]	7.63 [7.23, 8.03]	7.53 [7.01,8.06]
Black Target	6.22 [5.67, 6.76]	6.00 [5.44, 6.56]	7.47 [7.07, 7.88]	7.06 [6.57, 7.54]
Debiasing Article Condition				
White Target	6.50 [5.82, 7.18]	6.28 [5.72, 6.84]	6.85 [6.16, 7.55]	6.90 [6.26, 7.53]
Black Target	6.87 [6.21, 7.53]	6.75 [6.28, 7.23]	6.50 [5.86, 7.14]	6.79 [6.24, 7.34]

Note. 95% confidence interval given in brackets.

Table 5: All effects from exploratory ANOVA from Study 3

Effects	F-test
Main effect of target SES	$F = 32.17, p < .001, \eta_p^2 = .09$, 90% CI [.05, .14]
Main effect of article	$F = .15, p = .697, \eta_p^2 = .00$, 90% CI [.00, .01]
Main effect of target gender	$F = .00, p = 1.00, \eta_p^2 = .00$, 90% CI [.00, .00]
Main effect of target race	$F = .00, p = .974, \eta_p^2 = .00$, 90% CI [.00, .01]
SES × article	$F = 20.06, p < .001 , \eta_p^2 = .06$, 90% CI [.02, .11]
SES × gender	$F = .11, p = .738, \eta_p^2 = .00$, 90% CI [.00, .01]
SES × race	$F = 3.99, p = .047 , \eta_p^2 = .01$, 90% CI [.00, .04]
Article × gender	$F = .00, p = .992, \eta_p^2 = .00$, 90% CI [.00, .00]
Article × race	$F = .46, p = .498, \eta_p^2 = .00$, 90% CI [.00, .02]
Gender × race	$F = .596, p = .441, \eta_p^2 = .00$, 90% CI [.00, .02]
SES × article × gender	$F = 2.54, p = .112, \eta_p^2 = .01$, 90% CI [.00, .03]
SES × article × race	$F = .18, p = .670, \eta_p^2 = .00$, 90% CI [.00, .01]
SES × gender × race	$F = .53, p = .468, \eta_p^2 = .00$, 90% CI [.00, .02]
Article × gender × race	$F = 1.84, p = .176, \eta_p^2 = .01$, 90% CI [.00, .03]
SES × article × gender × race	$F = .21, p = .650, \eta_p^2 = .00$, 90% CI [.00, .01]

Table 6: Average Perceived Harm by Condition in Study 4

	Low-SES Target		High-SES Target	
	Male Target	Female Target	Male Target	Female Target
Control Article Condition	6.00 [5.66, 6.35]	6.33 [5.92, 6.74]	7.72 [7.48, 7.95]	7.76 [7.38, 8.14]
Debiasing Article Condition	6.47 [6.02, 6.91]	6.35 [5.98, 6.73]	7.49 [7.17, 7.82]	7.23 [6.83, 7.63]

Table 7: All effects from exploratory ANOVA from Study 4

Effects	*F*-test
Main effect of SES	$F = 102.04, p < .001, \eta_p^2 = .26$, 90% CI [.19, .32]
Main effect of article	$F = .24, p = .624, \eta_p^2 = .00$, 90% CI [.00, .01]
Main effect of gender	$F = .00, p = .999, \eta_p^2 = .00$, 90% CI [.00, .00]
SES × article	$F = 6.11, p = .014, \eta_p^2 = .02$, 90% CI [.00, .05]
SES × gender	$F = .747, p = .388, \eta_p^2 = .00$, 90% CI [.00, .02]
Article × gender	$F = 1.87, p = .173, \eta_p^2 = .01$, 90% CI [.00, .03]
SES × article × gender	$F = .07, p = .790, \eta_p^2 = .00$, 90% CI [.00, .01]

Figure 1: Boxplot of Perceived Harm of COVID-19 Events by Target SES and Race in Study 2
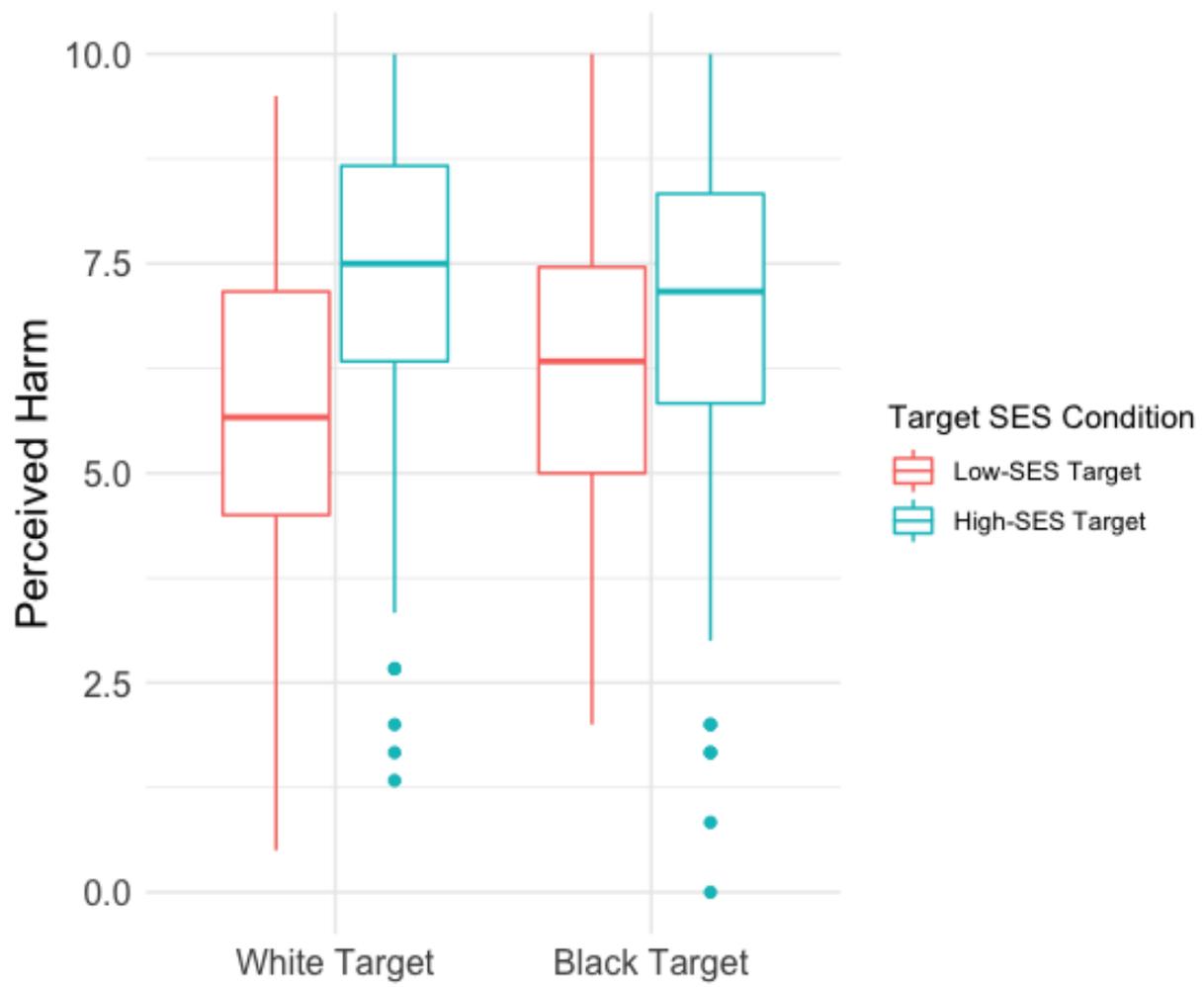
Figure 2: Boxplot of Perceived Need for Comfort by Target SES and Race in Study 2
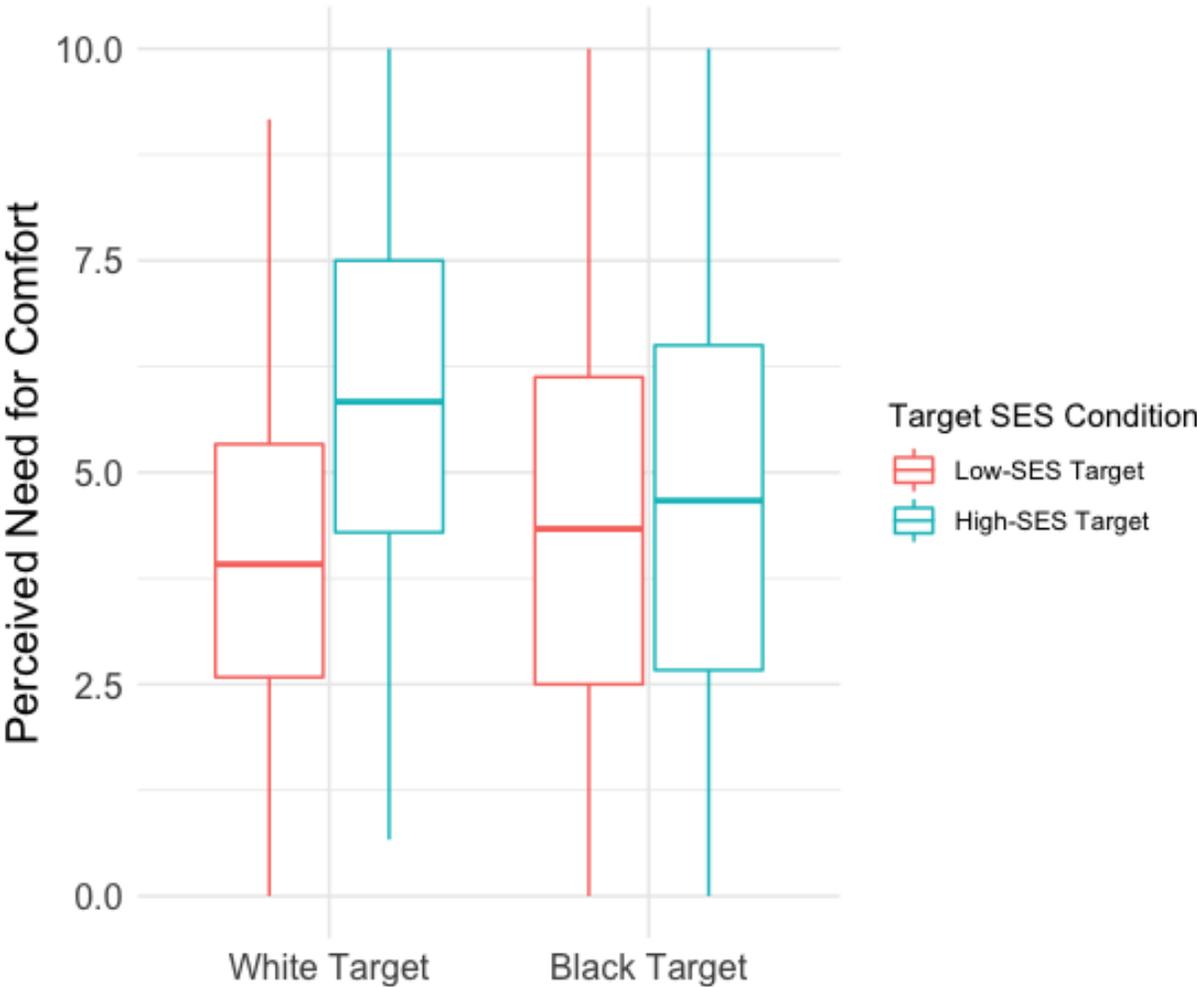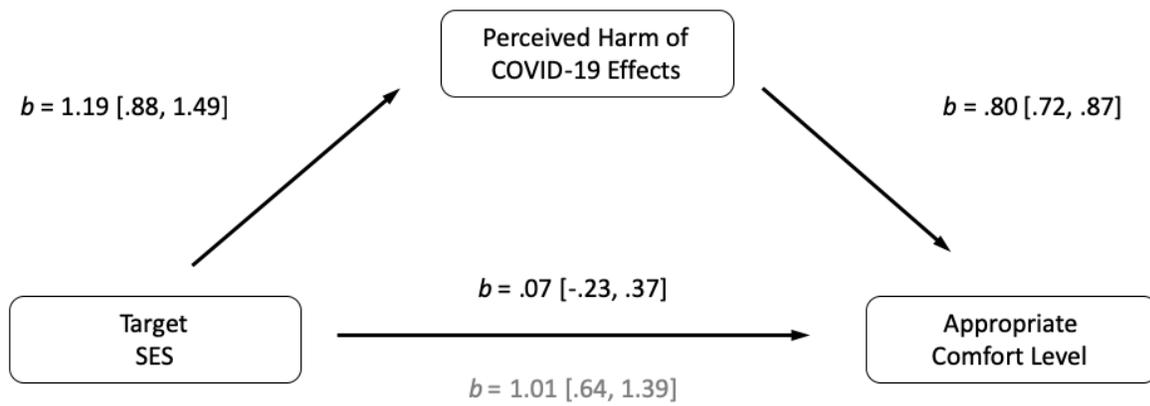
Figure 3: Mediation Analysis from Study 2

Note. Total effect is shown in gray. Coefficients are unstandardized. Target SES condition is coded as 0 = low-SES target; 1 = high-SES target.

Figure 4: Boxplot of Perceived Harm of Negative Events by Target SES and Article Condition in

Study 3