

**From the holdings of the Department of Special Collections , Princeton University Library,
Princeton, NJ**

These documents are either in the public domain, or can only be used for educational and research purposes (Fair use) as per U.S. Copyright law (text below). By accessing this file, all users agree that their use falls in the public domain or within fair use as defined by the copyright law. We do not charge any permission or usage fees for the publication of images of material in our collections, including those provided by Princeton University Library, via our website, catalog, or directly from staff. For more information regarding copyright, credit, and citation please review the information on the Copyright, Credit and Citation Guidelines page of our website.

<https://library.princeton.edu/special-collections/policies/copyright-credit-and-citation-guidelines>. If you have any questions, including how to order higher-quality images from the collection, contact Special Collections Public Services via our Ask Us! Form. <https://library.princeton.edu/special-collections/ask-us>

Doctoral Dissertations, 2011-2026

Psychology

2021

The Thick Skin Bias

Cheek, Nathan N.

Princeton, NJ : Princeton University

<http://arks.princeton.edu/ark:/88435/dsp01nk322h46m>

U.S. Copyright law: The copyright law of the United States (Title 17, §108, United States Code) governs the making of photocopies or other reproductions of copyrighted material. Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be used for any purpose other than private study, scholarship, or research. If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of fair use that user may be liable for copyright infringement. This institution reserves the right to refuse to accept a copying order if, in its judgment, fulfillment of the order would involve a violation of copyright law. <https://www.copyright.gov/title17/title17.pdf>

THE THICK SKIN BIAS

Nathan Norem Cheek

A DISSERTATION
PRESENTED TO THE FACULTY
OF PRINCETON UNIVERSITY
IN CANDIDACY FOR THE DEGREE
OF DOCTOR OF PHILOSOPHY

RECOMMENDED FOR ACCEPTANCE BY
THE DEPARTMENT OF
PSYCHOLOGY

Adviser: Eldar Shafir

September 2021

© Copyright by Nathan Norem Cheek, 2021.
All rights reserved.

Abstract

I propose a novel explanation for many of the social class disparities documented across the social and behavioral sciences: the “thick skin bias.” Across 33 studies, I show that people of lower socioeconomic status (SES) are systematically perceived to be less harmed by negative events than higher-SES people, even when this is patently false. In Chapter 1, I provide initial demonstrations of this thick skin bias, rule out multiple alternative explanations, and show that the bias extends to judgments about children as young as five and to judgments made by several professional populations and a nationally representative sample of the U.S. In Chapter 2, I investigate one mechanism underlying the thick skin bias: an overgeneralization of the sometimes accurate intuition that perceptions adapt to prior levels of exposure (as in psychophysical adaptation). Chapter 3 extends the thick skin bias to the context of gender-based violence, and Chapter 4 extends it to the context of the COVID-19 pandemic. Chapter 4 also tests the efficacy of providing people with an informational prime as a method of reducing the thick skin bias: information reduces, but does not fully reverse, the perception that people in poverty are less harmed by negative events. A brief conclusion charts future directions for research on the causes and consequences of and potential cures for the thick skin bias. Taken together, the work in this dissertation offers a new direction for research on social class stereotypes and provides a new perspective on how biased beliefs about people in poverty justify, perpetuate, and exacerbate economic inequality.

Presentations and Publications of Research in this Dissertation

Portions of the research in this dissertation have been presented at: the Annual Meeting of the Society for Judgment and Decision Making (2017 and 2019), the Annual Meeting of the Society for Personality and Social Psychology (2018 and 2019), the Annual Meeting of the Society for Affective Science (2019), and the Annual Meeting of the Society for the Psychological Study of Social Issues (2019). The research reported in Chapter 1 is forthcoming in *Behavioural Public Policy* (Cheek & Shafir, 2020). Eldar Shafir is a co-author on the work in Chapters 1 and 3, and Bryn Bandt-Law and Stacey Sinclair are co-authors on the work in Chapter 3 as well.

Table of Contents

Introduction	1
Chapter 1: The Thick Skin Bias in Judgments About People in Poverty	6
Chapter 2: The Cognitive Roots of the Thick Skin Bias	38
Chapter 3: The Thick Skin Bias in Judgments About Gender-Based Violence	59
Chapter 4: The Thick Skin Bias in Judgments About the Everyday Effects of the COVID-19 Pandemic	82
Conclusion	104
References	115
Appendices	141

List of Tables

Chapter 1

Table 1: Descriptive statistics and analyses from Studies 1a-1d	11
---	----

Chapter 2

Table 1: Descriptive statistics from Studies 3a-3d	53
Table 2: Results from ANOVAs in Studies 3a-3d	54

Chapter 3

Table 1: Means (SDs) of measures and analyses from Study 2	69
Table 2: Correlations among downstream judgments and potential alternative explanations in Study 2	71
Table 3: Means (SDs) of measures and analyses from Study 3	75
Table 4: Correlations among downstream judgments and potential alternative explanations in Study 3	77

Chapter 4

Table 1: Pandemic-related events and descriptive statistics from Study 1	86
Table 2: Average perceived harm by target in Study 2	88
Table 3: Average perceived harm and need for comfort by target condition in Study 3	91
Table 4: Average perceived harm by target and debiasing condition in Studies 4a-4b	96

List of Figures

Chapter 1

Figure 1: Effect of target SES on perceived impact of negative events in Study 2	13
Figure 2: Effect of target SES on perceived impact of positive events in Study 3	15
Figure 3: Effect of target's past and present SES on perceived impact of negative events in Study 5a	20
Figure 4: Effect of target's past and present SES on perceived impact of negative events in Study 5b	21

Chapter 2

Figure 1: Distributions of psychophysical adaptation intuitions and hardship adaptation intuitions in Study 1	44
Figure 2: Thick skin bias by psychophysical intuition strength in Study 2	47

Chapter 3

Figure 1: Mediation model predicting domestic abuse intervention in Study 2	72
Figure 2: Mediation model predicting comfort after sexual harassment in Study 3	78
Figure 3: Mediation model predicting comfort after domestic abuse in Study 3	78

Chapter 4

Figure 1: Mediation analysis from Study 3	93
Figure 2: Effect of debiasing information on thick skin bias in Study 4a	98

Acknowledgements

Thank you to my graduate school advisers, those brave souls who opened drafts stuffed with dozens of studies: Eldar Shafir, Stacey Sinclair, and Nicole Shelton. Thank you to Kristina Olson and Alin Coman, my oral committee members who agreed to serve during an especially hectic time. Thank you to my undergraduate advisers, who thought they were rid of me but were sadly mistaken: Barry Schwartz, Andrew Ward, and Dan Grodner. Thank you to my brilliant collaborators throughout my time at Princeton (order alphabetized for my own protection): Joe Avery, Bryn Bandt-Law, Chelsey Clark, Jake Goebel, Jessica Glazier, Jin Goh, Cheryl Kaiser, Casey McMahon, Emily Pronin, Salar Rad, Elena Reutskaja, and Sherry Wu. Thank you to those who helped me collect data from professionals: Jen Yeaton, Kobi Tsesarsky, Elyse Tierney, Sharon Armstrong, Katie Hargreaves, and Gabi Miano. Thank you to Edward Freeland and to the staff of the Understanding America Study for help collecting a nationally representative sample. Thank you to the undergraduates of SSP Lab who worked on projects with me: Kuteara Jamison, Isla Weber, Vicky Escalante, Yael Marans, Rola Adebogun, Mayowa Oke, and Mel Hornyak. Thank you to SSP Lab for lots of feedback and for lots of fun. Thank you to the many people who gave feedback on this work in the Social Research Seminar and the Joint Degree Program Social Policy Workshop at Princeton. Thank you to those who explained to me how everything at Princeton works and who were patient when I did so many things incorrectly: Carol Agans, David Carter-Lemos, Keisha Craig, Desirée Leonardi, Tina McCoy, Debra Pino Betancourt, Beth Porter, Leslie Rowley, Jill Ray, RoseMarie Stevenson, and Tingting Zhao. Thank you to my parents, who somehow tricked me into studying psychology, and to the rest of my family as well. And thank you to my wonderful friends, whose names I won't list for fear of accidentally omitting someone who deserves a place here.

Introduction

People in poverty experience widespread neglect, mistreatment, and injustice. Doctors, therapists, and other healthcare professionals undertreat patients from lower socioeconomic status (SES) backgrounds (e.g., Green et al., 2006; Kugelmass, 2016). Teachers ignore lower-SES students when they need help, while disproportionately punishing them when they misbehave (e.g., Calarco, 2018; Croziet et al., 2017; Kupchik & Ward, 2014; Mowen, 2017). Businesses pay employees from lower-SES backgrounds lower wages even when they are well-credentialed (Laurison & Friedman, 2016). Judges and juries assign harsher sentences to lower-SES defendants (e.g., Western, 2006), who are represented less diligently by their lawyers (e.g., Clair, 2020). Low-SES citizens are disregarded by the politicians who supposedly represent them (e.g., Gilens, 2005) and are systematically deprived of quality service from public and private institutions—public amenities are underfunded, aid from municipal governments is delayed or restricted, and local stores offer lower-quality products (e.g., Feigenbaum & Hall, 2015; Sin, 2011; Topolski et al., 2003; Wolch et al., 2005). Throughout everyday life, individuals from lower-SES backgrounds disproportionately encounter exclusion, incivility, and antipathy from those around them (e.g., Ehrenreich, 2001, Lott, 2002, 2012). And this pervasive discrimination occurs in an increasingly unequal world, where the divide between those in affluence and those in poverty is growing every year (Chetty et al., 2017; Piketty, 2014).

Stereotypes About People in Poverty

A growing literature in psychology explores how stereotypes about people in poverty can explain, perpetuate, and magnify these and other SES-based disparities. Much of this work has analyzed SES stereotypes through the lens of *attribution*, investigating the effects of people's

beliefs about the causes of poverty (e.g., Bullock, 2013; Bullock & Reppond, 2018; Cozzarelli et al., 2001; Feather, 1974; Fiske et al., 2002; Oh et al., 2020; Weiner et al., 2011). A common finding in this work is that people often believe that those who struggle to make ends meet are responsible for their own circumstances. These dispositional attributions can be about low-SES individuals' abilities (e.g., the belief that they are incompetent, short-sighted), their motivations (e.g., the belief that they are purposefully taking advantage of hardworking taxpayers, "free-riding" on the welfare system), and even their character (e.g., the belief that they are lazy and unwilling to work).

Even if people may recognize that situational and systematic factors (e.g., bad luck, lack of available jobs) contribute to financial problems, they may nonetheless overweight dispositional factors when explaining poverty (Bullock, 2013; Cozzarelli et al., 2001). The cognitive perspective on social class stereotypes assumes that people make dispositional attributions for poverty even if they seek an unbiased understanding—for example, they may underweight the power of the situation as in the classic correspondence bias (Gilbert & Malone, 1995; Jones & Nisbett, 1972). In contrast, the motivational perspective posits that dispositional attributions may also have psychological benefits—for example, attributing poverty to the actions of those who experience it helps individuals maintain their belief in a just world and reduces the unease that may come with living comfortably while others suffer (Furnham & Gunter, 1984; Hafer & Sutton, 2016; Hunt & Bullock, 2016; Lerner, 1998; Weiner et al., 2011). As this latter perspective would predict, people who more strongly endorse system-justifying ideologies like the Protestant work ethic, right-wing authoritarianism, and social dominance orientation are more likely to blame people in poverty for their own financial problems (e.g., Cozzarelli et al., 2001; Feather, 1984; Furnham & Gunter, 1984; Zucker & Weiner, 1993).

Perhaps the most extreme negative beliefs about people in poverty are those that question or outright reject their humanity. Research suggests that people attribute low-SES individuals fewer uniquely human traits, and that they deny low-SES individuals' human nature (Loughnan et al., 2014; Sainz, Loughnan et al., 2020; Sainz, Martínez et al., 2020; Valtorta et al., 2019). People may be particularly like to *animalize* those in poverty, explicitly categorizing them as less “evolved” than those of higher-SES (Haslam, 2006; Loughnan et al., 2014; Sainz, Martínez et al., 2020). Dehumanization serves a motivational function insofar as it maintains and justifies existing hierarchies between groups, and fuels dispositional attributions of poverty by bolstering the assumption that low-SES individuals' cannot exert self-control or make intelligent or rational decisions (Sainz, Loughnan et al., 2020; Sainz, Martínez et al., 2020).

Whether cognitive or motivational in origin, dispositional attributions for poverty cause negative attitudes toward low-SES individuals and toward programs and initiatives to reduce poverty (Bullock, 2013; Bullock & Reppond, 2018; Bullock et al., 2003; Cozzarelli et al., 2001; Weiner et al., 2011). People who believe that low-SES individuals are to blame for their financial problems are less supportive of government assistance programs or other routes to economic relief, and thus attributions of incompetence, laziness, and animal-like tendencies justify and exacerbate inequality (Bullock & Reppond, 2018; Cozzarelli et al., 2001; Hunt & Bullock, 2016; Sainz, Loughnan et al., 2020; Sainz, Martínez et al., 2020; Weiner et al., 2011). By changing these attributions, however, researchers have been able to change individuals' attitudes toward people in poverty, their beliefs about inequality, and their support for redistributive policy solutions (McCall et al., 2017; Piff et al., 2020). Thus, the attributional perspective in the SES stereotype literature illuminates both the profoundly negative beliefs that perpetuate inequality

and potential points of intervention to increase policy support for reducing poverty and inequality.

Not all stereotypes about people in poverty are negative, however, nor are they necessarily related to beliefs about the causes of poverty. For example, people may also attribute greater warmth and honesty to low-SES individuals (Durante & Fiske, 2017; Durante et al., 2017). Yet, rather than yielding more positive outcomes for people in poverty, these positive stereotypes may similarly serve to justify and perpetuate inequality. Indeed, attributing some positive attributes to low-SES individuals may help people maintain their belief in a just world with the view that “no one has it all” (Kay & Jost, 2003; Kay et al., 2005; Kay et al., 2007; Lane, 1959). People in poverty may have less and suffer more than those in affluence, so the logic of these *complementary stereotypes* goes, but at least they are nicer (or more honest, or happier, etc.).

Thus, whereas people may justify inequality by derogating those in poverty on causally relevant traits—i.e., traits to which they can attribute others’ misfortune such as incompetence or laziness—they may also justify inequality by “compensating” them with praise about a causally irrelevant trait like warmth or honesty. In line with this theoretical account, people who are more motivated to justify the status quo, such as people who live in more unequal societies (Durante et al., 2017) or who are dispositionally higher in system-justifying ideologies (Oldmeadow & Fiske, 2007), are more likely to attribute greater warmth (and lower competence) to people in poverty. In sum, positive as well as negative stereotypes can cause people to neglect low-SES individuals, though most of the literature on social class stereotypes has focused on negative beliefs about the causes of poverty.

Overview of the Dissertation

In this dissertation, I seek to extend the literature on stereotypes about people in poverty, shifting the focus from biased beliefs about the *causes* of poverty to biased beliefs about the *effects* of poverty. Specifically, I report a developing program of research on the “thick skin bias”—the erroneous belief that people in poverty have been “toughened” by their hardship and are therefore less harmed by new negative events than those of higher SES. Like negative attributions for poverty, the thick skin bias can fuel the neglect and mistreatment of low-SES individuals. And like positive complementary stereotypes, the thick skin bias may help justify this neglect and mistreatment, helping people to maintain their belief in a just world. Alongside these shared outcomes, however, the thick skin bias has unique causes, consequences, and (potential) cures.

Chapters 1-4 of this dissertation comprise four empirical papers that introduce and develop the concept of the thick skin bias.¹ The first chapter provides initial demonstrations of the bias across different contexts and in different populations, as well as ruling out some possible alternative explanations for the pattern of results. The second chapter dives into one theoretical mechanism for the thick skin bias: the overgeneralization of intuitions about adaptation to the context of poverty. The third chapter extends the thick skin bias to the context of gender-based violence, and the fourth chapter extends it to the everyday effects of the COVID-19 pandemic. The fourth chapter also provides an initial test of one possible route to reducing the thick skin bias. Finally, a brief conclusion summarizes the current work and charts future directions for the program of research on the thick skin bias.

¹ Many of the studies in this dissertation were run on online platforms using similar materials or manipulations. Participants who participated in previous studies with thick skin-related materials were always excluded from participating in subsequent studies.

Chapter 1: The Thick Skin Bias in Judgments about People in Poverty

Socioeconomic status (SES) shapes the cognitive, social, and institutional experiences of everyday life. It influences where and how people spend their time, with whom they interact, and the content and quality of their thoughts (Fiske & Markus, 2012; Kraus, Piff, & Keltner, 2011; Shah, Mullainathan, & Shafir, 2012). Evidence across the social and behavioral sciences reveals that people living in poverty face widespread interpersonal and institutional neglect and exclusion: from mental and physical healthcare, financial access, and legal resources, to educational opportunities, access to public goods, customer service, and everyday social interactions, low-SES people are treated less well and with less interest, empathy, and attention (Croizet et al., 2017; Ehrenreich, 2001; Kugelmass, 2016; Lott, 2002; Wolch et al. 2005). Higher-SES individuals not only obtain better outcomes in most walks of life, they also—although they need it less—receive more attention, better treatment, and more support than lower-SES individuals, even when such preferential treatment is neither strategic nor profitable, nor even intentional.

Behavioral science offers several explanations for why people in poverty are systematically neglected and mistreated. Beyond Hobbesian analyses based on pure self-interest, research on attitudes towards those in poverty, and towards inequality more generally, has focused on system-justifying ideologies, such as belief in a just world, and on perceptions emanating from a Protestant work ethic concerning the “undeserving poor” (Cozzarelli et al., 2001; Durante & Fiske, 2017). Prominent accounts suggest that inequality is made more tolerable when poverty is attributed to the irresponsibility, ineptitude, or laziness of low-SES individuals, whom people perceive not only as less competent but even as “less human”

(Bullock, 2013; Hunt & Bullock, 2016; Lott, 2002; Loughnan, Haslam, Sutton, & Spencer, 2014).

The present article moves beyond these perspectives to investigate people's perception of the distress felt by low-SES individuals. Specifically, we compare how people perceive various effects of hardship and trauma experienced by those living in poverty as opposed to plenty. Across more than a dozen studies, we test the prediction that people perceive the poor as experiencing less discomfort, less frustration, and less emotional damage than the rich in the same situations. We label this pattern of judgments the “thick skin” bias: people view poverty as hardening those who are poor and increasing their tolerance for negative events and emotional turmoil.

Like other biases (Tversky & Kahneman, 1974), the thick skin bias likely originates from lay beliefs that are sometimes correct, namely, the idea of adaptation—the notion that things will be experienced partly based on prior exposure and expectations (Helson, 1964). However, also like other biases, this intuition systematically fails and can produce predictable errors, with potentially harmful consequences. Research suggests that past trauma, rather than buffering people, makes them more vulnerable, and often exacerbates the effects of future trauma (Breslau et al., 1999; Garfin et al., 2015). It is well-documented that low-SES individuals experience more frequent and more severe negative life events, lower well-being, and more chronic and acute pain, stress, and mental illness (Blythe, 2010; Evans & Kim, 2012; Green et al., 2006; Rosenman, 2002; Smith, 1999; Turner, Wheaton, & Lloyd, 1995). Although it is true that people manage to adapt to challenging life circumstances, research does not support the contention that experiencing serious hardship buffers people against future hardships, including incivility, mistreatment, or daily mishaps and stressors. Contrary to the thick skin assumption, lower-SES

individuals, who experience greater and more frequent stress, with less access to resources and support, grow increasingly less able to cope, and are likely to experience similar negative life events *more* intensely than higher-SES individuals (Barwood et al., 2017; Bucchianera et al., 2014; Evans & Cassells, 2014).

Preliminary support for the proposed thick skin bias comes from research by Hoffman and Trawalter (2016). They found that perceptions of hardship mediated the effect of race on judgments of physical pain: participants in their studies believed that Black individuals felt less pain than White individuals in the same situations, and this was correlated with the belief that the former had experienced more emotional, financial, and interpersonal hardship than the latter. Further research, however, suggests that myths about the superhuman abilities and attributes of the Black body (Hoffman, Trawalter, Axt, & Oliver, 2016; Waytz, Hoffman, & Trawalter, 2015) as well as low-level perceptual failure to detect pain on darker-skinned faces (Mende-Siedlecki, Qu-Lee, Backer, & Van Bavel, 2019), further contribute to racial biases in pain perception. Race-specific physical pain biases are thus attributable to a legacy of slavery and mythological beliefs about Black bodies, as well as to low-level perceptual biases, beyond mere perceptions of hardship.

In what follows, we demonstrate a thick skin bias that leads people to perceive the poor as less affected by negative events across many life domains, particularly events that cause emotional pain. We further demonstrate that this bias cannot be explained by dehumanization, a notion sometimes used to account for racial biases in pain perception (Trawalter & Hoffman, 2015; Waytz et al., 2015), or by the belief that low-SES individuals are less affected than higher-SES individuals by negative events simply because they are more likely to expect them. Participants in our studies displayed the thick skin bias when judging the experiences of both

adults and children, as well as the experiences of White, Black, Latinx, and Asian individuals, and we find strong evidence for the bias in a nationally representative U.S. sample, as well as in judgments from professionals working in customer service, in mental health, and in educational contexts. For each study, we report all measures, manipulations, and exclusions, and all materials, data, and code are available through the Open Science Framework (<https://osf.io/xqgu9/>).

Studies 1a-1d: Preliminary Demonstrations of the Thick Skin Bias

Our first studies presented participants with vignettes, accompanied by a photo, describing individuals “born and raised in a large city in the U.S.” who were either lower- or higher-SES. Participants rated the extent to which they thought each individual would be affected by various negative events. Our hypothesis was that low-SES individuals would be perceived as less harmed by those negative events than their higher-SES counterparts. The first four studies followed an identical procedure; only the race of the individuals described in the vignettes differed across studies.

Method.

Participants. Participants in Studies 1a-1d were recruited from Amazon’s Mechanical Turk (MTurk) platform using TurkPrime (Litman, Robinson, & Abbercock, 2017). Sample sizes are reported in Table 1. All participant demographics, which did not reliably moderate any of the effects, are reported in Appendix A. To be included in the analyses, participants had to pass an attention check question and confirm that they had not responded randomly.

Materials and Procedure. In a design adapted from Hoffman and Trawalter (2016), participants were presented with a description of a target individual named Jordan. In Study 1a, the description was accompanied by a picture of a face showing Jordan to be a White man or a

White woman, whereas in Studies 1b, 1c, and 1d, Jordan was shown to be a man or woman who was Black, Asian, or Latino/Latina, respectively. All face pictures were from the face databases assembled by Minear and Park (2004) and Ma, Correll, and Wittenbrink (2015). Participants in the low-SES condition read that Jordan struggled financially:

This is Jordan. He [she] was born and raised in a large city in the U.S. Jordan has experienced many financial difficulties in his [her] life. He [she] and his [her] 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.

Participants in the high-SES condition read about Jordan living a life with no financial struggles:

This is Jordan. He [she] was born and raised in a large city in the U.S. Jordan has not experienced any financial difficulties in his [her] life. He [she] and his [her] siblings were raised by parents who comfortably supported them by working well-paying jobs. Jordan's family is financially stable; they never struggle to have enough money for food, rent, or other basic things.

Participants were then presented with 11 negative life events that ranged from relatively mild to more severe (e.g., “Jordan orders takeout and is given an overcooked, badly seasoned entrée;” “Jordan is mocked and insulted by his [her] boss;” “Jordan's heating system breaks, leaving him [her] without any heat in the middle of winter;” “A police officer mistakenly believes he sees Jordan shoplifting and doesn’t believe him [her] when he [she] says he [she] didn’t do it.”). On a 0 to 10 scale, with higher numbers indicating greater severity, participants rated how “upsetting,” “annoying,” “intolerable,” or “hurtful” they thought the individual would find each event. (See Appendix A for all events and rating questions). Finally, participants’ ratings were averaged to create a perceived-harm index for each target individual (α 's > .87).

Results

As a manipulation check, participants were prompted at the end of each study to recall Jordan’s name and whatever information they could remember about Jordan. In studies with

recall prompts, most participants (>80%) recalled the name and information presented, suggesting our SES manipulations were effective.

Descriptive statistics and t -tests for Studies 1a-1d are presented in Table 1. In all four studies, participants perceived low-SES individuals to be less affected by the same negative events than their high-SES counterparts (all p 's < .001, all d 's > 1.00). In all four studies, as well as all ensuing studies, the gender of the target did not moderate the effect of SES, all F 's < 1; accordingly, for these and all remaining studies we collapse across target gender conditions (see Appendix A for analyses with target gender).

Table 1: Descriptive statistics and analyses from Studies 1a-1d

Study	Target Group	Low-SES Condition	High-SES Condition	t -test
Study 1a	White	5.95 (1.65)	7.69 (1.45)	$t(212) = 8.25, p < .001$ $d = 1.13$ [.82, 1.43]
Study 1b	Black	5.98 (1.76)	7.82 (1.39)	$t(202.57) = 8.43, p < .001$ $d = 1.16$ CI [.84, 1.46]
Study 1c	Asian	5.86 (1.81)	8.03 (1.36)	$t(195.08) = 9.81, p < .001$ $d = 1.35$ [1.02, 1.67]
Study 1d	Latinx	6.09 (1.60)	7.97 (1.56)	$t(220) = 8.88, p < .001$ $d = 1.19$ [.88, 1.50]

Note. Before exclusion based on failure of an attention check and indication of random responding, sample sizes for Studies 1a-1d were 227, 251, 250, and 251, respectively. After exclusions, they were 214, 209, 210, and 222. SDs are given in parentheses. The 95% confidence interval of Cohen's d is provided in brackets. Where degrees of freedom are fractionated, we used Welch's t -test due to unequal variances.

Discussion

Studies 1a-1d provide initial evidence consistent with a thick skin bias: participants thought that low-SES individuals would be less harmed by negative events than higher-SES individuals. This pattern of results, however, could be explained by mechanisms other than a

thick skin bias. In the next three studies, we rule out three possible alternative explanations: (1) that the effect is driven mostly by perceptions of the rich; (2) that the effect is explained by dehumanization; and (3) that the effect is explained by the belief that negative events are more expected by, and therefore less harmful to, people in poverty.

Studies 2-4: Ruling Out Alternative Explanations

Study 2: Poverty Toughens and Affluence Weakens

A possible explanation for the results above is that, rather than believing that poverty toughens people, people believe that affluence weakens them. That is, perhaps participants think that high-SES individuals are more vulnerable to harm than the average person, not that low-SES individual are less vulnerable. To test this possibility, Study 2 replicated Studies 1a-1d with the addition of a neutral target about whom no SES-relevant information was provided.

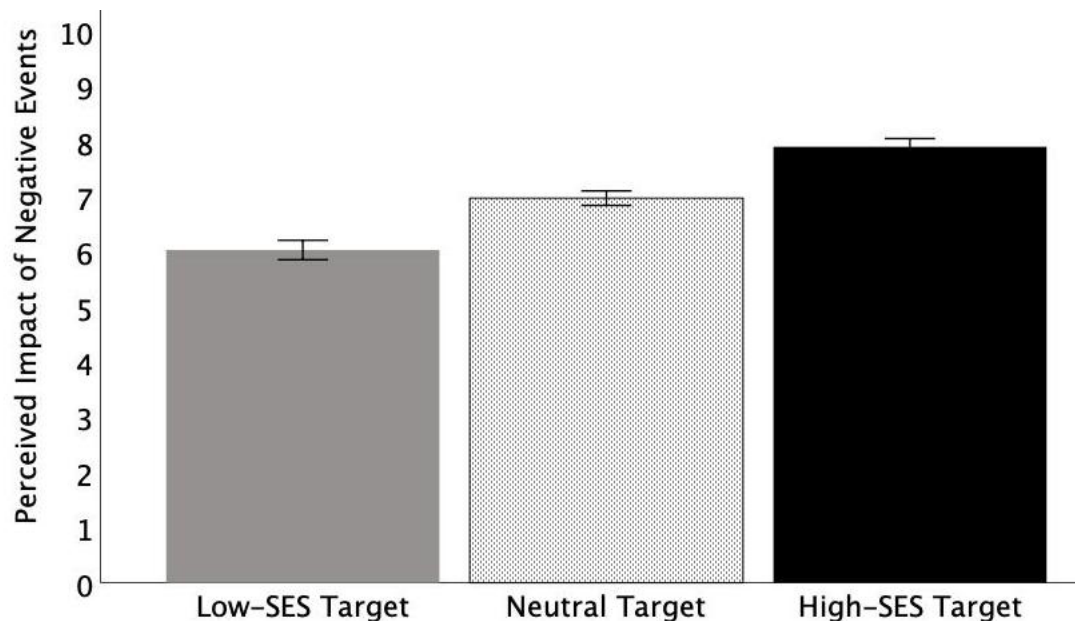
Method. Five hundred and one participants were recruited through MTurk, of whom 336 met the inclusion criteria, which were the same as in previous studies. The materials and procedure for Study 2 were identical to those of Study 1a, except that we added an additional condition, in which a target was given a neutral description, lacking any SES-relevant information: “This is Jordan. He [she] was born and raised in a large city in the U.S.”²

Results. Participants thought that the three targets—low-SES, neutral, and high-SES—would be affected differently by the negative events, $F(2, 333) = 36.79, p < .001$ (see Figure 1). Contrasts indicated that, as in Studies 1a-1d, participants thought the low-SES target would be less affected by the negative events ($M = 6.03, SD = 1.85$) than the high-SES target ($M = 7.90$,

² This description is shorter than those in the low- and high-SES target conditions because we wanted to avoid introducing any information that might be interpreted as relevant to social class. To the extent that a shorter description led people to project unintended qualities or traits onto the neutral target, we expected that these would most likely be traits related to a middle-class context and would therefore not conflict with the intended manipulation. The results of this study are consistent with this expectation (as is the comparison between participants’ self-ratings and their ratings of the neutral target; see Appendix A).

$SD = 1.58$), $t(333) = 8.58$, $p < .001$, $d = 1.09$, 95% CI [.79, 1.39]. Importantly, participants thought the neutral target ($M = 6.97$, $SD = 1.41$) would not only be less affected by the negative events than the high-SES target, $t(333) = 4.31$, $p < .001$, $d = .62$, 95% CI [.35, .89], but would also be more affected by the events than the low-SES target, $t(333) = 4.35$, $p < .001$, $d = .57$, 95% CI [.30, .84]. This suggests that the earlier findings were not driven solely by perceptions of the rich. Instead, the thick skin bias appears to minimize the perceived impact of negative events on low-SES individuals and to magnify it on those of higher SES. Whereas the presumed hardships of poverty seem to harden the poor, the apparent absence of hardship is thought to leave the rich more vulnerable.

Figure 1: Effect of target SES on perceived impact of negative events in Study 2



Note. Error bars indicate the standard error of the mean.

Study 3: Dehumanization and Positive Events

Several accounts addressing perceptions of the poor emphasize dehumanization—the perception that individuals in poverty are limited to diminished forms of human emotion and

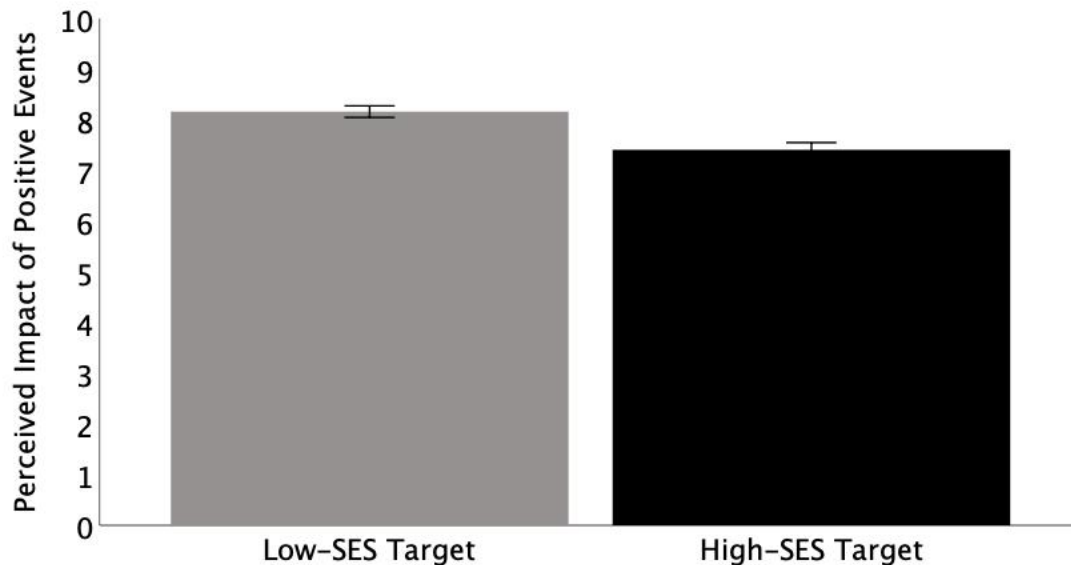
experience (e.g., Loughnan et al., 2014). Accounts of racial biases in the perception of physical pain similarly appeal to mechanisms of dehumanization (e.g., Waytz et al., 2015). If dehumanization underlies our findings—that is, if participants are generally attributing weaker emotional experience to low-SES individuals—then we should expect participants to attribute weaker sentiments to these individuals in both negative and positive domains; i.e., for both negative and positive emotions. If, instead, people are rating the reactions of low-SES individuals based on their perceived prior hardship, then we might expect people to perceive the poor as less impacted by negative events, but perhaps even more elated than the rich when events turn out positively.

Method. We recruited 225 participants through MTurk, of whom 195 met the same inclusion criteria as in previous studies. The materials and procedure were the same as in Study 1a, except that participants rated their perception of the effects of positive rather than negative events on a high- or low-SES individual. There were 12 positive events (e.g., “Jordan’s boss compliments his [her] recent work; “Jordan is going on a vacation to the beach with his [her] family;” Jordan receives a surprise gift from a friend;” $\alpha = .90$; see Appendix A for all events).

Results. Participants perceived low-SES individuals as more deeply affected by the positive events ($M = 8.16$, $SD = 1.13$) than high-SES individuals ($M = 7.41$, $SD = 1.41$), $t(193) = -4.12$, $p < .001$, $d = -.59$, 95% CI $[-.88, -.30]$ (see Figure 2). If low-SES individuals were simply dehumanized, we would expect participants to attribute weaker sentiments to them in both positive and negative circumstances. Instead, in line with perceptions of a thick skin (“the ability to keep from getting upset or offended,” *The Merriam-Webster Dictionary*), participants, who rated low-SES individuals as less impacted by negative events, did not expect the same insensitivity when events were positive. In fact, contrary to dehumanization, they thought that

low-SES individuals would be *more* impacted by positive life events—that they would experience stronger positive emotions—than those of higher SES.

Figure 2: Effect of target SES on perceived impact of positive events in Study 3



Note. Error bars indicate the standard error of the mean.

Study 4: Equally Unexpected Events

Perhaps, rather than a thick skin bias, participants' judgments simply reflect a belief that negative events are more normative for the poor than for the rich. That is, participants may believe that bad things that befall people in poverty are often "to be expected," and that this expectation reduces their impact. In Study 4, participants again rated how distressed a high-SES or low-SES individual would be by a variety of negative life events. This time, however, half of the events were normed (by a separate group of participants) as *equally unexpected* for both the poor and the rich (for details, see Supplemental Study 1 in Appendix A).

Method. We recruited 302 participants through Prolific Academic, of whom 286 met the inclusion criteria (passing two attention check questions and confirming nonrandom responding). Participants rated how harmed a high-SES or low-SES individual would be by 10 negative events. Five of these events were normed to be equally unexpected for both individuals (e.g., “Jordan is crossing the street in the main part of the city and is almost clipped by a speeding car;” $\alpha = .73$), whereas the other five were normed to be more expected for lower-SES individuals (e.g., “Jordan attends a city council meeting for the first time and is not given a chance to speak;” $\alpha = .75$; see Appendix A for all events).

Results. Participants thought that the low-SES target would be less negatively affected by the equally unexpected events ($M = 6.61$, $SD = 1.59$) than the high-SES target ($M = 8.03$, $SD = 1.53$), $t(284) = 7.66$, $p < .001$, $d = .91$, 95% CI [.65, 1.16]. Participants also thought that the low-SES target would be less affected by negative events that were more expected for low-SES ($M = 6.92$, $SD = 1.69$) than high-SES targets ($M = 8.62$, $SD = 1.48$), $t(284) = 9.03$, $p < .001$, $d = 1.07$, 95% CI [.80, 1.33]. The thick skin bias thus appears insensitive to considerations of surprise or expectation: it generates perceptions of lower distress among people in poverty both for unexpected events and for events that might be seen as more expected in poverty contexts.

Taken together, Studies 2-4 support the notion that the thick skin bias is not driven by beliefs about the rich, by dehumanization, or by perceived differential expectations. Rather, low-SES people are thought to be toughened by the hardships of poverty, and thus desensitized to life’s negative events, relative to those of higher SES. (For further evidence, see Supplemental Study 2 in Appendix A, in which we found that the perceived toughness of lower-SES targets mediated the thick skin bias.) In the following series of studies, we explore certain features in life’s trajectory that account for those in poverty being thought of as having grown thicker

skin—first by looking at the effects of childhood versus adult poverty, and then by testing whether the thick skin bias extends to judgments concerning children.

Studies 5a-5b: Past and Present Poverty

In studies 5a and 5b, we further explore the perceived role of habituation by separating the potential effects of poverty during childhood from those of poverty in adulthood. Doing so allows us to examine whether perceptions of “thicker skin” can emerge even based on others’ childhood experiences, as well as whether people update their perceptions of others’ toughness based on more recent changes in SES. In other words, Studies 5a and 5b consider the dynamics of thick skin perceptions based on changes or stability in others’ SES over time. Study 5a examines the perceived effect of childhood SES in contrast to an adult’s SES in the past 10 years; Study 5b examines the perceived effects of childhood SES in contrast to an adult’s SES in the past year.

Method

We recruited 250 participants through MTurk for Studies 5a and 5b, of whom 204 and 223, respectively, met the inclusion criteria (passing an attention check question and confirming nonrandom responding). In Study 5a, participants rated the extent to which the 11 negative events from Study 1a would affect a White male target individual. The individual was described as growing up in either poverty or affluence (past SES condition), and as having lived in either poverty or affluence for the last 10 years (present SES condition). Participants assigned to the target who grew up in poverty and remained in poverty read:

This is Jordan. He was born and raised in a large US city. He has experienced many financial difficulties in his life. He and his siblings were raised by parents who did not work steady jobs. When they lost their jobs and were unable to pay rent, the family struggled to afford enough food to eat, and occasionally went homeless, moving between shelters and the family car until they could save enough to move into low-income housing. Jordan’s adult life has continued to be difficult—he has been unemployed for a

long period of time and is barely able to pay his rent, often living on the brink of eviction. He often worries about having enough money to eat, and on occasion resorts to looking through dumpsters for something to eat.

Participants assigned to the target who grew up in poverty but currently lived in affluence read:

This is Jordan. He was born and raised in a large US city. He has experienced many financial difficulties in his life. He and his siblings were raised by parents who did not work steady jobs. When they lost their jobs and were unable to pay rent, the family struggled to afford enough food to eat, and occasionally went homeless, moving between shelters and the family car until they could save enough to move into low-income housing. After graduating college, however, Jordan's life took a positive turn. He found a well-paying job, and for the past decade has been financially stable. Over the past 10 years, he has had a steady job and an income that easily meets his financial needs. He does not worry about rent and is always able to pay his bills without problems.

Participants assigned to the target who grew up in affluence and remained in affluence read:

This is Jordan. He was born and raised in a large city in the U.S. Jordan has not experienced many difficulties in his life. He and his siblings were raised by parents who comfortably supported them by working well-paying jobs. Growing up, Jordan's family was financially stable; they never struggled to have enough money for food, rent, or other basic things, and they lived in a nice house in the safe and quiet suburbs. Jordan's adult life has been similarly financially stable—he has a steady job and an income that easily meets his financial needs. He does not worry about rent and is always able to pay his bills without problems.

Finally, participants assigned to the target who grew up in affluence but currently lived in poverty read:

This is Jordan. He was born and raised in a large city in the U.S. Until recently, Jordan had not experienced many difficulties in his life. He and his siblings were raised by parents who comfortably supported them by working well-paying jobs. Growing up, Jordan's family was financially stable; they never struggled to have enough money for food, rent, or other basic things, and they lived in a nice house in the safe and quiet suburbs. After Jordan graduated college, he found a good job that paid well. After a couple years at the company, however, he was laid off, and in the decade since, he has struggled to find steady employment. Over the past 10 years, Jordan has been unemployed for long periods of time and is barely able to pay his rent, often living on the brink of eviction. He often worries about having enough money to eat, and on occasion resorts to looking through dumpsters for something to eat.

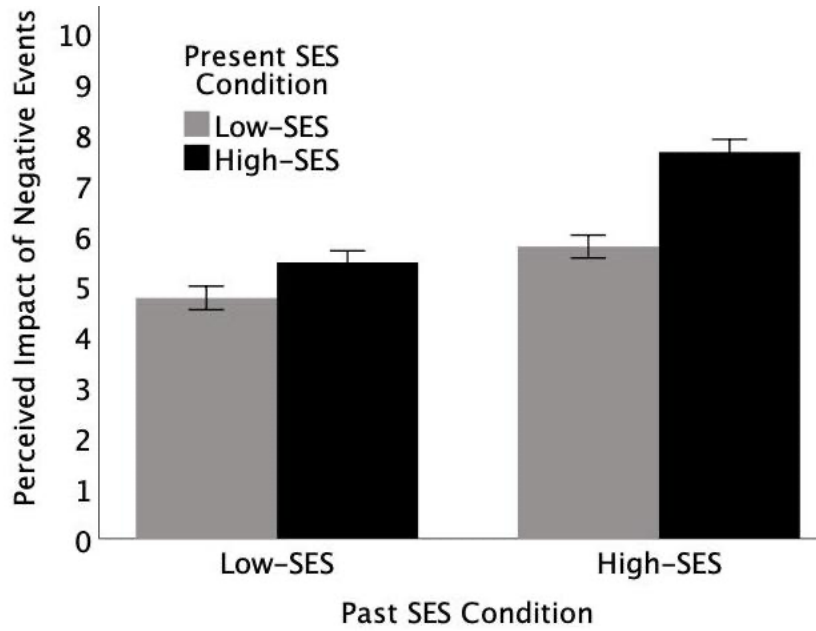
In Study 5b, the procedure was identical, except that the present SES information was about the last year rather than last 10 years. Both studies thus employed 2 (past SES: low vs. high) X 2 (present SES: low vs. high) designs.

Results

Study 5a. Participants thought that targets who had grown up low-SES would be less affected by the negative events than targets who had grown up high-SES, $F(1, 200) = 45.94, p < .001, \eta_p^2 = .18, 90\% \text{ CI } [.11, .26]$. Similarly, participants thought that targets who had been low-SES for the past ten years would be less affected by the negative events than those who were high-SES for the past ten years, $F(1, 200) = 29.63, p < .001, \eta_p^2 = .13, 90\% \text{ CI } [.06, .20]$. There was a significant interaction between past and present SES, $F(1, 200) = 6.11, p = .014, \eta_p^2 = .03, 90\% \text{ CI } [.00, .08]$, such that the effect of present SES, though significant in both conditions, was larger for targets who had grown up high-SES, $t(103) = 5.54, p < .001, d = 1.08, 95\% \text{ CI } [.64, 1.51]$, than for those who had grown up low-SES, $t(97) = 2.13, p = .035, d = .43, 95\% \text{ CI } [.02, .83]$ (see Figure 3).

Figure 3: Effect of target's past and present SES on perceived impact of negative events in Study

5a

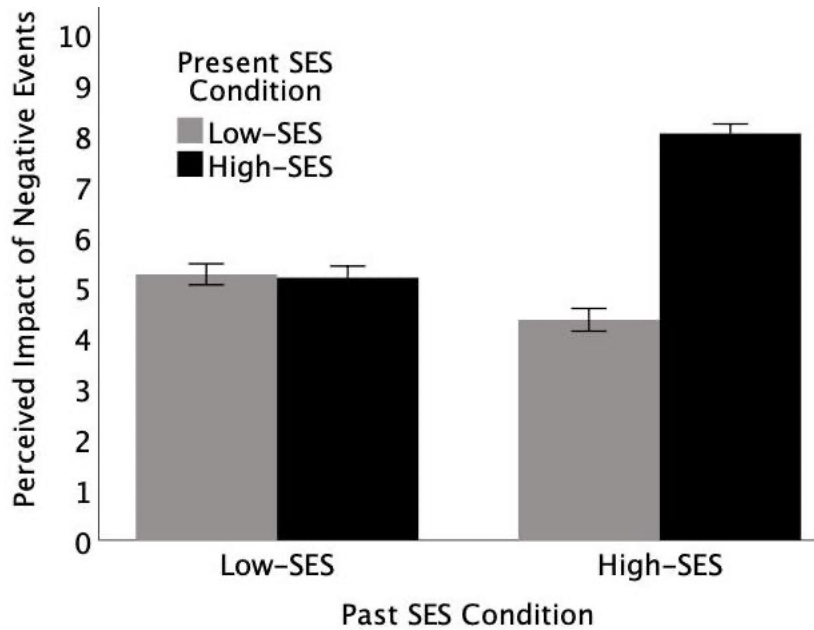


Note. Error bars indicate the standard error of the mean.

Study 5b. Participants thought that targets who had grown up low-SES would be less affected by the negative events than targets who had grown up high-SES, $F(1, 219) = 20.87, p < .001, \eta_p^2 = .09$, 90% CI [.04, .15]. Similarly, participants thought that targets who had been low-SES for the past year would be less affected by the negative events than those who were high-SES during the past year, $F(1, 219) = 71.61, p < .001, \eta_p^2 = .27$, 90% CI [.17, .32]. As in Study 5a, there was a significant interaction between past and present SES, $F(1, 219) = 77.16, p < .001, \eta_p^2 = .26$, 90% CI [.18, .34], such that SES in the past year influenced perceptions of targets who had grown up high-SES, $t(115) = 12.58, p < .001, d = 2.33$, 95% CI [1.76, 2.88], but had little

effect on targets who had grown up low-SES, $t(104) = -.22, p = .826, d = -.04, 95\% \text{ CI } [-.42, .34]$ (see Figure 4).

Figure 4: Effect of target's past and present SES on perceived impact of negative events in Study 5b



Note. Error bars indicate the standard error of the mean.

Discussion

Studies 5a and 5b show that both past and present SES can drive the thick skin bias. Interestingly, however, the effects of present SES in Studies 5a and 5b were larger for individuals who had grown up high-SES than for those who had grown up low-SES. Apparently, people believe that the formerly rich are more easily toughened by poverty than the formerly poor are weakened by abundance.

Studies 6-9: Judgments Concerning Children

If brief periods of just one year are enough to cue the thick skin bias, do perceptions of hardship's toughening effects extend to judgments concerning children? And does the asymmetry between positive and negative events extend to children as well? In Studies 6-9, we explore adult participants' perceptions of the experiences of 10-year-old and 5-year-old children. If even young children are perceived to be toughened by poverty, this perception could help explain the widespread neglect of low-SES children in schools, the justice system, and beyond (e.g., Calarco, 2018; Farnum & Stevenson, 2013; Prentice, 2007; Williams & Kornblum, 1985).

Studies 6 and 7: Judgments About 10-Year-Old Children

Method. In Studies 6 and 7, participants read about a low-SES or a high-SES 10-year-old (who was shown to be either a White boy or White girl using faces from the NIMH Child Emotional Faces Picture Set; Egger et al., 2011). In Study 6, participants rated the extent to which the 10-year-old would be affected by 11 negative events (altered to be age-appropriate; e.g., "Jordan is kept awake by noise outside his [her] bedroom and only gets a few hours of sleep;" $\alpha = .85$; see Appendix A). In Study 7, participants instead rated the extent to which the 10-year-old would be affected by 12 positive events (e.g., "Jordan's teacher compliments his [her] recent classwork;" $\alpha = .88$; see Appendix A). We recruited 403 and 404 participants for Studies 6 and 7, respectively, of whom 356 and 375 met the aforementioned inclusion criteria (passing an attention check question and confirming nonrandom responding).

Results. As they did when judging the experiences of adults, participants in Study 6 thought that the low-SES child would be less negatively affected by the negative events ($M = 5.61$, $SD = 1.58$) than the high-SES child ($M = 7.49$, $SD = 1.39$), $t(354) = 11.88$, $p < .001$, $d = 1.26$, 95% CI [1.01, 1.51], whereas participants in Study 7 thought that the low-SES child would

be more positively affected by the positive events ($M = 8.13$, $SD = 1.08$) than the high-SES child ($M = 7.72$, $SD = 1.33$), $t(360.27) = -3.22$, $p < .001$, $d = -.33$, 95% CI $[-.54, -.13]$.

Studies 8 and 9: Judgments About 5-Year-Old Children

Method. In Studies 8 and 9, participants read about a low-SES or a high-SES 5-year-old (who was shown to be either a White boy or White girl using face pictures from the Child Affective Facial Expression database; LoBue & Thrasher, 2015). In Study 8, participants rated the extent to which the 5-year-old would be affected by 5 negative events (altered to be age-appropriate; e.g., “Jordan tries to say hi to a classmate but is ignored;” $\alpha = .81$; see Appendix A). In Study 9, participants instead rated the extent to which the 5-year-old would be affected by 5 positive events (e.g., “Jordan’s friend is having a party this weekend;” $\alpha = .70$; see Appendix A). We recruited 448 and 454 participants for Studies 6 and 7, respectively, of whom 409 and 421 met the aforementioned inclusion criteria.

Results. As in the previous studies, participants in Study 8 thought that, despite the children’s young age, the low-SES 5-year-old would be less negatively affected by the negative events ($M = 5.70$, $SD = 2.06$) than the high-SES 5-year-old ($M = 7.79$, $SD = 1.38$), $t(370.60) = 12.19$, $p < .001$, $d = 1.19$, 95% CI $[.96, 1.41]$. Contrary to our previous findings, however, participants in Study 9 did not think that the low-SES child would be more or less affected by the positive events ($M = 8.13$, $SD = 1.44$) than the high-SES child ($M = 8.15$, $SD = 1.37$), $t(419) = .14$, $p = .889$, $d = .01$, 95% CI $[-.18, .20]$. This suggests that the effects of poverty may be perceived to emerge earlier for negative than for positive events, as if a child learns to tolerate the affronts of poverty before developing the ability to enjoy even small pleasures.

In summary, the preceding studies suggest that the thick skin bias has a pervasive influence on people’s perceptions of the rich and poor, extending even to judgments about young

children. In the next section, we further test the reach of the bias by examining whether professionals in their own domain of expertise—customer service, mental health, and education—similarly believe that people in poverty are less vulnerable to negative events than people of higher-SES.

Studies 10-13: The Bias Among Professionals

The thick skin bias may shape judgments and behavior in a wide range of contexts. Drawing on research documenting mistreatment and neglect of low-SES people in customer service, mental health, and educational contexts (e.g., Croizet et al., 2017; Ehrenreich, 2001; Kugelmass, 2016; Lott, 2002), we recruited professional chefs, social workers, graduate students training to be therapists, and teachers to investigate whether the thick skin bias also shapes professionals' judgments.

Study 10: Chefs

We recruited 62 professional chefs who actively worked in a customer service environment, of whom 44 met the inclusion criteria (passing an attention check question and confirming nonrandom responding). Note that, although smaller than many behavioral science studies, this sample is adequately powered to detect the effect from Study 1a ($d = 1.13$) with 95% probability at standard levels of significance ($\alpha = .05$).

Participants read about a low-SES or a high-SES White male target, after which they rated how negatively affected the target would be in four restaurant situations: (1) ordering takeout and being given an overcooked, badly prepared meal; (2) having their food take an unexpectedly long time to be served; (3) having a waiter make a mistake and bring a wrongly prepared dish; and (4) being seated at a table very near the bathrooms ($\alpha = .80$). Mirroring our lay participants, the chefs thought the low-SES target would be less affected by these negative

events ($M = 4.61$, $SD = 1.89$) than the high-SES target ($M = 6.64$, $SD = 1.31$), $t(42) = 4.12$, $p < .001$, $d = 1.24$, 95% CI [.54, 1.93].

Study 11: Social Workers

We recruited 95 participants who were either enrolled in a master's program for social work (in which working with clients is part of the training) or had received a master's degree in social work, of whom 89 met the aforementioned inclusion criteria. Materials and procedure for this study were identical to those of Study 1a and, as in that study, participants in Study 11 thought that the low-SES target would be less affected by the negative events ($M = 6.27$, $SD = 1.61$) than the high-SES target ($M = 7.64$, $SD = 1.32$), $t(87) = 4.40$, $p < .001$, $d = .93$, 95% CI [.47, 1.39].

Study 12: Therapists-in-Training

We recruited 37 graduate students in counseling programs, all of whom met the aforementioned inclusion criteria (passing an attention check question and confirming nonrandom responding). This sample size provides 91% probability of detecting the effect from Study 1a. Completing the same materials and procedure as in the previous study, participants thought that the low-SES target would be less affected by the negative events ($M = 4.97$, $SD = 1.43$) than the high-SES target ($M = 6.99$, $SD = 1.48$), $t(35) = 4.23$, $p < .001$, $d = 1.39$, 95% CI [.59, 2.17].

Study 13: Teachers

We recruited two samples of K-12 teachers. The first sample ($n = 53$) were recruited at a local education conference; the second sample ($n = 175$) was recruited via email from a proprietary list of teachers across the U.S. All participants in the first sample were included in

analyses (there were no attention check questions) and 156 participants from the second sample were included in analyses after meeting the aforementioned inclusion criteria.

Participants in both studies read about a low-SES or a high-SES 10-year child (who was shown via a face picture to be either a White boy or White girl) and rated how affected the child would be by five school-related negative events (e.g., “Jordan is scolded by his [her] teacher for something he [she] did at school”; see Appendix A). Teachers in the first sample thought that the low-SES 10-year-old would be less negatively affected by the events ($M = 5.73$, $SD = 1.80$) than the high-SES 10-year-old ($M = 6.97$, $SD = 1.73$), $t(51) = 2.56$, $p = .014$, $d = .70$, 95% CI [.12, 1.27]. Teachers in the second sample similarly thought that the low-SES child would be less negatively affected by the events ($M = 6.47$, $SD = 1.90$) than the high-SES child ($M = 7.26$, $SD = 1.62$), $t(154) = 2.80$, $p = .006$, $d = .45$, 95% CI [.13, .77].

Taken together, Studies 10-13 find that professionals working in a variety of contexts display the same thick skin bias shown by lay people. The thick skin bias thus has the potential to affect the ways people are perceived and treated in many different settings, determining which customers receive more consideration from service employees, which students receive care and attention in the classroom, and which patients receive more dedicated care from mental health professionals. In our final study, we go a step further in testing the generalizability of the thick skin bias by recruiting a nationally representative sample of adults living in the U.S.

Study 14: Nationally Representative U.S. Sample

We conducted a pre-registered nationally representative survey to test the robustness of the thick skin bias across the U.S. population.

Method

We recruited 1074 participants through the Understanding America Survey (UAS; <https://uasdata.usc.edu/index.php>). To be included in the analyses, participants needed to pass an attention check question; 772 participants met this criterion and were included. After data collection was complete, UAS researchers calculated sample weights (see <https://uasdata.usc.edu/index.php>) to ensure the sample was nationally representative of the U.S. population. We report the analyses using these weights, though we find the same pattern of results when using raw data. This study was pre-registered through AsPredicted.org (<https://aspredicted.org/blind.php?x=f9rh6y>).

Participants judged the effect of 10 negative events on a low-SES or a high-SES target individual. The target individual was either a man or a woman and was either White or Black (as shown by a face picture). Half of the negative events were normed to be equally unexpected for low-SES and high-SES individuals, whereas the other half were normed to be more expected in low-SES contexts (see Appendix A).

Results

Overall, the US sample perceived low-SES targets to be less negatively affected than high-SES targets by the variety of negative events. For the events that were seen as more expected in low-SES contexts, participants thought that the low-SES target would be less negatively affected ($M = 7.03$, $SD = 1.88$) than the high-SES target ($M = 7.73$, $SD = 1.68$), $t(769) = 5.44$, $p < .001$, $d = .39$, $[.25, .54]$. This effect was not qualified by target gender, $F(1, 707) = .69$, $p = .407$, $\eta_p^2 = .00$, 90% CI $[.00, .01]$, target race, $F(1, 707) = 3.12$, $p = .078$, $\eta_p^2 = .00$, 90% CI $[.00, .02]$, or a three-way interaction between SES, gender, and race, $F(1, 707) = .51$, $p = .474$, $\eta_p^2 = .00$, 90% CI $[.00, .01]$.

A similar pattern was observed for events that were seen as equally expected in low- and high-SES contexts. Participants thought that the low-SES target would be less negatively affected by the equally expected events ($M = 5.94$, $SD = 1.91$) than the high-SES target ($M = 6.90$, $SD = 2.00$), $t(769) = 6.84$, $p < .001$, $d = .49$, 95% CI [.35, .64]. The effect was not qualified by target gender, $F(1, 707) = .62$, $p = .431$, $\eta_p^2 = .00$, 90% CI [.00, .01], or an SES X gender X race interaction, $F(1, 707) = .04$, $p = .840$, $\eta_p^2 = .00$, 90% CI [.00, .00]. However, there was an interaction between target SES and target race, $F(1, 707) = 10.17$, $p = .001$, $\eta_p^2 = .01$, 90% CI [.00, .03]. The effect of SES for the equally unexpected events was significant for both Black and White targets, but it was larger for White targets $t(402) = 7.10$, $p < .001$, $d = .71$, 95% CI [.50, .91] than for Black targets, $t(366) = 2.70$, $p = .007$, $d = .28$, 95% CI [.07, .49].

This interaction was driven by the fact that participants perceived the high-SES Black target as less negatively affected by the equally unexpected events than the high-SES White target, $t(378) = 3.95$, $p < .001$, $d = .41$, 95% CI [.20, .61], whereas they perceived that the White and Black low-SES targets would be equally affected, $t(390) = .08$, $p = .937$, $d = .01$, 95% CI [-.19, .21]. Because participants' judgments were not influenced by target race in the low-SES condition (here or in Studies 1a-b), we have no reason to conclude that the interaction is the result of perceived differences of distress by race alone (e.g., in contrast to some origins of racial biases in physical pain perception; Hoffman et al., 2016). Instead, the data suggest the effect is attributable to racialized perceptions of SES, combined with a thick skin bias. In Supplemental Study 3 (Appendix A), we found that participants perceived the high-SES Black target as somewhat lower-SES than the high-SES White target (despite identical written descriptions; see Appendix A). Thus, the interaction we observed may be due to the fact that high-SES Black targets, perceived as having lower SES, were seen as less affected by the negative events than the

high-SES White targets, thereby reducing the effectiveness of the SES manipulation, yet remaining in line with the thick skin bias.

In summary, the results of this study offer compelling evidence for the thick skin bias in a nationally representative U.S. sample.

General Discussion

Across many studies, we found consistent evidence for a thick skin bias in social judgment, according to which people believe, often erroneously, that the poor have been toughened by the hardship of poverty, making them less susceptible to future harms. We found this effect across a wide variety of negative events, in judgments about both adults and young children, and in the judgments of professional chefs, social workers, therapists-in-training, and teachers, as well as in a nationally representative sample of the U.S. population. The thick skin bias has the potential to broadly shape judgments, behaviors, and interactions across many contexts. Before further exploring the implications of such a widespread bias, we first consider three lingering questions: *is the thick skin bias really a bias? Do low-SES and high-SES people display the thick skin bias to the same degree? And, does the thick skin bias shape how people see others relative to themselves?*

Is the thick skin bias really a *bias*?

We attribute the thick skin bias to a lay theory that people readily adapt to their circumstances and adjust their standards accordingly—for example, the assumption that those who are accustomed to sleeping in a noisy environment will have developed the ability to sleep largely undisturbed by the noise. Classic research on psychophysics shows that people tend to judge new stimuli based on prior experience — a novel object feels heavier after holding a lighter versus a heavier object (Harvey & Campbell, 1963). Our interpretation of the results

presented here is that people (over)extend this analysis to experiences beyond low-level perception. In support of this interpretation, we observe a similar pattern of results when manipulating life hardship, independent of SES: participants believed that a middle-class individual who had experienced substantial life hardship would be less affected by negative events than an individual from the same SES background who had experienced little hardship (see Supplemental Study 4 in Appendix A for details).

The thick skin bias may thus be thought of as the result of a “hardship breeds toughness” heuristic, according to which the effects of new events are judged based on previously experienced hardship (see also Hoffman & Trawalter, 2016). People may resort to such a heuristic both consciously and unconsciously, though to what extent may depend on context and remains an interesting question for future research. The idea that people grow tougher through hardship is likely to be explicitly held by many; indeed, aphorisms capturing this idea are common in Western popular culture. Literary protagonists like Dean Koontz’s Laura Shane assert that “Adversity breeds toughness, and the tough succeed.” (Koontz, 1988, p. 149); pop stars like Kelly Clarkson sing that “What doesn’t kill you makes you stronger” (Elofsson, Tamposi, Gamson, & Kurstin, 2011); and public figures like Michelle Obama proclaim that “experience facing and overcoming adversity is actually one of your biggest strengths...students who had every advantage...were ill-equipped to handle their first encounter with disappointment” (The White House, Office of the First Lady, 2016). Consistent with a heuristic that is consciously endorsed, making the comparison between low- and high-SES individuals more salient in a within-subjects design does not eliminate the thick skin bias (see Supplemental Study 5 in Appendix A for details). Of course, people may also implicitly associate poverty and

hardship with toughness, creating an additional, automatic route to the thick skin bias. Crucially, whether explicit, implicit, or both, the thick skin bias is often likely to be false.

It is apparently true that *mild* adversity, if it is temporary, feels controllable, and if successfully overcome, can sometimes render people more resilient to negative events (e.g., Dienstbier, 1989; Seery et al., 2013). Importantly, however, this does not apply to a panoply of repeated stressors and the persistent, often-uncontrollable hardship of poverty. Chronic stress and repeated adverse life experiences of the kind often encountered by those in poverty, ranging from daily nuisances, such as “kids got into trouble at school,” “problems with my supervisor,” and “car wouldn't start,” to traumatic events such as life-threatening accidents, physical and sexual abuse, or being a witness to another person being killed or assaulted, do not buffer against future such negative events. On the contrary, they can exacerbate their impact (Caspi et al., 1987; Gerber et al., 2018; Seery et al., 2013; Seery & Quinton, 2016). Like other biases, the thick skin bias is predicated on some true relationship between past and future experience, but it harbors systematic and important errors.

In fact, even what might appear as quintessential cases of adaptation are not so straightforward. Early and regular exposure to noise, to return to our earlier example, does not lead people to adapt; instead, it continues to produce physiological reactions (e.g., Bagley et al., 2015; Griefahn et al., 2008). Lower-SES school children experience poorer sleep—fewer sleep minutes, greater sleep/wake problems, and increased sleepiness—than their higher-SES classmates, apparently failing to habituate to noisy environments in the way psychophysical intuition might predict. While based on reasonable beliefs by well-meaning perceivers, the thick skin bias may be misapplied to circumstances that do not produce the expected adaptation, to the detriment of those who find themselves in that predicament.

Besides the ample literature documenting an increase, rather than a diminishing, of frailty and sensitivity due to repeated exposure (see, e.g., Barwood et al., 2017; Bucchianeri et al., 2014; Evans & Cassels, 2014; Seery & Quinton, 2016), a glimpse at our own items further highlights the occasional absurdity of the thick skin bias. Events we described, such as the heating system breaking in winter, a flooded apartment, tap water that needs to be filtered, or being stranded without a ride in the rain, were all rated as less intolerable or inconvenient to the poor than the rich. Obviously, it is much easier for the rich to check into a hotel when there's no heat, call someone to deal with the flood and resulting mold, pay to install a filter, hail a cab, or call a limo. Interestingly, participants in an exploratory study also thought that low-SES individuals were less sensitive to *physical pain* than their higher-SES counterparts (see Supplemental Study 6 in Appendix A for details). Though much additional research is needed on when and how the thick skin bias shapes physical pain perception—including integrating this finding with related beliefs around race (Hoffman et al., 2016; Hoffman & Trawalter, 2016), given that race and SES are intimately connected—the belief that poverty toughens people against physical pain is again contrary to what is often the case in reality (see, e.g., Chou et al., 2016; Schistad et al., 2017).

Finally, our own participants demonstrated that the thick skin bias is often wrong via their own reported reactions. In addition to rating the impact of the negative events on another individual, participants in most of our studies also rated the impact the events would have on themselves. Participants from lower-SES backgrounds (measured in terms of education, personal income, household income, or subjective social status) did not perceive themselves to be less vulnerable than participants from higher-SES backgrounds. If anything, lower-SES participants perceived the events to be *worse* than did higher-SES participants, and this pattern was

particularly robust in Study 14, where our nationally representative sample included the widest range of incomes (see Appendix A for all analyses).

Do low-SES and high-SES people display the thick skin bias to the same degree?

It could be that higher-SES people are more prone to display the thick skin bias because, for example, the idea that poverty toughens people reduces the potential discomfort of living in affluence while countless others struggle. Contrary to this possibility, however, we found no consistent relations between participant SES and the proclivity for or size of the thick skin bias across our many studies (see Appendix A for all analyses). Thus, both low- and high-SES participants appear to believe that the hardship of poverty makes the poor tougher than the rich. Perhaps, because the bias emerges from basic intuitions about adaptation, we might expect people across the SES gradient to show the same overextended intuitions. Or, it may be that low- and high-SES individuals both believe that hardship toughens people, but for different reasons. High-SES people may be motivated to believe that those living in poverty are not suffering so badly, whereas low-SES people may be motivated to derive meaning from hardship, telling themselves, as Nietzsche (1889/1997) did, that “what doesn’t kill me makes me stronger” (p. 6).

Does the thick skin bias shape how people see others relative to themselves?

The thick skin bias may also influence interpersonal judgments. Because participants in most studies rated the impact of the negative events for themselves as well as the low- or high-SES individuals, we can compare how participants perceived the experiences for themselves and for others. When we do so, we find that participants tend to think that low-SES adults would experience negative events less intensely than they themselves would, and that high-SES adults would experience them more intensely. Conversely, for positive events, participants tend to think that low-SES adults would experience those events more intensely than they, and high-SES

adults less intensely. Strikingly, those differences emerge even when participants gauge their experiences relative to those of children: adult participants perceived that they would be more harmed than low-SES 10- and 5-year-olds in the same situations, whereas they thought that high-SES 10- and 5-year-olds would be more negatively affected than they (see Appendix A for all analyses).

Implications and future directions

The thick skin bias provides a simple explanation for patterns of neglect documented throughout the social and behavioral sciences and has potentially profound implications both for policy and for everyday life. It may explain treatment disparities that privilege those of higher SES over those of lower SES, as well as systematic neglect across many institutions. If lower-SES citizens are seen as less encumbered than their higher-SES counterparts when things go wrong—and as more pleased by even trivial positive circumstances—initiatives ranging from street cleaning and public park restoration, to housing, transportation, safety, and access to clean air and water will all seem less urgent a priority for low-SES communities. After all, policymakers might reason, the poor are tough—they endure inconveniences and upsets with greater aplomb.

While we do not have direct evidence concerning active policymakers, the consistent pattern we observed across a wide range of participants, including professionals and people across the educational and SES spectra, compounded by the fact that policymakers consistently display other forms of bias and discrimination (e.g., Butler & Broockman, 2011; Costa, 2017), suggests that the thick skin bias is likely to shape the judgments of policymakers and other practitioners as well. Indeed, the thick skin bias may help fuel patterns of institutional inequality, such as those in the law, where ruinous monetary sanctions are disproportionately imposed on

low-income defendants, including some never convicted of a crime (Harris, 2016), and where affluent defendants receive lighter sentences in criminal courts (Taibbi, 2014; Western, 2006). If higher-SES defendants are seen as more distressed by punishment, it may appear that lighter sentences should suffice to achieve the same punitive effect as longer ones for lower-SES defendants.

Perhaps most consequential are the implications of the thick skin bias for the levels of concern and civility shown in the conduct of everyday life. If people in poverty are perceived as happy with less—less distressed when things go badly and more pleased when little things go well—they may, even without ill intent, receive less courtesy, less care, and less attention, along with greater neglect and disrespect. Absent callousness or malice, simply because it appears less of an urgent problem, lower-SES individuals may elicit less concern from others about their predicament. When service is slow, a thick skin bias suggests low-SES customers will be less annoyed waiting a little longer; when the doctor is overbooked, low-SES patients will be less inconvenienced by a cancelled appointment. They will be less upset when their requests are denied or when made to evacuate a rental unit, and less distraught when stopped to be frisked by the police. People in poverty, according to this account, may be treated with a lack of kindness or consideration partly because such treatment does not seem so bad. More generally, the thick skin bias may prove comforting in the face of inequality. It is easier to tolerate homelessness if people believe that the homeless suffer from it less than they themselves would. If people in poverty are relatively invulnerable, then one can worry less about the consequences of economic injustice (cf., Kay & Jost, 2003).

The effect sizes reported in our studies, frequently exceeding mean differences of one standard deviation, are notably large relative to typical findings in the behavioral sciences. Their

magnitude and replicability suggest that the effect is robust and likely to influence perception in a wide range of settings. One contributor to the ubiquity of the bias may be an imbalanced propensity to complain by those of higher versus lower SES. There is a reluctance on the part of people in poverty to “create trouble,” perhaps for fear of the backlash they might subsequently encounter. In her account of working-class experiences, for example, Tirado (2012) describes being “constantly told to know our place and not make a fuss...” because “feelings are something that only professional people are allowed to have” (p. 85). The reluctance to make trouble, a tendency of those with less power, has been similarly observed in feminist critiques (e.g., Ahmed, 2010) and in studies of older adults, who refrain from complaining in the context of medical care for fear of causing a fuss or being seen as trouble-makers (Parliamentary and Health Service Ombudsman, 2015). The tendency to refrain from complaining is likely to nurture the thick skin bias: in a world in which the poor are careful to exhibit relatively muted reactions while the rich complain, an observer might deduce that the latter are more severely inconvenienced.

A further potential contributor to the thick skin bias is that it can appear relatively benign, if not outright flattering. The suggestion that people in poverty are tough, that they are strong and resilient in contrast to the vulnerable and delicate rich, can seem respectful and empowering. Yet, it can have detrimental repercussions. The thick skin bias risks focusing attention, effort, and other resources on those who overwhelmingly receive them, while exacerbating and justifying the failure to support those most in need. Indeed, even in instances where thick skin intuitions might be correct, namely, where low-SES individuals might be less affected by negative circumstances, it is not clear that the right policy is to take such fortitude into account. The right course may be to focus on those most in need, even when they have habituated to their

difficult predicament. This raises the interesting possibility that the thick skin bias, unlike other biases or heuristics, should be avoided not only when it's wrong, but even when it's right.

Chapter 2: The Cognitive Roots of the Thick Skin Bias

People in poverty encounter mistreatment and neglect across a wide variety of life domains. Patients from lower socioeconomic status (SES) backgrounds are overlooked by mental healthcare providers (Kugelmass, 2016), lower-SES students are ignored by their teachers (Calarco, 2018), and lower-SES defendants are punished more harshly in criminal courts (Western, 2006). More broadly, lower-SES individuals are treated with less respect, care, and kindness than their higher-SES counterparts throughout everyday life (Lott, 2002). A growing literature on social class-related stereotypes and prejudice highlights negative stereotypes about people in poverty as one important source of this wide pattern of mistreatment.

Prominent accounts of SES stereotypes posit that people's negative beliefs about low-SES individuals arise from their attempts to explain the causes of poverty (Hunt & Bullock, 2016; Weiner et al., 2011). For instance, people attribute poverty to the laziness or incompetence of low-SES individuals (Cozzarelli et al., 2001; Fiske et al., 2002), or they accuse people in poverty of “free-riding” by intentionally taking advantage of welfare systems (Bullock & Reppond, 2018). This line of research has been fruitful in identifying the importance of causal attributions for class-based stereotypes and in revealing a path to changing negative beliefs about people in poverty. Indeed, by providing people with information that more accurately locates the origins of poverty in systemic factors such as insufficient wages, lack of well-paying jobs, and shrinking class mobility, researchers have been able to reduce class-based prejudice and increase support for policies designed to help low-SES individuals (McCall et al., 2017; Piff et al., 2020).

Recently, Cheek and Shafir (2020) proposed that the widespread mistreatment of people in poverty arises not only from biased beliefs about the *causes* of poverty, but also from biased

beliefs about the *effects* of poverty. They showed that people display a “thick skin bias”: they erroneously believe that people in poverty have been toughened by the hardship they experience, leading them to be less harmed by negative experiences than higher-SES individuals (Cheek, 2021b; Cheek & Shafir, 2020; Deska et al., 2020; Hoffman & Trawalter, 2016). Although this belief is false—if anything, the hardship and deprivation of poverty leaves low-SES individuals *more* rather than less vulnerable to the effects of negative events—the thick skin bias emerged in judgments about a wide range of life events, from trivial inconveniences to severe or dangerous situations. For example, participants thought that a low-SES individual would be less embarrassed than a higher-SES individual when insulted by their boss and less upset when unjustly accosted by a police officer (Cheek & Shafir, 2020). Moreover, even professionals such as customer service employees, teachers, and social workers displayed the bias (Cheek & Shafir, 2020).

The thick skin bias may contribute to many SES-based disparities and to the general neglect of low-SES individuals because it leads people to believe that these disparities and neglect are not so bad. If people in poverty are believed to be less harmed by negative experiences, then anything from being treated rudely to receiving a harsher prison sentences can be perceived as less unjust or urgent. For example, in previous research, participants have reported that they would be less likely to intervene in a domestic violence situation when the target was a lower-SES (vs. higher-SES) woman and that lower-SES (vs. higher-SES) individuals need less emotional and social support during the COVID-19 pandemic (Cheek, 2021b; Cheek et al., 2021a). Each of these judgments was predicted by participants’ belief that lower-SES individuals experienced less harm than higher-SES individuals in the same domestic violence or pandemic related situations.

Accordingly, it is important to understand the origins of the thick skin bias, both to better understand SES-based stereotypes and their effects, and to develop potential interventions to fight biased beliefs about people in poverty. The present research seeks to contribute to the literature on social class stereotypes by testing one potential underlying mechanism of the thick skin bias: overgeneralized, but otherwise reasonably accurate, folk intuitions about adaptation.

Psychophysical Adaptation Intuitions

In the heuristics and biases literature, a common explanation for flawed judgments is that people rely on beliefs that are *usually* accurate, but can lead to systematic errors when misapplied (e.g., Gilovich et al. 2002). For instance, because events that are more frequent are *usually* easier to think of, people rely on the availability heuristic to judge likelihood, which is often, but not always, reliable (Tversky & Kahneman, 1974). Cheek and Shafir (2020) proposed a similar account to partially explain the thick skin bias—namely, that people correctly understand that, in many situations, people’s perceptions and experiences are shaped by their previous level of exposure. For example, a coffee mug will feel heavier to someone who has just lifted a feather than to someone who has just lifted a 20-pound weight. As is well-documented by a longstanding literature in psychophysics (Bevan & Darby, 1955; Harvey & Campbell, 1963; Helson, 1964), this difference in perception is driven by the fact that people adapt to the weight of the object they previously held.

If people accurately intuit that someone carrying a heavier weight will perceive a new object as lighter than someone carrying a lighter weight, they may mistakenly extend this folk belief to judgments about people in poverty and affluence, similarly believing that people who have experienced the hardships, trauma, and stresses of poverty will experience a new hardship as less harmful than someone who has experienced fewer of these negative experiences. If so,

then this relatively accurate folk belief about psychophysical adaptation will be overgeneralized to situations in which previous hardship experiences exacerbate rather than mitigate the effects of new negative life events.

The Present Research

The present research investigates the possibility that the thick skin bias emerges at least in part from the tendency to overgeneralize intuitions about psychophysical adaptation to judgments about the effect of negative events on low- versus high-SES individuals. Study 1 tested whether people endorse basic psychophysical adaptation intuitions, and whether these intuitions were related to the belief that people who have experienced more (vs. less) hardship are less harmed by a variety of negative events. Study 2 then tested whether greater endorsement of psychophysical adaptation intuitions would be related to a greater tendency to display the thick skin bias. Finally, a meta-analysis of four experiments that attempted to manipulate the salience of psychophysical adaptation intuitions provides a test of the causal role of these intuitions in producing the thick skin bias.

I report all manipulations, measures, and data exclusions in the present research, and all materials, data, and analysis code are available through the Open Science Framework (https://osf.io/jquz9/?view_only=907a07391c4347f9be1418f9a996b36a). I also report how all sample sizes were determined, and, in Study 3, I open my file drawer by reporting all experiments conducted whether the predicted effects were statistically significant or not.

Study 1

In Study 1, participants completed a measure of the extent to which they endorsed intuitions about psychophysical adaptation. They also reported the extent to which they believed that someone who has experienced a lot of life hardship would be less affected by negative life

events than someone who has experienced very little life hardship. This study was pre-registered through AsPredicted.org (<https://aspredicted.org/blind.php?x=m6jp6p>).

Method

Participants. I aimed to recruit 300 participants through Amazon’s Mechanical Turk (MTurk) with the goal of achieving a final sample of at least 250, the sample size at which correlation coefficient estimates stabilize (Schönbrodt & Perugini, 2013). To be included in analyses, participants needed to pass two instructional manipulation checks (Oppenheimer et al., 2009) and confirm that they did not respond randomly. In total, 299 participants completed the study (run through TurkPrime; Litman et al., 2017), of whom 283 met these inclusion criteria. Participant demographics for all studies are presented in Appendix B.

Materials. Participants completed the following two measures in a counterbalanced order.

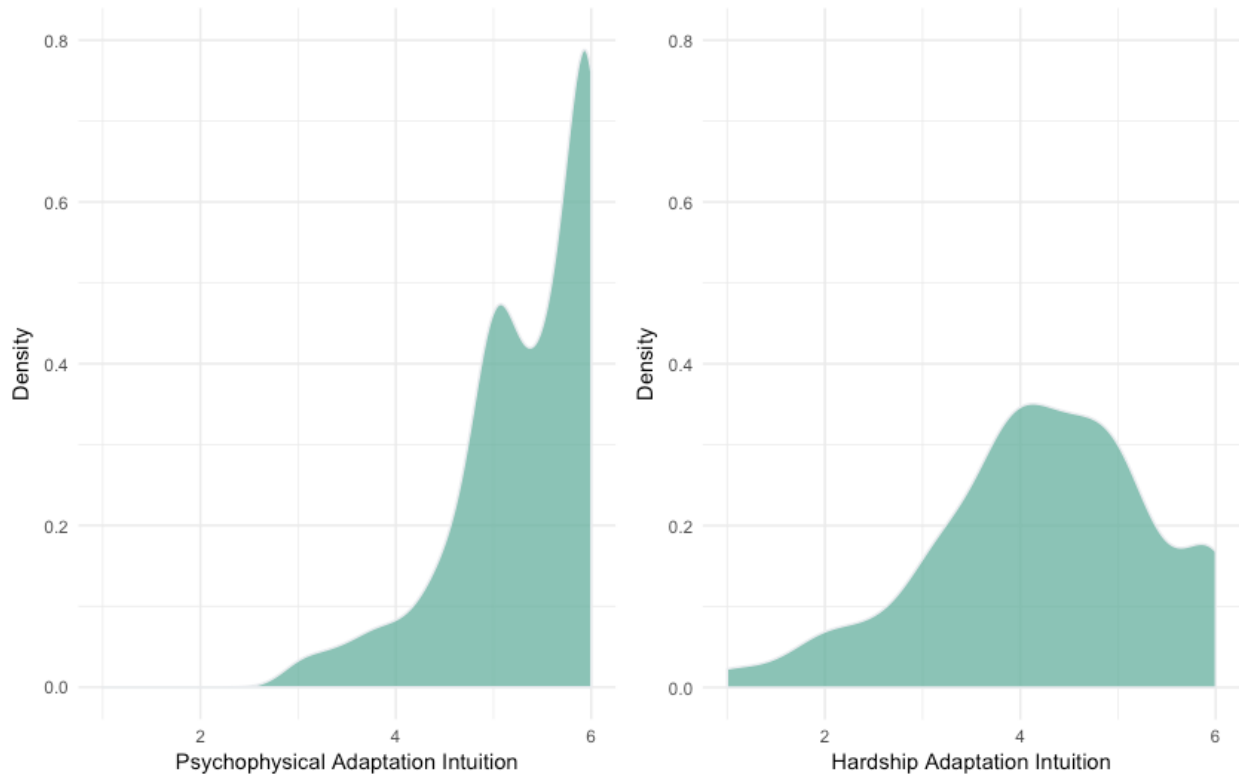
Psychophysical Adaptation Intuitions. Participants completed a 5-item measure of the strength of their intuitions about psychophysical adaptation ($\alpha = .66$). Each item asked participants to judge who would be more likely to perceive a given stimulus as more extreme—an individual who had just experienced a weak level of that stimulus, or an individual who had just experienced a strong level of that stimulus. For example, participants were asked, “To whom would a lit candle seem brighter?” and responded on a six-point scale ranging from “Definitely someone who just came inside on a very sunny day” to “Definitely someone who just left a dark room.” Higher responses thus indicate greater endorsement of the intuition that someone outside on a sunny day would likely adapt to the relatively high brightness and therefore perceive the candle as less bright than someone who was just in a dark room (Helson, 1964).

Hardship Adaptation Intuitions. Participants also completed a 5-item measure of the strength of their intuitions about adaptation to hardship ($\alpha = .71$). Each item asked participants to judge who would be more affected by a negative life event—an individual who had experienced a lot of life hardship or an individual who had experienced very little hardship. For example, participants were asked, “For whom would being treated rudely by a coworker be more upsetting?” and responded on a six-point scale ranging from “Definitely someone who has experienced a lot of hardship in life” to “Definitely someone who has experienced very little hardship in life.” Higher responses thus indicate greater endorsement of the intuition that someone who has experienced more hardship would adapt accordingly and perceive a new negative event as less harmful.

Results

Descriptive Statistics. As can be seen in Figure 1, most participants endorsed intuitions about both psychophysical adaptation and hardship adaptation relatively strongly. Indeed, 97% of participants endorsed the belief that people adapt to psychophysical experiences by becoming accustomed to previous level of exposure (i.e., had means above 3.5 on a 1-6 scale), and 76% of participants endorsed the belief that someone who had experienced very little hardship would be more affected by negative life events than someone who had experienced a great deal of hardship. The means for endorsement of psychophysical adaptation intuitions ($M = 5.34$, $SD = .71$) and hardship adaptation intuitions ($M = 4.22$, $SD = 1.14$) were both well above the scale mid-point of 3.5, t 's > 10.60 , p 's $< .001$, d 's $> .63$.

Figure 1: Distributions of Psychophysical Adaptation Intuitions and Hardship Adaptation Intuitions in Study 1



This pattern of strong intuitions is consistent with Cheek and Shafir’s (2020) finding that the thick skin bias is often quite large (i.e., $d > 1$), at least relative to typical effects in experimental social psychology (Richard et al., 2003). That is, if psychophysical adaptation intuitions are an important driver of the thick skin bias, one would expect most people to hold them at least somewhat strongly, and indeed it appears that most do.

Main Analysis. As predicted, participants who more strongly endorsed psychophysical adaptation intuitions also more strongly endorsed hardship adaptation intuitions, $r = .21$, 95% CI [.10, .32], $p < .001$. This correlation emerged despite the restricted ranges of the measures and remained robust after measures were transformed to reduce skew (see Appendix B for analyses of transformed variables). Thus, the results of Study 1 are consistent with the hypothesis that

intuitions about adaptation to psychophysical stimuli are related to intuitions about adaptation to life hardship.

Study 2

Study 2 more directly examined the role of intuitions about psychophysical adaptation in the thick skin bias by testing whether the strength of participants' endorsement of adaptation intuitions related to the extent to which they thought low-SES individuals are less harmed than higher-SES individuals by negative events.

Method

Participants. I aimed to recruit 600 participants through MTurk (using TurkPrime) based on the largest sample possible given available funding. In total, 601 participants completed the study, of whom 568 met the inclusion criteria from Study 1.

Materials. In a counterbalanced order, participants completed the psychophysical adaptation intuition measure from Study 1 and judged how negatively affected a low-SES and a high-SES individual would be by a series of negative life events. Using materials adapted from Cheek and Shafir (2020; see also Hoffman & Trawalter, 2016) and a within-subject design, participants read a description of two individuals (target gender and order were counterbalanced between participants). In the low-SES condition, participants read the following description:

Jordan was born and raised in a large city in the U.S. Jordan has experienced many financial difficulties in his [her] life. He and his [She and her] 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.

In the high-SES condition, participants read the following description:

Thomas [Tanya] was born and raised in a large city in the U.S. Thomas [Tanya] has not experienced any financial difficulties in his [her] life. He and his [She and her] siblings were raised by parents who comfortably supported them by working well-paying jobs. Thomas's [Tanya's] family is financially stable; they never struggle to have enough money for food, rent, or other basic things.

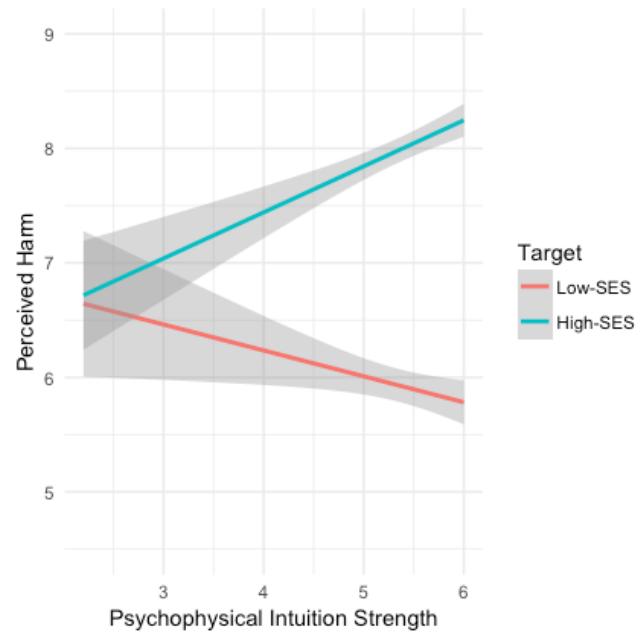
In both conditions, after reading the description, participants rated how affected the individual would be by 11 negative events. For example, participants read, “Jordan is mocked and insulted by his [her] boss” and rated how embarrassing this would be for Jordan on a scale from 0 (not at all embarrassing) to 10 (extremely embarrassing). Each event was rated on a adjective, such as how embarrassing, hurtful, or upsetting it would be for the target, and ratings for the events were averaged together to create a perceived harm index for both the low-SES target ($\alpha = .89$) and the high-SES target ($\alpha = .88$).

Results

The size of the thick skin bias was operationalized as the difference between harm ratings for the high-SES target and low-SES target, with higher numbers indicating a larger bias. In line with Cheek and Shafir’s (2020) results, the thick skin bias emerged robustly, with the average difference score ($M = 2.05$, $SD = 2.09$) lying well above zero, $t(567) = 23.43$, $p < .001$, $d = .98$, 95% CI [.90, 1.07]. Most participants (85%) displayed the thick skin bias to at least some extent.

Participants who more strongly endorsed psychophysical adaptation intuitions displayed a larger thick skin bias, $r = .22$, 95% CI [.14, .30], $p < .001$ (see Figure 2). Stronger adaptation intuitions were related to perceptions of greater harm for the high-SES target, $r = .22$, 95% CI [.14, .30], $p < .001$, and lower perceptions of harm for the low-SES target, $r = -.10$, 95% CI [-.18, -.01], $p = .024$. As in Study 1, these correlations emerged despite the restricted range of the psychophysical intuitions measure and remained significant after transformations (see Appendix B for details).

Figure 2: Thick Skin Bias by Psychophysical Intuitions Strength in Study 2



Discussion

Study 2 provides direct evidence linking psychophysical adaptation intuitions and the thick skin bias: the more participants endorsed adaptation intuitions, the more they displayed the thick skin bias. This finding fits with the hypothesis that the thick skin bias emerges at least in part from psychophysical intuitions about adaptation, but Study 2's correlational design does not afford causal conclusions. The following experiments attempt to build on Studies 1 and 2 by manipulating the salience of participants' intuitions about psychophysical adaptation, with the prediction that making adaptation intuitions less (vs. more) salient would reduce the thick skin bias. If so, these experiments would provide evidence for the causal role of adaptation intuitions in the thick skin bias.

Studies 3a-3d

Studies 3a-3d sought to manipulate the mechanism to test the causal influence of psychophysical intuitions on the thick skin bias. In four experiments with similar designs,

participants were randomly assigned to read a prime intended to make intuitions about psychophysical adaptation either more or less salient. If adaptation intuitions underlie the thick skin bias, making them less (vs. more) salient should reduce the bias. Because of their similarities, I conducted a meta-analysis across the four experiments to integrate their results and to increase statistical power (Goh et al., 2016). Increasing power is particularly important when attempting, as in the present experiments, to detect attenuating interaction effects, which often requires much larger sample sizes than used in typical social psychology experiments (Blake & Gangestad, 2020; Simonsohn, 2014).

Method

Participants. All participants were recruited through Prolific. Unsure of what effect size to predict, sample size was intended to allow for the detection of moderate-to-large effects within the available budget. 351, 805, 603, and 1,000 participants completed Studies 3a-3d, respectively, of whom 340, 734, 557, and 840 met the inclusion criteria from previous studies. Participants in Study 3d additionally had to confirm they had read the assigned article (see below) and that they only took the study once.

Study 3a Materials and Procedure. Participants were first randomly assigned to read one of two articles. In the *intuition-consistent condition*, participants read a fabricated excerpt from an ostensible popular science article titled “Adaptation and Experience,” which described purported research showing that people typically adapt to their circumstances. This article included an example that claimed that someone who had just lifted a heavy bag would find a mid-weight bag lighter than someone who had just lifted a very light bag, thus highlighting psychophysical adaptation (which is generally true; Helson, 1964).

Participants in the *intuition-inconsistent condition* instead read a fabricated article titled “Sensitivity and Experience,” which described purported research showing that people typically do not adapt to their circumstances, but rather become *more* sensitive after repeated exposure to stimuli. This article included an example that claimed that someone who has experienced a lot of physical pain would become more sensitive to pain rather than adapting to it (which can sometimes be true; Woolf, 2011).

After reading the article, participants in both conditions answered two filler questions about the article (“In 1-2 sentences, please describe the main point or topic of the article you just read,” and “How interesting was the article you just read,” answered on a scale from 0 (not at all) to 4 (extremely)). Finally, participants completed a between-subjects version of the thick skin bias ratings from Study 2 in which they rated how negatively affected either a male or female low- or high-SES individual would be by 11 negative events. As in Study 2, participants’ ratings were averaged to create a perceived harm index.

Study 3b Materials and Procedure. Study 3b was a direct replication of Study 3a and was pre-registered through AsPredicted.org (<https://aspredicted.org/blind.php?x=ah8cz5>).

Study 3c Materials and Procedure. Participants were again randomly assigned to read one of two articles, both of which were titled “Why Past Experience Matters.” As in Studies 3a-3b, the article in the *intuition-consistent condition* provided information consistent with psychophysical adaptation, whereas the article in the *intuition-inconsistent condition* provided information intended to counter this intuition. In this case, the former article reported that people adapt to high levels of noise exposure, whereas the latter article reported that people do not adapt, and may in fact become more sensitive to noise after repeated exposure. (Whether people do or do not adapt to noise exposure appears to vary across contexts; Griefahn et al., 2008;

Millar & Steels, 1990.) Participants next answered the same filler questions used in Studies 3a-3b. Finally, participants completed the within-subject version of the thick skin bias ratings from Study 2, with one exception—one item related to noise exposure (“Jordan is kept awake by noise outside his [her] bedroom and only gets a few hours of sleep”) was not included due to its similarity to the experimental manipulation. Study 3c was pre-registered through AsPredicted.org (<https://aspredicted.org/blind.php?x=3uh6vi>).

Study 3d Materials and Procedure. As in previous studies, participants were randomly assigned to read one of two excerpts. In this study, the excerpts were of purported stories in which workers talked about how noisy it was to work near the airport. In the *intuition-consistent condition*, the story featured one character explaining to another that employees typically adapted to the level of noise such that it stopped sounding so loud, whereas in the *intuition-inconsistent condition*, the story featured a character explaining that employees typically did not adapt to the level of noise and in fact often became more sensitive to it as time went on. After reading the story, participants completed two filler questions and then read an additional passage that summarized the story and noted that “the experiences described by Greg and Peter [characters from the story] are actually well-studied findings in psychology,” and that their experiences are true. Finally, participants completed the same thick skin materials used in Study 3c.

Results

Results from Individual Studies. Descriptive statistics from all four studies are presented in Table 1. In Studies 3a and 3b, the main prediction was an interaction from a 2 (article condition: intuition-consistent vs. intuition-inconsistent) $\times$ 2 (target SES condition: low-SES vs. high-SES) between-subjects ANOVA (see Table 2 for all effects from ANOVAs). This

interaction was significant in Study 3a, but was not significant in Study 3b. In Studies 3c and 3d, the main prediction was similarly an interaction between article condition and target SES condition, though from a 2×2 mixed ANOVA with target SES condition as a within-subjects variable. This interaction was marginally significant in Study 3c and significant in Study 3d.

Internal Meta-Analysis. To test the moderating effect of article condition across Studies 3a-3d, I conducted a fixed effects meta-regression using the metafor package (Viechtbauer, 2010) for R (R Core Team, 2017). Article condition was coded as 0 = intuition consistent condition, 1 = intuition inconsistent condition. This analysis yielded a significant moderating effect of article condition: $b = -.19$ ($SE = .07$), 95% CI $[-.32, -.06]$, $z = -2.87$, $p = .004$. Thus, across studies, manipulations intended to make psychophysical intuitions less salient reduced the thick skin bias by about a fifth of a standard deviation.

Exploratory Analyses. In each study, participants were asked to summarize the passage they read immediately after seeing the passage. As an exploratory approach to excluding participants who did not meaningfully engage with the manipulation, we followed Cheek (2021b) and excluded participants who provided nonsensical summaries (coded by a research assistant blind to hypotheses and purpose of the study). From Studies 3a-3d, we excluded, respectively, an additional 4 (1.2%), 16 (2.2%), 45 (8.1%), and 24 (2.9%) participants based on nonsensical summaries.

After excluding these participants who provided summaries indicative of inattention, we conducted the same 2×2 ANOVAs (see Tables 1 and 2 for details). The predicted interaction remained significant in Studies 3a and 3d and became significant in Study 3c. The predicted interaction remained nonsignificant in Study 3b. As before, the meta-analytic effect of article

condition was significant across the four studies, $b = -.21$ ($SE = .07$), 95% CI $[-.34, -.08]$, $z = -3.09$, $p = .002$.

Discussion

Integrating across four experiments, an internal meta-analysis (Goh et al., 2016) suggests that presenting participants with information inconsistent with psychophysical intuitions reduced the thick skin bias. Given both the strength with which participants in Studies 1 and 2 reported holding psychophysical intuitions and the typical size of the thick skin bias, it is perhaps unsurprising that minimal intuition-inconsistent primes did not have a large effect. People may hold—reasonably accurate—psychophysical intuitions strongly enough that a brief passage presenting opposing information cannot dramatically shift their judgments enough to reduce the thick skin bias to a greater extent. Nonetheless, the significant meta-analytic effect provides some evidence in support of the hypothesis that briefly weakening psychophysical intuitions can reduce the thick skin bias.

Table 1: Descriptive Statistics from Studies 3a-3d

Study	Low-SES Target	High-SES Target	<i>t</i> -test	<i>d</i> [95% CI]
Planned Analyses				
Study 3a				
Intuition-Consistent Condition	5.98 (1.60)	7.42 (1.32)	$t(164) = 6.34, p < .001$	.98 [.66, 1.31]
Intuition-Inconsistent Condition	6.30 (1.58)	7.11 (1.45)	$t(172) = 3.52, p = .001$	.53 [.23, .84]
Study 3b				
Intuition-Consistent Condition	5.90 (1.82)	7.24 (1.53)	$t(350.57) = 7.61, p < .001$	.80 [.58, 1.01]
Intuition-Inconsistent Condition	6.19 (1.80)	7.39 (1.47)	$t(357.92) = 7.04, p < .001$	.73 [.52, .94]
Study 3c				
Intuition-Consistent Condition	5.52 (1.74)	7.85 (1.20)	$t(277) = 21.33, p < .001$	1.28 [1.12, 1.44]
Intuition-Inconsistent Condition	5.68 (1.65)	7.73 (1.31)	$t(278) = 16.79, p < .001$	1.01 [.86, 1.16]
Study 3d				
Intuition-Consistent Condition	5.74 (1.76)	7.80 (1.45)	$t(428) = 19.44, p < .001$	.94 [.80, 1.08]
Intuition-Inconsistent Condition	5.92 (1.69)	7.67 (1.49)	$t(410) = 16.11, p < .001$	.79 [.65, .94]
Exploratory Analyses				
Study 3a				
Intuition-Consistent Condition	5.98 (1.61)	7.44 (1.34)	$t(161) = 6.28, p < .001$	.98 [.66, .131]
Intuition-Inconsistent Condition	6.30 (1.59)	7.11 (1.45)	$t(171) = 3.51, p = .001$	.53 [.23, .84]
Study 3b				
Intuition-Consistent Condition	5.89 (1.81)	7.27 (1.51)	$t(338.61) = 7.83, p < .001$	.83 [.62, 1.05]
Intuition-Inconsistent Condition	6.23 (1.80)	7.44 (1.41)	$t(345.91) = 7.14, p < .001$	.75 [.53, .96]
Study 3c				
Intuition-Consistent Condition	5.50 (1.72)	7.86 (1.17)	$t(266) = 21.73, p < .001$	1.33 [1.14, 1.52]
Intuition-Inconsistent Condition	5.74 (1.58)	7.70 (1.29)	$t(244) = 15.87, p < .001$	1.01 [.83, 1.20]
Study 3d				
Intuition-Consistent Condition	5.75 (1.74)	7.82 (1.44)	$t(417) = 19.32, p < .001$	.94 [.80, 1.09]
Intuition-Inconsistent Condition	5.93 (1.68)	7.68 (1.50)	$t(397) = 15.79, p < .001$	.79 [.65, .94]

Note. SDs provided in parentheses.

Table 2: Results from ANOVAs in Studies 3a-3d

	Main Effect of Target SES	Main Effect of Article	Target SES $\times$ Article Interaction
Planned Analyses			
Study 3a	$F(1, 336) = 48.54, p < .001,$ $\eta_p^2 = .12, 90\% \text{ CI } [.08, .18]$	$F(1, 336) = .00, p = .967,$ $\eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$	$F(1, 336) = 3.91, p = .049,$ $\eta_p^2 = .01, 90\% \text{ CI } [.00, .04]$
Study 3b	$F(1, 730) = 107.11, p < .001,$ $\eta_p^2 = .13, 90\% \text{ CI } [.09, .17]$	$F(1, 730) = 3.21, p = .074,$ $\eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$	$F(1, 730) = .33, p = .566,$ $\eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Study 3c	$F(1, 555) = 714.57, p < .001,$ $\eta_p^2 = .56, 90\% \text{ CI } [.52, .60]$	$F(1, 555) = .04, p = .836,$ $\eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$	$F(1, 555) = 3.06, p = .081,$ $\eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$
Study 3d	$F(1, 838) = 630.27, p < .001,$ $\eta_p^2 = .43, 90\% \text{ CI } [.39, .47]$	$F(1, 838) = .11, p = .737,$ $\eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$	$F(1, 838) = 4.16, p = .042,$ $\eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$
Exploratory Analyses			
Study 3a	$F(1, 332) = 47.92, p < .001,$ $\eta_p^2 = .12, 90\% \text{ CI } [.08, .18]$	$F(1, 332) = .00, p = .975,$ $\eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$	$F(1, 332) = 3.91, p = .049,$ $\eta_p^2 = .01, 90\% \text{ CI } [.00, .04]$
Study 3b	$F(1, 714) = 112.22, p < .001,$ $\eta_p^2 = .14, 90\% \text{ CI } [.10, .17]$	$F(1, 714) = 4.25, p = .040,$ $\eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$	$F(1, 714) = .51, p = .476,$ $\eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Study 3c	$F(1, 510) = 694.63, p < .001,$ $\eta_p^2 = .58, 90\% \text{ CI } [.53, .61]$	$F(1, 510) = .16, p = .690,$ $\eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$	$F(1, 510) = 5.80, p = .016,$ $\eta_p^2 = .01, 90\% \text{ CI } [.00, .03]$
Study 3d	$F(1, 814) = 614.17, p < .001,$ $\eta_p^2 = .43, 90\% \text{ CI } [.39, .47]$	$F(1, 814) = .08, p = .773,$ $\eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$	$F(1, 814) = 4.39, p = .036,$ $\eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$

General Discussion

Six studies investigated the role of folk intuitions about psychophysical adaptation in the tendency to believe that low-SES individuals are less harmed by negative events than higher-SES individuals. In Study 1, people with stronger psychophysical intuitions were also more likely to believe that people adapt to life hardship, and participants in Study 2 with stronger psychophysical intuitions displayed a larger thick skin bias. Finally, an internal meta-analysis of attempts to manipulate the salience of psychophysical intuitions in Studies 3a-3d provided initial evidence that these folk intuitions may play a causal role in the thick skin bias. Taken together, the present studies suggest (1) that many people hold reasonably accurate intuitions about psychophysical adaptation and (2) that these intuitions can be overgeneralized to the context of poverty and life hardship, leading to the thick skin bias.

Theoretical Implications

In their exploration of the thick skin bias, Cheek and Shafir (2020) showed that the bias is often relatively large in magnitude, shapes judgments about people of different genders, races, ethnicities, and ages, and taints the judgment of lay people and professionals in customer service, education, and mental healthcare contexts. The present research builds on this demonstration of the breadth of the thick skin bias to provide theoretical insight into its underlying psychological mechanisms. By providing evidence for the role of overgeneralized psychophysical intuitions in the bias, the present work connects the thick skin bias to the larger literature in the heuristics and biases tradition in which systematic patterns of flawed judgments sometimes emerge from intuitions that are often relatively accurate (Gilovich et al., 2002; Kahneman, 2003; Tversky & Kahneman, 1974). In this case, people's intuitions about psychophysical adaptation are likely generally correct, in that they conform to principles and findings from the scientific literature on

adaptation to reference levels of different perceptual stimuli (Helson, 1964). When overgeneralized to the context of poverty, however, these folk intuitions can result in a flawed “hardship-breeds-toughness” heuristic (Cheek & Shafir, 2020) that causes the thick skin bias. Accordingly, the thick skin bias need not arise from malice or apathy toward people in poverty; rather, reasonably accurate intuitions can bias the judgments of even those, such as social workers, who do not feel explicit prejudice toward low-SES individuals.

The present work further underlines the differences between beliefs about the causes of poverty and beliefs about the effects of poverty. Whereas most research on the origins of social class stereotypes focuses on attributions about why some people live in poverty, the present studies contribute to a more recent literature that reveals that stereotypes also emerge from people’s reasoning about the socioecological context in which others live their daily lives (e.g., Williams et al., 2016). More specifically, the present research suggests that the psychological roots of the thick skin bias likely differ in meaningful ways from those of attribution-related stereotypes.

One important implication of this difference is that, although interventions targeting stereotypes about the causes of poverty can reduce prejudice and shift policy attitudes (McCall et al., 2017; Piff et al., 2020), they may not be fully effective if they leave stereotypes about the effects of poverty unchecked. For example, people may honestly believe that people in poverty are competent, hardworking, and deserving of government support, but if they *also* believe that people in poverty have been toughened such that they are less harmed by negative events, they may still not support some aggressive policy interventions or fully understand the implications of the widespread neglect and mistreatment encountered by low-SES individuals. Efforts toward reducing social class-based prejudice and pursuits of social justice must therefore take into

account different psychological mechanisms, including reasoning about the effects of poverty that is biased by folk intuitions about adaptation.

Limitations and Future Directions

Given the online U.S. samples recruited in the present research, the extent to which the present findings generalize to non-U.S. cultural contexts is an open question for future research. It may be expected that, because much of the perceptual experience of psychophysical adaptation is shared across humans in different cultural contexts, folk intuitions about psychophysical adaptation are relatively similar across many societies. However, it may not always be true that these folk intuitions are overgeneralized to judgments about people in poverty. Indeed, narratives around hardship and poverty differ across societies and across generations (e.g., Dagdeviren et al., 2017), and thus even if psychophysical intuitions generalize across diverse contexts, their role in person perception may not.

Future research should also continue to explore other potential causes of the thick skin bias. For example, the role of motivated reasoning in social class stereotypes is well-documented (e.g., the motivation to believe in a just world; Furnham & Gunter, 1984; Hafer & Sutton, 2016; Hunt & Bullock, 2016), and Cheek and Shafir (2020) suggested that, by minimizing the perceived suffering of people in poverty, the thick skin bias may serve a similar motivational function. People experiencing hardship may also be motivated to construct a personal narrative of their experiences that finds meaning in unfair and difficult circumstances, and believing that “what doesn’t kill you makes you stronger” may both provide that narrative meaning and lead to the thick skin bias (Cheek & Shafir, 2020; Lilgendahl & McAdams, 2011; McAdams & McLean, 2013). More deeply understanding the causes of the thick skin bias, as well as other potential beliefs about the effects of poverty, will contribute both to theories of social class stereotypes

and to applied efforts to reduce them, and accordingly represents a pressing agenda for future research on poverty, economic inequality, and social justice.

Chapter 3: The Thick Skin Bias in Judgments About Gender-Based Violence

In recent years, the MeToo movement has amplified the voices of victims of sexual harassment and abuse, bringing violence against women into the national spotlight and spurring greater concerns about and care for many victims. Yet, critics have argued that the MeToo movement has centered the experiences and pain of affluent, educated women, while marginalizing the harassment and abuse encountered by women of lower socioeconomic status (SES; Riley, 2018; Williams, 2020). The relative invisibility of lower-SES women in the context of social movements focusing on gender-based violence is particularly problematic because they experience such violence both more *frequently* and more *severely*, but it is just one example of a broader pattern of systematic institutional and interpersonal neglect of lower-SES victims (Kristen et al., 2015; Morgan & Kena, 2018; Slabbert, 2017; Tjaden & Thonennes, 2000).

Indeed, low-SES women systematically receive fewer resources and less information about how to pursue justice after experiencing sexual harassment, as well as less interpersonal support (Kristen et al., 2015). Legal precedent in the U.S. also formally discounts the effects of harassment faced by low-wage workers relative to that faced by higher-wage workers (Kristen et al., 2015). Similarly, low-SES victims of domestic abuse encounter greater barriers when seeking help or a means of escape from abusive relationships (Josephson, 2002; Kurz, 1998; Sokoloff & Dupont, 2016). The neglect low-SES victims of gender-based violence experience is especially harmful because it can further exacerbate financial problems and causes job loss, social rejection or isolation, and physical and mental health problems (Chan et al., 2008; Coker et al., 2002; Goodman et al., 2009; Howard et al., 2010; McLaughlin et al. 2007). The profound consequences of sexual harassment and domestic abuse for low-SES women raise the question:

Why are lower-SES victims of gender-based violence disproportionately neglected despite experiencing it more frequently and severely?

The present research seeks to provide a novel answer to this question by integrating emerging findings on perceptions of people in poverty with the literature on gender-based violence. Previous research on the neglect of women experiencing sexual harassment and domestic abuse has typically focused on mechanisms specific to the context of gender-based violence. These proposed mechanisms include: tendencies to attribute victimization to lower-SES women's greater presumed promiscuity (Spencer, 2016), tendencies to discount gender-based violence when women are perceived to diverge from traditional gender roles (e.g., by being less feminine, less warm, or more masculine; Buchanan et al., 2008; Goh et al., 2021; Schuller et al., 2010), and tendencies to engage in victim blaming (Bryant & Spencer, 2003; De Judicibus & McCabe, 2001). Diverging from this previous work, we suggest that the neglect of lower-SES victims of gender-based violence may also emerge from a more general tendency to discount the pain of people in poverty.

Specifically, we propose that the widespread inattention to low-SES victims of harassment and abuse may arise in part from the biased assumption that people in poverty feel less emotional and physical pain when experiencing negative events (Cheek & Shafir, 2020). In reality, previous experience with poverty, hardship, and trauma make people *more* vulnerable to the effects of future negative events (Barwood et al., 2017; Bucchianera et al., 2014; Cheek & Shafir, 2020; Evans & Cassells, 2014). Yet, people appear to believe that poverty is “toughening,” such that those experiencing financial precarity adapt to hardship and develop a “thick skin” (Cheek, 2021a; Cheek & Shafir, 2020; Deska et al., 2020; Hoffman & Trawalter, 2016). For example, people judge lower-SES individuals to be less upset, distressed, or hurt than

higher-SES individuals when mocked by their boss, confronted by a police officer, or insulted by a new acquaintance (Cheek & Shafir, 2020). People even perceived the everyday effects of the COVID-19 pandemic, such as prolonged separation from loved ones and isolation in homes, as less upsetting for people in poverty (Cheek, 2021b). We suggest that this “thick skin bias” in perceptions of low-SES individuals likely extends to judgments about sexual harassment and domestic abuse, and may thus help explain why lower-SES victims encounter greater neglect and mistreatment when they experience gender-based violence.

The Present Research

In three studies, we tested the prediction that people display a thick skin bias in judgments about gender-based violence, such that they perceive sexual harassment and domestic abuse to be less harmful for lower-SES women. In Study 1, participants judged how negatively affected a low-SES or a high-SES woman would be by a series of sexual harassment and domestic abuse events. We also included ratings of positive events to distinguish between the thick skin bias account—which predicts that people judge lower-SES individuals to be less affected by negative but not by positive events—with a dehumanization account—which predicts that people judge lower-SES individuals to be less affected by both negative and positive events (e.g., Loughnan et al., 2014).

In Study 2, we tested whether perceptions that low-SES victims are less affected by gender-based violence would relate to two forms of neglect: (1) the belief that perpetrators of harassment against a low-SES target should be punished less severely than those targeting higher-SES women with the same behaviors and (2) the belief that low-SES victims of domestic abuse were in need of less help than higher-SES victims experiencing the same situations. Study 2 also included measures of promiscuity, femininity and masculinity, warmth and competence,

physical attractiveness, and victim blaming to test whether a thick skin bias account explains the neglect of low-SES victims over and above existing explanations in the gender-based violence literature.

Finally, in Study 3, we tested whether people believe that low-SES victims of gender-based violence need less comfort after experiencing sexual harassment or domestic abuse. Interpersonal support is a crucial potential buffer of the devastating physical and emotional effects of violence (Carlson et al., 2002; Cortina, 2004; Tan et al., 2002; van Emmerik et al., 2007), and—given how often victims of harassment or abuse lack institutional routes to assistance and justice—may be one of the few forms of help even available to many victims. As in Study 2, we include measures of potential alternative explanations to test the novel explanatory power of the thick skin bias. For all studies, we report all measures, manipulations and exclusions, and all materials, data, and code are available through the Open Science Framework (https://osf.io/2r57c/?view_only=814d3a78bccf473f894b2c2fb4bef3cd).

Study 1

In our first study, participants rated how harmful sexual harassment and domestic abuse events would be for either a low-SES or a high-SES woman. We predicted that participants would think that these gender-based violence events would be less harmful for the low-SES woman. Participants also rated the impact of three positive events. Whereas a dehumanization account would predict that participants think that the low-SES woman would be less affected by the positive events as well, our thick skin bias account makes the prediction that only the negative events will be perceived as less impactful for the low-SES woman.

Method

Participants. We used CloudResearch (Litman et al., 2017) to recruit 600 participants through Amazon’s Mechanical Turk (MTurk). To be included in analyses, participants had to pass two instructional manipulation checks (Oppenheimer et al., 2009) and confirm that they did not respond randomly. In total, 547 participants met these criteria. Three hundred and nine participants were women, 237 were men, and one did not identify within this binary. The average age of participants was 36.57 ($SD = 11.95$) and ranged from 18 to 82 (see Appendix C for some additional demographics). Because we were unsure of what effect size to predict, we aimed to recruit a large enough sample to detect moderate-to-small effect sizes; our final sample provided an 80% chance of detecting an effect as small as $d = .24$ with $\alpha = .05$.

Materials and Procedure. Participants were randomly assigned to read about a woman named Jordan, who was described as having been born and raised in a large city in the U.S. using descriptions from Cheek and Shafir (2020). To prevent participants from drawing inferences about Jordan’s race based on associations between race and poverty (e.g., Lei & Bodenhausen, 2017), Jordan was shown to be a White woman (image from Minear & Park, 2004). Participants in the *low-SES condition* ($n = 109$) additionally read that Jordan lived in poverty:

Jordan has experienced many financial difficulties in her life. She and her 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.

Participants in the *high-SES condition* ($n = 109$) instead read that Jordan lived more comfortably:

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

After reading about Jordan, participants rated what Jordan would experience in six gender-based violence situations. Three situations involved sexual harassment (“Jordan’s coworker tells her

‘Your ass sure looks great in that outfit;’” “Jordan’s coworker tells her ‘I sure would love to see you butt-naked in my bed;’” “Jordan’s coworker makes sex jokes in front of her”) and three involved domestic abuse (“Jordan’s partner insults her;” “Jordan’s partner tells her ‘Do what I say or I will hurt you;’” “Jordan is slapped by her partner”). For each item, participants rated how negatively Jordan would be affected on a scale from 0 (not at all) to 10 (extremely). Each event was rated on an emotional reaction, such as how annoyed, upset, distressed, or traumatized Jordan would feel. We averaged the three harassment items ($\alpha = .85$) and three abuse items ($\alpha = .85$) to create composite indices of perceived harm for each type of violence.

Additional Measures. Participants also rated how affected Jordan would be by three positive events (“Jordan’s boss compliments her work;” “Jordan receives several thoughtful cards on her birthday from family and friends;” “Jordan eats a tasty meal;” $\alpha = .78$) to distinguish between the predictions of thick skin and dehumanization accounts. Participants further rated how affected Jordan would be by three physically painful events (“Jordan knocks her head on a piece of furniture;” “Jordan spills boiling water on herself;” “Jordan gets her fingers caught in a car door;” $\alpha = .83$). Because physical pain perceptions are not central to the present research, we report these ratings in Appendix C.

Participants in most of Cheek and Shafir’s (2020; see also Hoffman & Trawalter, 2016) studies rated the effects of negative events not just for a target, but also for themselves. Following their design, participants in Study 1 also rated how affected they would be by the sexual harassment, domestic abuse, positive, and physically painful events. This permits us to compare judgments of the self and judgments of the target, though because such analyses are not central to the present research, we report them in Appendix C.

Finally, after completing all other measures, participants answered two manipulation check questions. First, they rated Jordan's perceived social class (1 = poor; 2 = working class; 3 = middle class; 4 = upper middle class; 5 = upper class). Second, they estimated Jordan's annual income on an 11-item scale from ranging from less than \$10,000 to more than \$100,000.

Results

Manipulation Check. The SES manipulation was successful: in the low-SES condition, participants judged the woman to be of lower social class ($M_{\text{low-SES}} = 1.69$, $SD_{\text{low-SES}} = .60$, $M_{\text{high-SES}} = 3.83$, $SD_{\text{high-SES}} = .64$), $t(545) = 40.31$, $p < .001$, $d = 3.45$, 95% CI [3.18, 3.71], and to earn a lower annual income ($M_{\text{low-SES}} = 3.43$, $SD_{\text{low-SES}} = 1.64$, $M_{\text{high-SES}} = 8.15$, $SD_{\text{high-SES}} = 2.00$), $t(528.32) = 30.14$, $p < .001$, $d = 2.57$, 95% CI [2.35, 2.80].³

Primary Analyses. As predicted, participants thought that the sexual harassment events would be less harmful for the low-SES woman ($M = 7.92$, $SD = 1.94$) than for the high-SES woman ($M = 8.41$, $SD = 1.63$), $t(525.38) = 3.20$, $p = .001$, $d = .27$, 95% CI [.11, .44]. Participants similarly thought that the domestic abuse events would be less harmful for the low-SES woman ($M = 8.35$, $SD = 1.64$) than for the high-SES woman ($M = 8.83$, $SD = 1.40$), $t(529.36) = 3.62$, $p < .001$, $d = .31$, 95% CI [.14, .48]. Contrary to a dehumanization account, participants thought the positive events would be *more* impactful for the low-SES woman ($M = 8.95$, $SD = 1.36$) than for the high-SES woman ($M = 8.37$, $SD = 1.40$), $t(545) = -4.96$, $p < .001$, $d = -.42$, 95% CI [-.59, -.25].

Discussion

The results of Study 1 support our prediction that participants would display a thick skin bias in judgments about gender-based violence: participants judged both sexual harassment and

³ Where degrees of freedom are fractionated, we use Welch's *t*-test because of unequal variances.

domestic abuse to be less harmful for a lower-SES woman. Because there was no such difference for the positive events, our results are inconsistent with a dehumanization account, which would predict that people report that a lower-SES woman would generally experience weaker reactions, regardless of valence. Instead, our results are consistent with the interpretation that people believe that the hardship of poverty toughens low-SES women, such that they are less impacted by future negative events. Having established the basic thick skin bias in this context, we investigated whether the bias could explain why people neglect lower-SES women who experience sexual harassment and domestic violence above and beyond potential alternative explanations from previous research.

Study 2

In our second study, we sought to link the thick skin bias to neglect of low-SES victims in terms of punishment of harassment perpetrators and bystander intervention for domestic abuse. Participants rated the impact of harassment and abuse events as in Study 1, as well as the appropriate level of punishment and intervention, respectively, for those events. We predicted that, when the victim was low-SES, people would think that harassment should be punished less severely and that domestic abuse required less dramatic intervention. Additionally, we predicted that these effects would be mediated by perceptions of lower harm of harassment and abuse for the low-SES victim. Finally, we attempted to rule out alternative explanations by measuring perceptions of promiscuity, femininity and masculinity, warmth and competence, physical attractiveness, and victim blaming and including them as covariates in analyses when relevant. This study was pre-registered through AsPredicted.org (<https://aspredicted.org/blind.php?x=an6yf6>).

Method

Participants. We aimed to use CloudResearch to recruit 900 participants through MTurk to achieve a final sample of at least 788, providing an 80% chance of detecting an effect as small as $d = .20$ with $\alpha = .05$. In total, 899 participants completed the study, of whom 825 met the inclusion criteria described in Study 1. There were 508 women, 300 men, and 17 participants who did not identify within this binary. The average age of participants was 36.69 ($SD = 12.11$) and ranged from 18 to 77 (see Appendix C for additional demographics).

Materials and Procedure. As in Study 1, participants were randomly assigned to read about either a low-SES or a high-SES woman named Jordan. They then rated how negatively affected Jordan would be by the sexual harassment and domestic abuse events from Study 1. In this study, however, participants additionally provided judgments about downstream consequences of these gender-based violence events. For each sexual harassment event, participants rated how severely the perpetrator should be punished on a 9-point scale from “no punishment” to “termination” (from Goh et al., 2021). For each domestic abuse event, participants rated the extent to which a bystander should intervene on a 9-point scale from “not get involved” to “call 911.” Ratings for levels of punishment ($\alpha = .81$) and intervention ($\alpha = .69$) were averaged to create composites across events.

Additional Measures. Participants again rated how affected Jordan would be by the three positive events and the three physically painful events from Study 1. To maintain consistency across different kinds of events, participants also rated downstream reactions for the positive and painful events. For painful events, participants rated the appropriate level of pain treatment on a scale from 1 (do nothing) to 8 (go to the emergency room). For brevity, we report analyses of physical pain ratings and treatment recommendations in Appendix C. The downstream reactions for positive events were filler items (we pre-registered that we would not analyze them).

Participants also completed self-ratings for each item, analyses of which we report in Appendix C.

To rule out alternative explanations for the effect of target SES on punishment and intervention judgments, participants also completed measures of perceived promiscuity, physical attractiveness, perceived femininity and masculinity, warmth and competence, and victim blaming. Participants were asked to rate how masculine, feminine, warm (composite of tolerant, warm, sincere, and friendly), competent (composite of competent, intelligent, confident, and independent), and attractive Jordan was on scales from 1 (not at all) to 7 (very). Participants rated the likelihood that Jordan was promiscuous on an 11-point scale from 0% to 100%. Finally, participants rated how much Jordan was to blame for how her coworker treated her and for how her partner treated her on scales from 1 (not at all) to 7 (very much).

Results

Descriptive statistics and *t*-test from Study 2 are presented in Table 1.

Table 1: Means (SDs) of Measures and Analyses from Study 2

Measure	Low-SES Condition	High-SES Condition	<i>t</i> -test
Social Class Manipulation Check	1.80 (.65)	3.71 (.65)	$t = 42.22, p < .001, d = 2.94 [2.74, 3.14]$
Income Manipulation Check	3.60 (1.55)	7.77 (2.05)	$t = 33.05, p < .001, d = 2.29 [2.11, 2.46]$
Sexual Harassment Harm	7.99 (1.89)	8.38 (1.56)	$t = 3.31, p = .001, d = .23 [.09, .37]$
Sexual Harassment Punishment	3.84 (2.05)	4.04 (1.98)	$t = 1.43, p = .153, d = .10 [-.04, .24]$
Domestic Abuse Harm	8.03 (1.78)	8.44 (1.47)	$t = 3.67, p < .001, d = .26 [.12, .39]$
Domestic Abuse Intervention	4.38 (1.70)	4.68 (1.60)	$t = 2.58, p = .010, d = .18 [.04, .32]$
Positive Event Effects	9.06 (1.14)	8.43 (1.39)	$t = 7.07, p < .001, d = -.49 [-.63, -.35]$
Masculinity	2.91 (1.36)	2.63 (1.21)	$t = -3.06, p = .002, d = -.21 [-.35, -.08]$
Femininity	5.06 (1.15)	5.34 (1.11)	$t = 3.55, p < .001, d = .25 [.11, .38]$
Warmth	4.97 (.88)	4.82 (1.03)	$t = -2.19, p = .029, d = -.14 [-.27, .00]$
Competence	4.86 (.97)	5.11 (.97)	$t = 3.71, p < .001, d = .26 [.12, .40]$
Physical Attractiveness	4.76 (1.20)	4.77 (1.25)	$t = .10, p = .920, d = .01 [-.13, .14]$
Promiscuity	3.60 (2.11)	3.95 (2.12)	$t = 2.34, p = .019, d = .16 [.03, .30]$
Victim Blaming (Harassment)	1.40 (1.02)	1.45 (1.13)	$t = .64, p = .522, d = .04 [-.09, .18]$
Victim Blaming (Abuse)	1.48 (1.04)	1.53 (1.15)	$t = .65, p = .519, d = .04 [-.09, .18]$

Manipulation Check. The SES manipulation was successful: participants judged the woman to be of lower social class and to earn a lower annual income in the low-SES condition.

Primary Analyses. As in Study 1, participants thought that the low-SES woman would be less harmed than the high-SES woman by both the sexual harassment events and the domestic abuse events. Participants in the low-SES condition also thought that a lower level of intervention was necessary for domestic abuse. Judgments of appropriate level of punishment did not differ significantly between SES conditions.

Ruling Out Alternative Explanations. We first examined the effect of SES on potential alternative explanations for judgments of appropriate intervention for domestic abuse. SES condition affected judgments of masculinity, femininity, warmth, competence, and promiscuity, but not judgments of attractiveness, victim blaming for harassment, or victim blaming for abuse. Next, we examined whether potential alternative explanations were related to judgments of appropriate intervention (see Table 2). Ratings of femininity, warmth, competence, and attractiveness were significantly related to judgments of appropriate intervention. Because ratings of femininity, warmth, and competence were related to both target SES condition and intervention judgments, we followed our pre-registration and tested the effect of SES condition on intervention judgments while including these three measures as covariates. The effect of SES condition remained significant, $F(1, 820) = 4.93, p = .027, \eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$.⁴

⁴ The effect of SES condition on judgments of appropriate punishment remained nonsignificant when including these covariates, $F(1, 820) = .71, p = .399, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$.

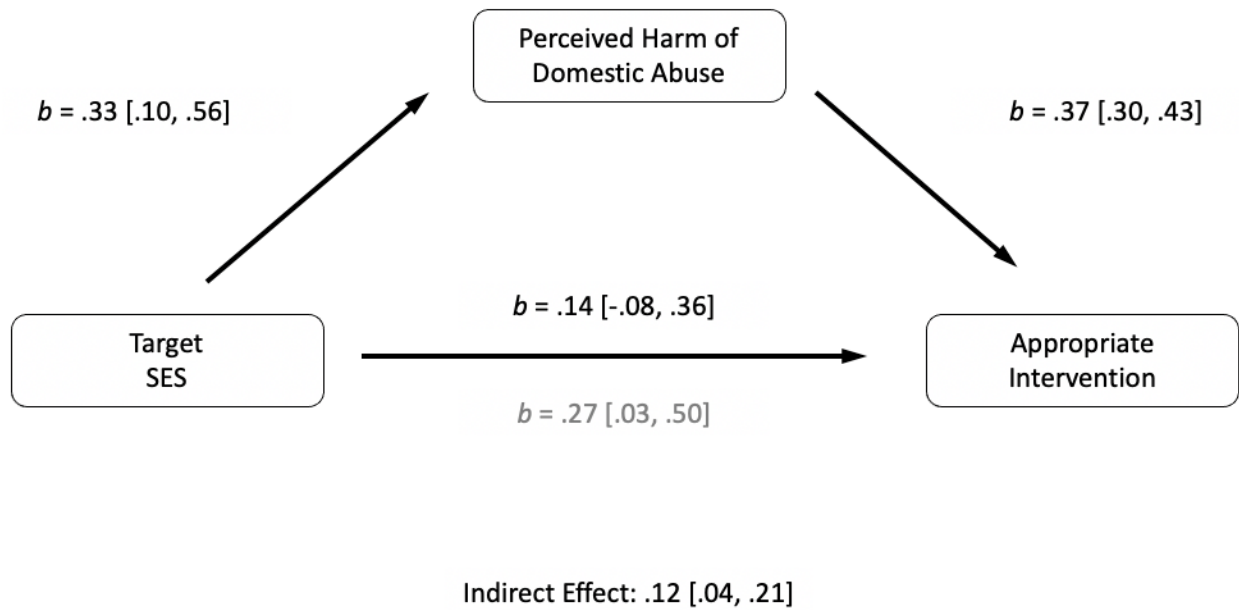
Table 2: Correlations among Downstream Judgments and Potential Alternative Explanations in Study 2

Measure	Harassment Punishment	Abuse Intervention
Masculinity	$r = -.02, p = .561$	$r = -.02, p = .593$
Femininity	$r = .10, p = .003$	$r = .12, p = .001$
Warmth	$r = .09, p = .009$	$r = .09, p = .012$
Competence	$r = .13, p < .001$	$r = .10, p = .004$
Attractiveness	$r = .07, p = .054$	$r = .13, p < .001$
Promiscuity	$r = -.02, p = .665$	$r = -.07, p = .056$
Victim blaming (Harassment)	$r = .12, p < .001$	--
Victim blaming (Abuse)	--	$r = -.05, p = .142$

Mediation Analysis. We theorized that the perception that domestic violence was less harmful for the lower-SES woman would mediate the effect of SES on judgments of appropriate intervention for that abuse. Accordingly, we conducted a bootstrap mediation analysis with 5,000 samples using the PROCESS function for R (Hayes, 2018), including ratings of femininity, warmth, and competence as covariates. Perceived harm of domestic abuse significantly mediated the effect of SES condition on judgments of appropriate abuse intervention (see Figure 1).⁵

⁵ Although SES condition did not affect judgments of appropriate punishment for sexual harassment, we followed Hayes' (2018) suggestion to nonetheless examine whether an indirect effect of SES condition on punishment through harm perceptions emerged. Even when including ratings of femininity, warmth, and competence as covariates, a significant indirect effect emerged: .16, 95% CI [.04, .28].

Figure 1: Mediation Model Predicting Domestic Abuse Intervention in Study 2



Note. The total effect is shown in gray. Brackets indicate 95% confidence intervals of estimates. Coefficients are unstandardized.

Discussion

Study 2 replicated and extended the results of Study 1 by examining whether the thick skin bias could explain the neglect disproportionately encountered by lower-SES victims of gender-based violence. In the context of domestic abuse, participants believed that a lower-SES woman was in need of less help than a higher-SES woman (though in most cases the opposite would likely be true; Josephson, 2002; Kurz, 1998; Sokoloff & Dupont, 2016). This belief was mediated by the perception that the domestic abuse events were less harmful for a lower-SES woman, an effect that remained even after accounting for potential alternative explanations from the gender-based violence literature. Thus, the thick skin bias may provide a novel explanation for the neglect of women in poverty who experience domestic abuse.

In the context of sexual harassment, we did not observe the predicted effect of SES on perceived appropriate punishment for perpetrators. One possibility is that the punishment scale we used was miscalibrated for the given experimental context. We used Goh et al.'s (2021) scale, but in their work, participants read only that sexual harassment had taken place, rather than the specific events described in Study 2. Thus, it may be that this scale generally involved punishments that our participants viewed as inappropriate or perhaps too severe—the relatively low means in both conditions are consistent with the possibility of a floor effect. We aimed to address this possibility in Study 3 by using a new punishment scale that asked participants how severe disciplinary action should be from “not at all” to “extremely” without specifying specific repercussions. Study 3 also incorporated an additional form of neglect—the belief that lower-SES victims are less in need of interpersonal support from those around them.

Study 3

In our third study, we investigated whether the perception that gender-based violence is less harmful for lower-SES women would explain perceptions that lower-SES victims of domestic abuse and sexual harassment are less in need of comfort than higher-SES victims. We further included a revised punishment scale to explore whether people also believe that perpetrators of harassment against lower-SES victims should be punished less severely. This study was pre-registered through AsPredicted.org (<https://aspredicted.org/blind.php?x=iy3a9z>).

Method

Participants. We aimed to use CloudResearch to recruit 900 participants through MTurk based on the power analysis from Study 2. In total, 900 participants completed the study, of whom 853 met the inclusion criteria described in previous studies. Five hundred and sixteen participants were women, 321 were men, and 16 did not identify within this binary. The average

age of participants was 35.55 ($SD = 11.61$) and ranged from 18 to 76 (see Appendix C for additional demographics).

Materials and Procedure. The materials and procedure mirrored those in Study 2 with three exceptions. First, instead of judging the appropriate level of intervention for each domestic abuse event, participants instead judged how much comfort Jordan would need after each event (“How much comfort would Jordan need [e.g., from friends, family, etc.] in this situation?”; $\alpha = .87$) on a scale from 0 (very little) to 10 (a great deal). Participants similarly rated how much comfort Jordan would need after each sexual harassment event ($\alpha = .87$) and each physically painful event ($\alpha = .81$). Second, participant also judged the appropriate level of punishment for the perpetrator of each harassment event, but, unlike in Study 2, the scale did not specify specific repercussions. Rather, participants rated “How severely should Jordan’s coworker be disciplined for this behavior?” on a scale from 0 (not at all) to (10) extremely ($\alpha = .85$). Third, participants rated different filler items after each positive event, which, as in Study 2, we did not plan to analyze. All other measures, including all measures of potential alternative explanations, were the same, and we again report the results for physically painful events and for comparisons between self-ratings and target ratings in Appendix C.

Results

Descriptive statistics and t -test from Study 2 are presented in Table 1.

Table 3: Means (SDs) of Measures and Analyses from Study 3

Measure	Low-SES Condition	High-SES Condition	<i>t</i> -test
Social Class Manipulation Check	1.78 (.62)	3.76 (.63)	$t = 46.44, p < .001, d = 3.18 [2.98, 3.38]$
Income Manipulation Check	3.39 (1.39)	7.67 (2.10)	$t = 35.05, p < .001, d = 2.40 [2.23, 2.58]$
Sexual Harassment Harm	8.07 (1.71)	8.49 (1.62)	$t = 3.69, p < .001, d = .25 [.12, .39]$
Sexual Harassment Comfort	5.78 (2.57)	6.75 (2.42)	$t = 5.66, p < .001, d = .39 [.25, .52]$
Sexual Harassment Punishment	7.73 (1.96)	7.84 (2.06)	$t = .80, p = .425, d = .05 [-.08, .19]$
Domestic Abuse Harm	8.50 (1.52)	8.82 (1.32)	$t = 3.40, p = .001, d = .23 [.10, .37]$
Domestic Abuse Comfort	6.78 (2.49)	7.71 (2.06)	$t = 5.93, p < .001, d = .41 [.27, .54]$
Positive Event Effects	9.09 (1.21)	8.39 (1.44)	$t = -7.52, p < .001, d = -.52 [-.66, -.39]$
Masculinity	3.01 (1.39)	2.76 (1.29)	$t = -2.76, p = .006, d = -.19 [-.32, -.05]$
Femininity	4.96 (1.31)	5.27 (1.12)	$t = 3.74, p < .001, d = .26 [.12, .39]$
Warmth	4.99 (.96)	4.86 (.95)	$t = -1.99, p = .047, d = -.11 [-.25, .02]$
Competence	4.96 (.97)	5.07 (.95)	$t = 1.56, p = .118, d = .11 [-.03, .24]$
Physical Attractiveness	4.70 (1.32)	4.64 (1.22)	$t = -.75, p = .452, d = .05 [-.08, .19]$
Promiscuity	4.29 (2.23)	4.16 (2.06)	$t = -.83, p = .404, d = -.06 [-.19, .08]$
Victim Blaming (Harassment)	1.55 (1.20)	1.50 (1.05)	$t = -.68, p = .496, d = -.05 [-.18, .09]$
Victim Blaming (Abuse)	1.65 (1.51)	1.59 (1.09)	$t = -.86, p = .391, d = -.06 [-.19, .08]$

Manipulation Check. The SES manipulation was successful: participants judged the woman to be of lower social class and to earn a lower annual income in the low-SES condition.

Primary Analyses. As in the previous studies, participants thought that the low-SES woman would be less harmed than the high-SES woman by both the sexual harassment events and the domestic abuse events. Participants also thought that the low-SES target would need less comfort after both sexual harassment and domestic violence. Judgments of appropriate level of punishment did not differ significantly between SES conditions.

Ruling Out Alternative Explanations. SES condition affected judgments of masculinity, femininity, and warmth, but not judgments of competence, attractiveness, promiscuity, or victim blaming. Femininity and warmth, but not masculinity, were significantly related to perceptions of how much comfort the woman needed after experiencing sexual harassment (see Table 4). Accordingly, we followed our pre-registration and tested the effect of SES condition on the level of comfort needed after harassment while including these two measures as covariates. The effect of SES condition remained significant, $F(1, 848) = 27.16, p < .001, \eta_p^2 = .03, 90\% \text{ CI } [.01, .05]$. In addition to femininity and warmth, masculinity was significantly related to the perceived level of comfort needed after domestic abuse events. The effect of SES condition remained significant when including these three measures as covariates $F(1, 848) = 29.33, p < .001, \eta_p^2 = .03, 90\% \text{ CI } [.02, .06]$.⁶

⁶ The effect of SES condition on judgments of appropriate punishment remained nonsignificant when including these covariates, $F(1, 848) = .09, p = .764, \eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$.

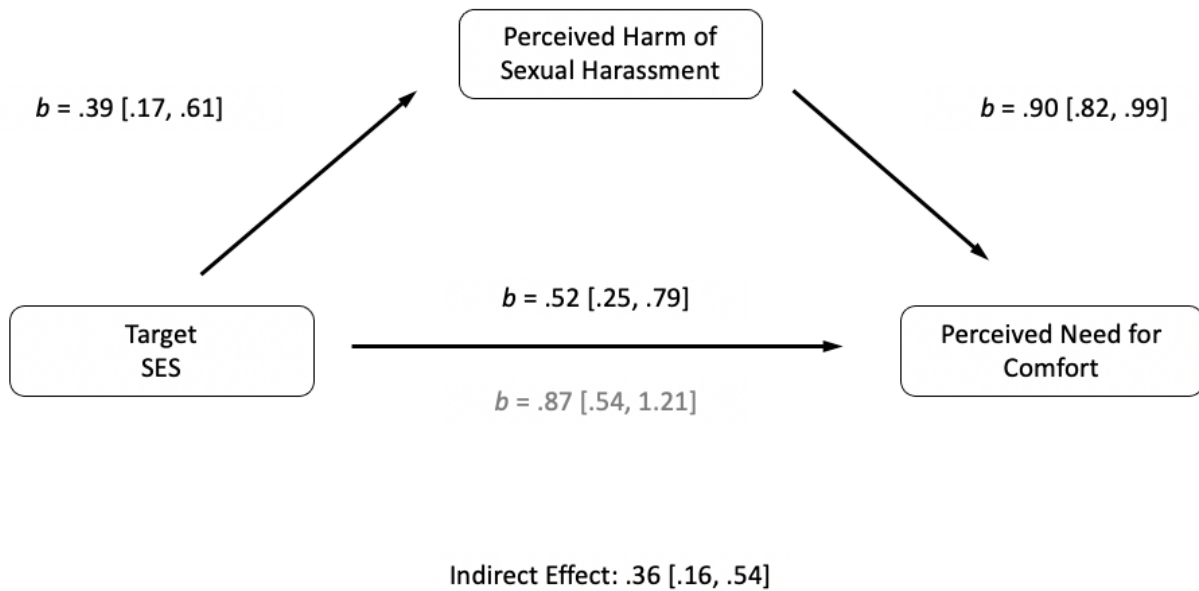
Table 4: Correlations among Downstream Judgments and Potential Alternative Explanations in Study 3

Measure	Harassment Comfort	Harassment Punishment	Abuse Comfort
Masculinity	$r = -.05, p = .131$	$r = -.09, p = .007$	$r = -.10, p = .004$
Femininity	$r = .22, p < .001$	$r = .21, p < .001$	$r = .23, p < .001$
Warmth	$r = .13, p < .001$	$r = .21, p < .001$	$r = .16, p < .001$
Competence	$r = .09, p = .006$	$r = .22, p < .001$	$r = .16, p < .001$
Attractiveness	$r = .10, p = .005$	$r = .16, p < .001$	$r = .12, p = .001$
Promiscuity	$r = .02, p = .602$	$r = -.07, p = .029$	$r = -.04, p = .222$
Victim blaming (Harassment)	$r = .02, p = .486$	$r = -.12, p = .001$	--
Victim blaming (Abuse)	--	--	$r = -.07, p = .050$

Mediation Analyses. We theorized that the perception that sexual harassment and domestic abuse was less harmful for the lower-SES woman would mediate the effect of target SES on judgments of how much comfort victims need after both kinds of events. We conducted a bootstrap mediation analysis with 5,000 samples using the PROCESS function for R (Hayes, 2018), including ratings of femininity and warmth in the case of sexual harassment, and femininity, warmth, and masculinity in the case of domestic abuse. Perceived harm of harassment and abuse mediated the effects of SES on the perceived level of comfort victims need after both kinds of gender-based violence (see Figures 2 and 3).⁷

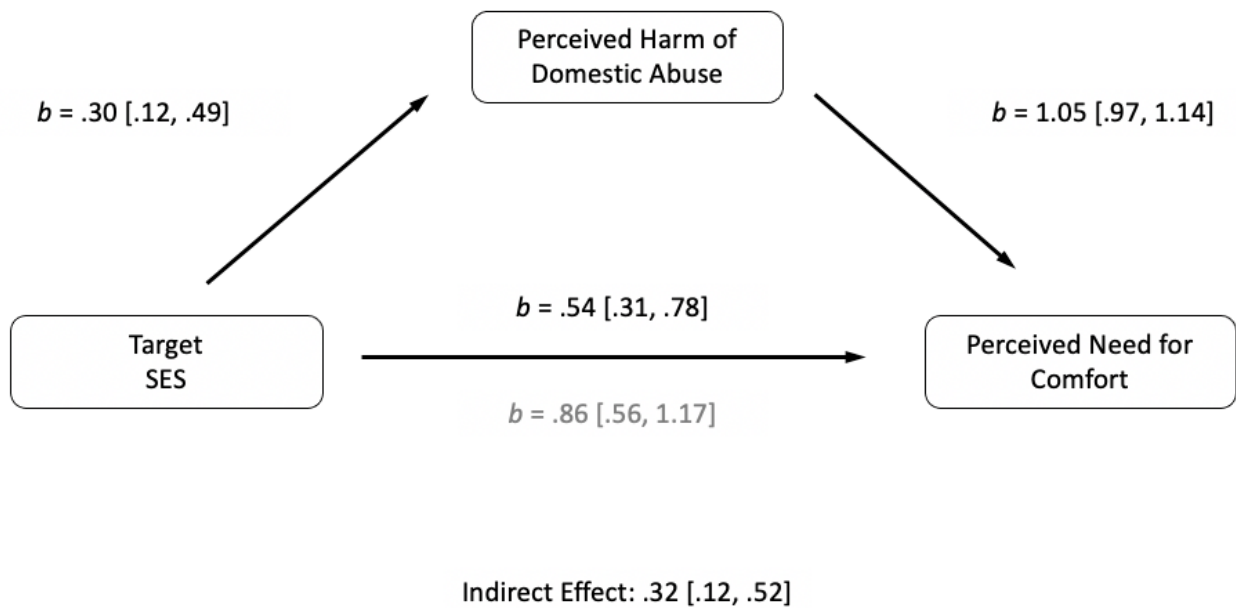
⁷ Although SES condition did not affect judgments of appropriate punishment for sexual harassment, we followed Hayes' (2018) suggestion to nonetheless examine whether an indirect effect of SES condition on punishment through harm perceptions emerged. Even when including ratings of femininity, warmth, and competence as covariates, a significant indirect effect emerged: .32, 95% CI [.14, .49].

Figure 2: Mediation Model Predicting Comfort After Sexual Harassment in Study 3



Note. The total effect is shown in gray. Brackets indicate 95% confidence intervals of estimates. Coefficients are unstandardized.

Figure 3: Mediation Model Predicting Comfort After Domestic Abuse in Study 3



Note. The total effect is shown in gray. Brackets indicate 95% confidence intervals of estimates. Coefficients are unstandardized.

Discussion

The results of Study 3 supported our proposal that the thick skin bias provides a novel mechanism to explain why people neglect lower-SES victims of gender-based violence. Participants believed that a low-SES woman would need less comfort than a higher-SES woman after experiencing both sexual harassment and domestic abuse. This judgment was mediated by the belief that these violent acts would be less harmful for a lower-SES woman, consistent with our thick skin bias explanation. Moreover, this pattern of results held even when accounting for other mechanisms proposed by the gender-based violence literature.

Somewhat surprisingly, we did not find an effect of SES on perceived appropriate punishment in either Study 2 or Study 3 (though there were significant indirect effects in mediation models including perceived harm as a mediator). Previous research has found that other victim characteristics, such as femininity, are related to judgments of appropriate punishment (Goh et al., 2021), but it appears that SES may not be one such characteristic. Of our dependent variables, however, punishment may, unfortunately, also be the least relevant to the majority of harassment victims. Indeed, only extremely rarely do perpetrators face any repercussions at all; for example, perpetrators are more likely to be struck by lightning than to lose their jobs (Dobbin & Kalev, 2020). In contrast, receiving interpersonal support is a more accessible and frequent outcome for victims with important implications for well-being after harassment (Carlson et al., 2002; Cortina, 2004; Tan et al., 2002; van Emmerik et al., 2007). The possibility that those around lower-SES victims perceive them to be less in need of such essential comfort and care may have devastating implications for victims who as a result of this perception are not offered the support they desperately need.

General Discussion

Across three studies, we found consistent evidence that people discount the gender-based violence experienced by lower-SES women. Consistent with recent research on the thick skin bias (Cheek & Shafir, 2020), participants thought that sexual harassment and domestic abuse would be less harmful for lower-SES women. Perceptions of lower harm mediated the perception that lower-SES victims of domestic abuse were in need of less help from bystanders in Study 2 and the perception that victims of both sexual harassment and domestic abuse were in need of less emotional support in Study 3. In both studies, we ruled out potential alternative explanations for judgments about bystander intervention and interpersonal support, including a dehumanization account and perceptions of promiscuity, masculinity and femininity, warmth and competence, physical attractiveness, and victim blaming. Furthermore, previous work on the thick skin bias has ruled out the possibility that judgments are driven entirely by perceptions of the increased vulnerability of higher-SES people (Cheek & Shafir, 2020, Study 2) or by perceptions that low-SES people simply expect worse events and are therefore less harmed by them (Cheek & Shafir, 2020, Study 4). In sum, the thick skin bias provides new insight into the neglect and dismissal disproportionately encountered by lower-SES victims of gender-based violence.

The present research also contributes to the growing literature on the thick skin bias (Cheek, 2021a, 2021b; Cheek & Shafir, 2020) by extending it to new domains and by revealing new potential downstream consequences. Indeed, the findings that perceptions of harm from violent acts predicted downstream judgments about behavioral intervention and interpersonal support underline the potentially profound implications of the thick skin bias for explaining and perpetuating inequality. An important future direction for work on both the thick skin bias and

inequalities in gender-based violence is to determine strategies to reverse the perception that people in poverty are less affected by negative events than are those in affluence. Indeed, given the present research, it may not be possible to achieve equitable and just outcomes for low-SES victims of gender-based violence without addressing the thick skin bias. Future work should also examine the judgments of policymakers and others with power to influence the outcomes of gender-based violence events, such as judges and police officers. The thick skin bias may be especially harmful if it leads those with the greatest power to help victims to neglect those victims most in need of help.

Because our studies relied on convenience samples of online participants from the U.S., we do not know the extent to which our findings generalize to other populations and cultural contexts. However, Cheek and Shafir (2020) found that professionals such as customer service employees, teachers, and social workers all displayed the bias, as did participants in a nationally-representative sample of the U.S. population. Accordingly, there is reason to believe that our findings may generalize to professionals and lay people at least across the U.S. Nonetheless, as research on inequalities in the context of sexual harassment and domestic abuse continues, understanding how biased perceptions maintain and magnify disparities across different cultural contexts, as well as how such biases may be addressed, is an urgent priority.

Chapter 4: The Thick Skin Bias in Judgments About the Everyday Effects of the COVID-19 Pandemic

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 coronavirus is the “great equalizer” (e.g., Jones & Jones, 2020), its effects are not universal—some, such as people in poverty, are disproportionately suffering. Indeed, individuals from low-socioeconomic status (SES) backgrounds face not only a heightened risk of contracting and dying from COVID-19 (Wadhwa et al., 2020), but a more severe financial crisis and a greater burden in everyday life than those from higher-SES backgrounds (e.g., Fernandez, 2020; North, 2020; Valentino-DeVris et al., 2020; von Braum et al., 2020; Wade, 2020).

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. But people in poverty are more deeply affected by the pandemic in many other ways that are perhaps less immediately obvious. 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 (e.g., DeParle, 2020).

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). Yet, people often display a “thick skin bias,” such that they believe that low-SES individuals have been “toughened” by the hardship of poverty, reducing the impact of new negative events (Cheek & Shafir, 2020; see also Deska et al., 2020; Hoffman & Trawalter, 2016). Laypeople and professionals (e.g., social workers) alike falsely believe that negative life events, from everyday inconveniences, like getting caught in the rain, to more severe problems, like being falsely accused of a crime by the police, are felt more deeply by higher-SES individuals than by lower-SES individuals (Cheek & Shafir, 2020). In reality, past hardship, trauma, and poverty typically *exacerbate* rather than mitigate the effects of future negative events (e.g., Evans & Cassels, 2014; Gerber et al., 2018; Seery & Quinton, 2016), but people appear to rely on a misleading “hardship breeds toughness” heuristic that leads to this bias.

Might people also display a thick skin bias in judgments about the everyday effects of the pandemic? Such a bias could have potentially far-reaching consequences. If people in poverty are perceived to be suffering less than higher-SES individuals, they may be seen as less in need of comfort and assistance as well. From a theoretical perspective, it would suggest a fundamental misunderstanding in perceptions of the implications of global crises for people in poverty. From a policy perspective, it may reduce the perceived urgency of passing relief measures and otherwise addressing SES disparities in the pandemic’s everyday effects.

The present research investigates the possibility of a thick skin bias in perceptions of the pandemic’s everyday effects. Studies 1-3 find that people believe that low-SES individuals are less harmed than higher-SES individuals by several effects of the pandemic, and that low-SES

individuals may, therefore, be less in need of emotional support from those around them. Studies 2-3 further explore whether this thick skin bias generalizes across judgments of both White and Black individuals. Higher-SES Black people are also often seen as having “thicker skin” than higher-SES White people (because of similar beliefs about the toughening effects of hardship and poverty; Cheek & Shafir, 2020; Deska et al., 2020). Higher-SES White individuals may thus be perceived as most in need of comfort in the face of the everyday effects of the pandemic, even though low-SES Black individuals are perhaps most negatively affected in reality (e.g., Grinstein-Weiss & Gupta, 2020; Oppel et al., 2020; Yancy, 2020).

The proliferation of news coverage describing the disproportionate effect of the coronavirus on people in poverty suggests that journalists believe that information will help people understand how SES shapes life in a pandemic. That is, journalists may be writing to help the public realize that people in poverty are especially harmed by pandemic-related life changes. Studies 4a-4b explore the potential debiasing effect of an informational prime, showing that reading news coverage about the unequal effects of the pandemic indeed reduces the thick skin bias in judgments about its everyday impact. Finally, Study 5 tests whether the effect of information primes generalizes to reduce the thick skin bias in judgments about events unrelated to the pandemic as well.

Study 1

Study 1 tested the basic hypothesis that people believe the everyday effects of 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. In this and all subsequent studies, we report all measures, manipulations, and sample size determinations. Data, materials, and analysis code for

all studies are available through the Open Science Framework (OSF):

https://osf.io/8ub2j/?view_only=a514ade4547c42a29a5ac541155da0f8.

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, we planned to have enough power to detect substantially smaller effects. We aimed to recruit 300 participants with the goal of achieving a final sample of at least 199 to allow for an 80% chance of detecting a small effect of $d = .20$ with an alpha of .05 in a within-subjects design. We recruited 301 participants through Amazon's Mechanical Turk (MTurk) using TurkPrime (Litman et al., 2017), of whom 223 met the inclusion criteria (passing three attention check questions and confirming nonrandom responding). The average age of participants was 35.02 (range 18-75) and there were 100 women, 122 men, and one person who did not identify as a woman or a man. Additional demographic characteristics (e.g., ethnicity, political orientation) are reported in Appendix D.

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).

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.

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

Results

Consistent with the thick skin bias, participants believed 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]. Thus, people appear to show a thick skin bias in perceptions of the pandemic's emotional consequences.

Study 2

Study 2 extended Study 1 by using a between-subjects design and by varying the race and gender of the target to explore the effect of SES for White and Black targets, as well as for male and female targets. Study 2 was pre-registered through AsPredicted.org: <https://aspredicted.org/blind.php?x=67a94b>.

Method

Participants

Unsure of what effect size to predict for interactions, we 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. We recruited 702 participants in total, of whom 621 met the inclusion criteria from Study 1. The average age of participants was 36.70 (range 18-76) and there were 352 women, 266 men, and 3 people who did not identify as women or men.

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 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 ($\alpha = .88$).⁸

Results

Descriptive statistics for Study 2 are presented in Table 2.

Table 2: Average Perceived Harm by Target Condition in Study 2

	Low-SES Target		High-SES Target	
	Male Target	Female Target	Male Target	Female Target
White Target	5.83 [5.31, 6.34]	5.67 [5.16, 6.18]	7.84 [7.51, 8.17]	7.39 [6.96, 7.83]
Black Target	6.04 [5.54, 6.55]	5.91 [5.34, 6.47]	6.66 [6.32, 7.01]	7.59 [7.20, 7.98]

Note. 95% confidence interval given in brackets.

Pre-registered Primary Analysis

As predicted, participants believed that the low-SES target would be less affected by the negative events than the high-SES target, $t(560.99) = 9.21, p < .001, d = .75, 95\% \text{ CI } [.58, .91]$.

Exploratory Analyses

To further explore this bias, we conducted a 2 (target SES: low vs. high) $\times$ 2 (target gender: man vs. woman) $\times$ 2 (target race: White vs. Black) ANOVA on the composite harm index. For brevity, we report effects involving target SES; see Appendix D for all effects of

⁸ In Studies 2 and 3, participants rated how affected they would be by the events. For brevity, these results are presented in the Appendix D.

target race and gender independent of target SES. There was a large main effect of target SES, $F(1, 613) = 89.09, p < .001, \eta_p^2 = .13, 90\% \text{ CI } [.09, .17]$, and though SES condition did not interact with target gender, $F(1, 613) = 1.48, p = .224, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$, there was an interaction between target SES and race, $F(1, 613) = 5.07, p = .025, \eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$. This interaction was further qualified by a significant three-way interaction between target SES, race, and gender, $F(1, 613) = 4.45, p = .035, \eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$.

In brief, the interaction between target SES and race reflects the fact that the effect of target SES was smaller when the target was Black than when the target was White, consistent with previous findings on the perception of even relatively high-SES Black individuals as lower-SES than equivalently-described White individuals (e.g., Cheek & Shafir, 2020, Study 14). However, the three-way interaction emerged because the interaction between target SES and race was significant for male targets ($p = .001$) but not for female targets ($p = .924$). Importantly, the lower-SES target was perceived as less harmed than the higher-SES target whether the target was a Black man, Black woman, White man, or White woman, all p 's $< .05$, all d 's $> .31$ (see Appendix D for further details).

Discussion

As in Study 1, participants believed that lower-SES targets would be less affected by pandemic-related negative events, though this effect was smaller for judgments about Black men than for judgments about White men. In Study 3, we replicated and extended Study 2 by asking participants to report not only the perceived harm of the negative events but also how much comfort a low- or high-SES target would need in each situation.

Study 3

Study 3 was pre-registered through AsPredicted.org:

<https://aspredicted.org/blind.php?x=5be2jn>.

Method

Participants

Following the same logic as in Study 2, we aimed to recruit 700 participants through MTurk. We recruited 701 participants, of whom 603 met the inclusion criteria from previous studies. The average age of participants was 36.05 (range 18-72) and there were 344 women, 255 men, and 4 people who did not identify as women or men.

Materials and Procedure

Study 3 replicated Study 2 with one difference. For each event, participants rated not only how negatively the target would feel ($\alpha = .85$), but also 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 ($\alpha = .92$). We predicted that participants would believe the low-SES target needed less comfort in addition to being less harmed than the high-SES target.

Results

Descriptive statistics for Study 3 are presented in Table 3.

Table 3: Average Perceived Harm and Need for Comfort by Target Condition in Study 3

Perceived Harm	Low-SES Target		High-SES Target	
	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 Comfort Needed				
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.

Perceived Harm

Pre-Registered Primary Analysis. As in Study 2, participants believed that the low-SES target would be less harmed by the negative events than the high-SES target, $t(601) = 7.69, p < .001, d = .63, 95\% \text{ CI } [.46, .79]$.

Exploratory Analyses. We further conducted a 2 (target SES) $\times$ 2 (target gender) $\times$ 2 (target race) ANOVA on the composite harm index. For brevity, we report effects involving target SES; see Appendix D for all effects of target race and gender independent of target SES. As before, there was a large main effect of target SES, $F(1, 595) = 58.84, p < .001, \eta_p^2 = .09, 90\% \text{ CI } [.06, .13]$. Target SES did not interact with target gender, $F(1, 595) = .11, p = .735, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$, and the three-way interaction between target SES, gender, and race found in Study 2 did not replicate in this study, $F(1, 595) = 1.05, p = .306, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$. However, there was a significant interaction between target SES and race, $F(1, 595) = 10.16, p = .002, \eta_p^2 = .02, 90\% \text{ CI } [.00, .04]$. 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, $t(306) = 7.69, p < .001, d = .88, 95\% \text{ CI } [.64, 1.11]$, and when presented with a Black target, $t(293) = 3.18, p = .002, d = .37, 95\% \text{ CI } [.14, .60]$, but the effect of SES was larger for the White target than for the Black target.

Perceived Comfort Needed

Pre-registered Primary Analysis. As predicted, participants believed the low-SES target would be less in need of comfort than the high-SES target, $t(601) = 5.30, p < .001, d = .43, 95\% \text{ CI } [.27, .59]$.

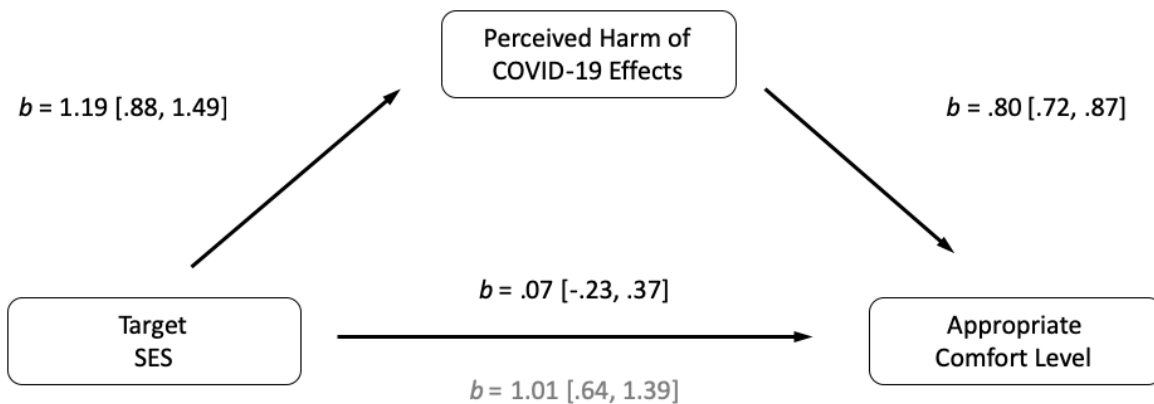
Exploratory Analyses. A three-way ANOVA on perceived comfort similarly yielded a significant main effect of target SES, $F(1, 595) = 27.01, p < .001, \eta_p^2 = .05, 90\% \text{ CI } [.02, .07]$.

There was no interaction between target SES and target gender, $F(1, 595) = .23, p = .635, \eta_p^2 = .00$, 90% CI [.00, .01], nor was there a three-way interaction, $F(1, 595) = .18, p = .675, \eta_p^2 = .00$, 90% CI [.00, .01]. There was, however, a significant interaction between target SES and target race, $F(1, 595) = 17.63, p < .001, \eta_p^2 = .03$, 90% CI [.01, .05]. Participants believed 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 both the low-SES and high-SES Black targets were perceived to need relatively little comfort, $t(293) = .84, p = .401, d = .10$, 95% CI [-.13, .33].

Pre-Registered Mediation Analysis

We theorized that participants would perceive low-SES targets as less in need of comfort than higher-SES targets because they were less affected by the negative events. If so, we would expect that perceived harm mediates the effect of target SES on perceived comfort needed. Using Hayes' (2013) PROCESS macro for SPSS to conduct a bootstrap mediation analysis with 5,000 samples, we found 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 1).

Figure 1: Mediation Analysis from Study 3



Note. Total effect is shown in gray. Coefficients are unstandardized.

Discussion

Studies 1-3 suggest that people systematically perceive many of pandemic's everyday consequences as more harmful for higher-SES individuals, in line with the thick skin bias. People may also assume that lower-SES individuals are less in need of comfort, particularly compared to higher-SES White individuals. We next tested whether providing people with an informational prime that highlights how negative events are more harmful for those of lower SES can reduce the thick skin bias.

Studies 4a-4b

In Studies 4a-4b, we tested whether reading an excerpt from an article could reduce 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. Study 4b was a pre-registered replication of Study 4a.

Study 4a

Method

Participants. Unsure of what effect size to predict, we aimed to recruit 400 participants from Prolific to be able to detect moderate to large interaction effects. 399 participants completed the study, of whom 364 met the inclusion criteria from previous studies. The average age of participants was 32.41 (range: 18-80) and there were 212 women, 146 men, and 6 people who did not identify as women or men.

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 ($\alpha_{\text{low-SES}} = .89$; $\alpha_{\text{high-SES}} = .91$). Unlike 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 were 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 Appendix D 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 Studies 4a and 4b are presented in Table 4.

Table 4: Average Perceived Harm by Target and Debiasing Article Condition in Studies 4a and 4b

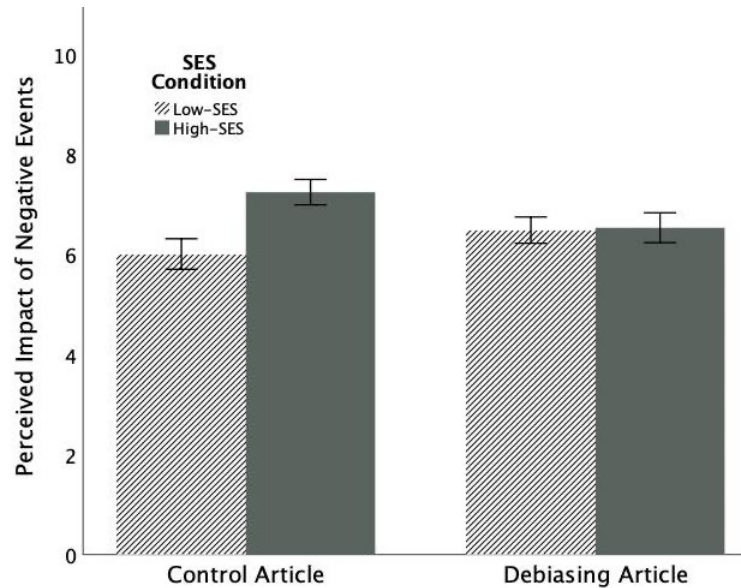
Study	Article Condition	Low-SES Target		High-SES Target	
		Male Target	Female Target	Male Target	Female Target
Study 4a	Control Article Condition				
	White Target	5.75 [5.14, 6.37]	5.89 [5.23, 6.54]	6.98 [6.39, 7.58]	7.79 [7.32, 8.26]
	Black Target	5.88 [5.28, 6.47]	6.45 [5.82, 7.08]	7.01 [6.47, 7.54]	7.23 [6.78, 7.68]
	Debiasing Article Condition				
	White Target	6.09 [5.48, 6.70]	6.52 [6.06, 6.99]	6.08 [5.43, 6.72]	6.88 [6.28, 7.48]
	Black Target	6.79 [6.31, 7.27]	6.63 [6.07, 7.20]	6.61 [6.17, 7.05]	6.54 [5.88, 7.19]
Study 4b	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.

Primary Analyses. We conducted a 2 (target: low-SES vs. high-SES) $\times$ 2 (article condition: debiasing vs. control) mixed ANOVA on perceived harm ratings. As in previous studies, there was a significant effect of target SES, $F(1, 362) = 28.91, p < .001, \eta_p^2 = .07$, 90% CI [.04, .12], but this effect was qualified by the predicted interaction between target SES and article condition, $F(1, 362) = 24.75, p < .001, \eta_p^2 = .06$, 90% CI [.03, .11]. There was no main effect of article condition, $F(1, 362) = .52, p = .473, \eta_p^2 = .00$, 90% CI [.00, .01].

Participants who read the control article about memory believed the low-SES target would be less affected by the negative events than the high-SES target, $t(179) = 6.94, p < .001, d = .52$, 95% CI [.31, .73]. However, for participants who read the debiasing article, the difference between the low-SES and high-SES target was smaller and nonsignificant, $t(183) = .30, p = .764, d = .02$, 95% CI [-.18, .23] (see Figure 2). Broken down differently, participants thought that the low-SES target would be more harmed by the negative events after reading the debiasing article, $t(362) = 2.33, p = .020, d = .25$, 95% CI [.04, .45], whereas participants thought that the high-SES target would be less harmed after reading the debiasing article, $t(362) = -3.57, p < .001, d = -.37$, 95% CI [-.58, -.17]. Thus, the debiasing article decreased the extent to which participants saw the low-SES target as having “thicker skin” and the extent to which participants saw the high-SES target as having “thinner skin.”

Figure 2: Effect of Debiasing Information on Thick Skin Bias in Study 4a



Note. Error bars represent the 95% CI of the mean.

Exploratory Analyses. We conducted a 2 (target: low-SES vs. high-SES) $\times$ 2 (article condition: debiasing vs. control) $\times$ 2 (target gender: man vs. woman) $\times$ 2 (target race: White vs. Black) ANOVA on perceived harm ratings. Target gender and race did not moderate the effect of the debiasing article on target ratings; for brevity we present all other effects in Appendix D. A further exploratory analysis excluding participants who wrote irrelevant or nonsensical answers when summarizing the passage showed the same pattern of results (see Appendix D).

Study 4b

Method

We 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% change of detecting a moderate interaction effect of $\eta_p^2 = .06$ in a 2 (within) $\times$ 2 (between) design with an alpha of .05 and assuming a correlation of $r = .30$ between ratings (effect sizes were conservative estimates based on Study 4a's results; Faul et al., 2007). 351 participants completed the study, of whom 325 met the

inclusion criteria from previous studies. The average age of participants was 31.78 (range: 18-71) and there were 167 women, 150 men, and 8 people who did not identify as women or men. The materials and procedure were identical to those in Study 4a, and the study was pre-registered through AsPredicted.org: <https://aspredicted.org/blind.php?x=e8pw24>.

Results

Pre-Registered Primary Analyses. As in Study 4a, there was a significant interaction between target (low-SES vs. high-SES) and article condition (debiasing vs. control), $F(1, 323) = 19.82, p < .001, \eta_p^2 = .06, 90\% \text{ CI } [.02, .10]$. Participants who read the control article about memory believed the low-SES target would be less affected by the negative events than the high-SES target, $t(159) = 8.85, p < .001, d = .70, 95\% \text{ CI } [.47, .93]$. For participants who read the debiasing article, however, the difference between the low-SES and high-SES was smaller and nonsignificant, $t(164) = .93, p = .356, d = .07, 95\% \text{ CI } [-.14, .29]$. Broken down differently, participants thought that the low-SES target would be more harmed by the negative events after reading the debiasing article, $t(323) = 2.67, p = .008, d = .30, 95\% \text{ CI } [.08, .51]$, whereas participants thought that the high-SES target would be less harmed after reading the debiasing article, $t(323) = -3.34, p < .001, d = -.37, 95\% \text{ CI } [-.59, -.15]$.

Exploratory Analyses. An ANOVA including target gender and race yielded no evidence that either moderated the effect of the debiasing article. Excluding participants who wrote irrelevant or nonsensical answers when summarizing the passage yielded the same pattern of results. See Appendix D for these analyses.

Discussion

Reading an article highlighting the disproportionate effects of pandemic-related negative events on people in poverty reduced the thick skin bias. We next sought to generalize these

results by testing whether reading an article about the increased vulnerability of people in poverty to negative events *in general* reduces the thick skin bias in judgments about a wider range of negative events unrelated to the pandemic.

Study 5

Participants in Study 5 rated how affected a low-SES or high-SES target would be by a series of 11 negative events taken from Cheek and Shafir (2020, Study 1a). Participants were randomly assigned to read a debiasing article or a control article before rating the effects of these events on the target to further test the potential of information to debias thick skin perceptions in contexts unrelated to the pandemic. Study 5 was pre-registered through AsPredicted.org:

<https://aspredicted.org/blind.php?x=uj4yh7>.

Method

Participants

We aimed to recruit 350 participants through Prolific based on the power analysis from Study 4b. 353 participants completed the study, of whom 301 met the same inclusion criteria as in previous studies. The average age of participants was 53 (range 18-71) and there were 140 women, 153 men, and 8 people who did not identify as women or men.

Materials and Procedure

Participants read about a low-SES and a high-SES target using the descriptions from Study 1. 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 Appendix D 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 target, participants

were randomly assigned to read either the control article excerpt about working memory from Studies 4a-4b 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 Appendix D for full texts).

Results

Pre-Registered Primary Analyses

A 2 (article condition) $\times$ 2 (target SES) mixed ANOVA yielded a significant main effect of target SES, $F(1, 299) = 103.40, p < .001, \eta_p^2 = .26, 90\% \text{ CI } [.19, .32]$, and, crucially, an interaction between target SES and article condition, $F(1, 299) = 6.47, p < .011, \eta_p^2 = .02, 90\% \text{ CI } [.00, .06]$. Participants believed that the low-SES target would be less affected by the negative events in both the control article condition ($M_{\text{low-SES}} = 6.15, 95\% \text{ CI } [5.89, 6.42]$ vs. $M_{\text{high-SES}} = 7.74, 95\% \text{ CI } [7.52, 7.95]$), $t(148) = 10.58, p < .001, d = .87, 95\% \text{ CI } [.63, 1.04]$, and the debiasing article condition ($M_{\text{low-SES}} = 6.41, 95\% \text{ CI } [6.12, 6.69]$ vs. $M_{\text{high-SES}} = 7.36, 95\% \text{ CI } [7.10, 7.62]$), $t(274) = 4.79, p < .001, d = .39, 95\% \text{ CI } [.16, .62]$. However, the effect was smaller in the debiasing condition by about half a standard deviation. Thus, the effect of explicating the greater susceptibility of people in poverty to the effects of negative life events generalized to non-pandemic-related events, though the thick skin bias did still persist in the debiasing condition.

Exploratory Analyses

An ANOVA including target gender yielded no evidence that gender moderated the effect of the debiasing article. Excluding participants who wrote irrelevant or nonsensical answers when summarizing the passage did not change the pattern of results. See Appendix D for these analyses.

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, but people appear to believe the opposite. Studies 1-3 showed that participants thought pandemic-related negative events would be worse for higher-SES individuals, and even that higher-SES White individuals would need more comfort than lower-SES White individuals. Though SES shaped perceptions of harm for both White and Black targets, the thick skin bias was smaller when participants judged Black targets compared to White targets. Because of beliefs that both low-SES White individuals and Black individuals have been toughened by hardship, higher-SES White people may be perceived as most harmed by everyday consequences of the pandemic and as most in need of comfort.

Studies 4a-5 showed that informational news reports may reduce the thick skin bias. The misunderstanding of poverty reflected in the thick skin bias may be at least somewhat malleable, a finding that also suggests that the bias may emerge, at least to some extent, not so much from antipathy as from a misguided heuristic that can be mitigated through learning. Of course, complete debiasing would result in a reversal of perceptions of harm, whereas explicitly highlighting the exacerbated effect of negative events for people in poverty only reduced thick skin perceptions, attesting to the strength of people's conviction that poverty toughens low-SES individuals.

That people display a thick skin bias in judgments about the pandemic's consequences has potentially negative implications both for interpersonal interactions, such as who people comfort versus neglect, and for broader beliefs about lifestyles changes and policies enacted during crises. If those with power similarly display a thick skin bias, it may lead to unbalanced or

biased policy and political priorities that favor those less in need of help (Stevens, 2020). The thick skin bias may also magnify SES-based disparities in mental healthcare access during the pandemic (Lagasse, 2020) by minimizing the perceived need of low-SES individuals. Yet media and other sources of information may somewhat mitigate the bias; indeed, the findings of Studies 4a-5 suggest that newspapers may already be intervening on their readers in a beneficial way.

Our studies relied on U.S. convenience samples from online crowdsourcing platforms. Future research is needed to generalize our 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 and ethnicities. For now, our studies suggest that the thick skin bias may be a source of neglect of those most harmed by the pandemic, but also that increased awareness of the falsity of the bias may be a path to better understanding and addressing the problems faced by people in poverty during the pandemic and beyond.

Conclusion

This dissertation presented an initial investigation into the belief that poverty toughens those who experience it, rendering them less vulnerable to future harm. The thick skin bias generalized to judgments about adults and children, judgments about everyday negative events, gender-based violence events, and COVID-19-related events, and judgments made by several professional and lay populations. Chapters 1 and 3 ruled out multiple alternative explanations for the bias, and Chapter 2 provided direct evidence that the bias emerges in part because people overgeneralize their intuitions about adaption to the context of poverty. Chapters 3 and 4 showed that the thick skin bias can lead to the neglect of lower-SES individuals in the form of less help (bystander intervention for domestic abuse) and less interpersonal support (comfort after domestic abuse and sexual harassment or during the COVID-19 pandemic). The results of Chapter 4 also suggest that direct informational interventions may reduce the thick skin bias, though even a manipulation involving relatively strong demand characteristics did not successfully reverse the bias. Building on these papers, this conclusion briefly charts future directions for research on the thick skin bias, including examinations of additional causes, consequences, and cures, as well as work on the unexplored areas of implicit vs. explicit cognition, intersectionality, development, and cross-cultural differences.

Future Directions for Causes of the Thick Skin Bias

The six studies reported in Chapter 2 supported the hypothesis that the thick skin bias emerges in part from people's intuitions about adaptation. That is, as with many biases in the judgment and decision making literature (e.g., Gilovich et al., 2002), people hold a relatively accurate belief about psychophysical adaptation, but overgeneralize that belief to the context of

poverty, resulting in biased judgments. In addition to this cognitive explanation, there are several other potential mechanisms for the thick skin bias—indeed, the relatively large size of the bias would be consistent with multiple complementary mechanisms combining to shape people’s judgments.

Motivational processes are one promising area for future work on the causes of the bias. To the extent that the thick skin bias lessens the discomfort of thinking about inequality and helps people justify the status quo, it may be an appealing just-world belief with effects similar to those of negative attributions about the causes of poverty (e.g., Bullock & Reppond, 2018). Attributing the positively-valenced trait of “toughness” (Cheek et al., 2021b) to people in poverty may also help people embrace a system-justifying narrative that inequality is not so bad because “nobody has it all” (Kay et al., 2007; Lane, 1959). Beyond the ideological benefits of the thick skin bias, however, people may also be motivated to believe that “what doesn’t kill you makes you stronger” for personal reasons. For example, people may find meaning in struggle by interpreting hardship as character-building, and these kinds of “redemption narratives” can have positive effects for development and well-being (e.g., Lilgendahl & McAdams, 2011; McAdams & McLean, 2013). Thus, the belief that hardship and poverty are toughening may have motivational roots in both the need to justify the status quo and the need to find meaning in personal setbacks.

News coverage of people in poverty may also strengthen the thick skin bias—coverage often focuses on the hardships low-SES individuals face without additional context or nuance (e.g., Bullock et al., 2001; Iyengar, 1990). By emphasizing hardship experiences, news stories may reinforce the connection between poverty and struggling, and may also try to invoke more positive narratives like “hardship breeds toughness,” either to make stories more palatable for

readers or to attempt to portray the subjects (individuals in poverty) of coverage in a more positive light. More generally, portrayals of poverty and hardship across popular culture, whether in movies, books, or songs, often communicates that suffering can be toughening, thereby potentially spreading the narratives that fuel the thick skin bias (e.g., Elofsson et al., 2011; Koontz, 1988; Nietzsche, 1889/1997; The White House, Office of the First Lady, 2016).

Social learning processes may contribute to the bias as well: low-SES individuals, especially when working, are often less able to express negative emotions such as frustration, anger, or distress (e.g., Morris & Feldman, 1996; Ross & Littlefield, 1978; Tirado, 2012; Wharton, 2009). Thus, people may believe that they “see” the thick skin bias in everyday life when they observe higher-SES individuals complaining or otherwise displaying negative affect and emotion more frequently than lower-SES individuals. Finally, other biased beliefs about people in poverty may converge with the thick skin bias. Wu et al. (2021), for instance, found that people erroneously believe that low-SES individuals are better able to “mentally escape” their present circumstances through positive imagination. The belief that low-SES individuals have better coping skills than higher-SES individuals may then bolster the belief that people in poverty are less vulnerable to harm. There are thus several fruitful directions for future research on the causes of the thick skin bias.

Future Directions for Consequences of the Thick Skin Bias

Chapters 3 and 4 provided initial evidence for some downstream consequences of the thick skin bias. In Chapter 3, participants believed that lower-SES victims of domestic abuse needed less help than higher-SES victims, as well as that lower-SES victims of both domestic abuse and sexual harassment needed less interpersonal support than higher-SES victims. Similarly, participants in Chapter 4 believed that people in poverty were in need of less

interpersonal support while living through the everyday effects of the COVID-19 pandemic. These judgments are consistent with the broad patterns of neglect lower-SES individuals encounter throughout daily life—people generally discount and dismiss the pain of people in poverty relative to people in affluence. Given that both professional and lay populations appear to display the thick skin bias, and often do so quite strongly, there are several pressing directions for research on the consequences of the thick skin bias.

One direction for future research is to explore the many ways the thick skin bias might lead to the neglect and mistreatment of people in poverty. In everyday interactions, for instance, the perception that lower-SES individuals are less harmed by negative events may predict the tendency to offer less help, to show less courtesy, or to perceive emotions less accurately. One type of consequential judgment unexplored in this dissertation is that of punishment—if people believe lower-SES individuals are less harmed by negative events, perhaps they believe that more severe punishment is needed to achieve the same “level” of discipline for lower- vs. higher-SES individuals. If so, this effect of the thick skin bias could help explain punishment disparities in educational and criminal justice contexts (e.g., Kupchik & Ward, 2014; Western, 2006). An important arena for this work will be in real-world professional domains—for example, do doctors, therapists, teachers, or judges who show the thick skin bias more strongly also neglect lower-SES patients, students, or defendants to a greater degree? Linking professionals’ behaviors to the thick skin bias would thus underline the effects of the bias for people in poverty.

A second important direction for future research is to investigate the potential policy implications of the thick skin bias. Indeed, the bias may shape both policy design and policy support. From a policy design perspective, if policymakers believe that people in poverty are less harmed by negative events, they may view weaker interventions as sufficient to alleviate the

hardship of poverty—a perception with potentially wide-ranging consequences. Anything from increases in direct cash relief and other financial assistance to better public amenities (e.g., public parks, libraries; Sin, 2015; Wolch et al., 2005) and public services (e.g., snow-clearing; Feigenbaum & Hall, 2015) may seem less crucial for the lives of people in poverty.

Policymakers may also feel a lessened sense of urgency: if people in poverty are tough, perhaps change need not proceed as rapidly. On the other hand, from a policy support perspective, to the extent they display the thick skin bias, people may view government assistance and intervention as less necessary. Perhaps resources are even seen as better spent elsewhere if people believe that those in poverty have adapted to their circumstances. In sum, future research should explore how the thick skin bias perpetuates and magnifies inequality in everyday interpersonal interactions, in consequential professional contexts, and in policy design and support.

Future Directions for Cures for the Thick Skin Bias

In Chapter 4, exposing participants to ostensible news articles about how poverty exacerbates the effects of negative events subsequently reduced the thick skin bias. On one hand, this result is encouraging: perhaps the thick skin bias can be counteracted with direct informational appeals. On the other hand, even in experiments with potentially strong demand characteristics, the informational articles did not successfully reverse the bias—in Study 5, the article did not even reduce it to nonsignificance. Thus, although informational interventions are one potentially effective path forward, there is an urgent need for research on other potential strategies for reducing the thick skin bias.

One promising approach could be to go beyond trying to counteract the bias with information and instead attempt to cue a different reasoning process altogether (e.g., Soll et al., 2015; Wilson & Brekke, 1994). When people make judgments about low-SES individuals, they

may fall prey to the thick skin bias when the hardship of poverty is salient because that cues a “hardship-breeds-toughness” heuristic. It may be possible, however, to instead cue other, more desirable, heuristics related to poverty. For example, in a pilot study of 151 participants from Amazon’s Mechanical Turk, 76% agreed with the statement “What doesn’t kill you makes you stronger” and 84% agreed that “Hardship breeds toughness,” but an even larger 98% agreed that “Money can solve a lot of problems” and “Money makes life easier” (Cheek, 2021c). If the role of finances in shaping the potential effects of many negative events could be made more salient, perhaps people would rely more on their heuristics about the ameliorative power of money than on their heuristics about hardship. Doing so might reverse the thick skin bias more effectively than providing information, because rather than having to debias people’s judgments after the fact, researchers could instead preempt the thick skin bias from emerging in the first place.

The literature on prejudice reduction offers further potential interventions (for a recent review and meta-analysis, see Paluck et al., 2021). Perspective taking, for instance, has been shown to increase self-other overlap—that is, a feeling of similarity and closeness between the self and another (e.g., Davis et al., 1996; Galinsky et al., 2005). As Chapter 1 showed, people often judge negative events to be less harmful for low-SES individuals than for themselves (and as less harmful for themselves than for higher-SES individuals). If perspective taking increases perceived self-other overlap, it may cause people to see the harm that would befall lower-SES individuals as more similar to the harm they would experience themselves (and the reverse for judgments about higher-SES individuals), thereby reducing the thick skin bias.

Alternatively, positive intergroup contact might reduce the thick skin bias for middle- and upper-class individuals (Allport, 1954; Pettigrew & Tropp, 2006). Importantly, however, the benefits of contact would likely depend on Allport’s (1954) conditions, especially equal status—

perhaps even more than in some other situations. In particular, if lower-SES individuals feel they must continue to subdue their expression of negative emotions (e.g., in the workplace; Wharton, 2009), contact may only reinforce the perception that negative events have little noticeable effect on people in poverty. However, contact has been shown to reduce other stereotypes about people in poverty (e.g., Mo & Conn, 2018; Rao, 2019), and thus represents a potentially promising pathway to change, as long as it occurs under the right conditions (e.g., friendships in which low-SES individuals can freely express their negative emotions; Cherng et al., 2013).

Additional Future Directions for Research

Explicit vs. Implicit Cognition

An open question about the thick skin bias is the extent to which it is both explicitly and implicitly held. To fully understand the bias, it will be important to examine both explicit and implicit cognition. Implicit and explicit attitudes and beliefs are not always associated with each other, and indeed can sometimes directly conflict with each other (as when some groups show an explicit pro-ingroup attitude but an implicit pro-outgroup attitude; Nosek et al., 2007). Moreover, implicit and explicit attitudes and beliefs differ both in what they predict (e.g., implicit attitudes may predict spontaneous behavior better than explicit attitudes; Kurdi et al., 2019b) and in what predicts them (e.g., social norms and the motivation not to be prejudiced may more strongly predict explicit cognition; Greenwald & Lai, 2020; Jost, 2019). Perhaps most importantly for the present focus on SES-based disparities, explicit and implicit attitudes and beliefs may need to be addressed with different approaches— patterns of change in explicit and implicit cognition differ across time and context, and interventions that change one do not necessarily change the other (Charlesworth & Banaji, 2019; Gawronski & Bodenhausen, 2006; Kurdi & Banaji, 2017).

The evidence in this dissertation is consistent with explicit endorsement of the thick skin bias—for instance, the bias emerges strongly even in within-subjects designs that make the comparison between low- and high-SES targets conspicuous. Clearly, participants are not hesitant to display the bias. Moreover, participants in a pilot study ($N = 263$ Princeton undergraduates) directly reported thick skin reasoning when asked how they made judgments in the standard paradigm used throughout this dissertation (see, e.g., Study 1a in Chapter 1). When explaining their thought process while rating the low-SES target named Jordan, participants wrote explanations such as: “he can handle hardship more readily than others,” “his difficult financial situation would make him tough and less upset with discomfort,” and “Jordan has experienced hardships in life, so he would probably be more accustomed to...difficulties” (Cheek, 2019).

But is the thick skin bias also represented in people’s implicit beliefs? Implicit attitudes toward people in poverty are often very negative (Haider et al., 2011; John-Henderson et al., 2013; Nosek, 2005; Rudman et al., 2002), and thus it may be that people do not implicitly associate low-SES individuals with thick skin, a positively-valenced trait. On the other hand, implicit beliefs do not necessarily mirror implicit attitudes, though they are often tightly connected (Krudi et al., 2019a). Indeed, initial evidence from a pilot study using an Implicit Association Test (Greenwald et al., 1998) suggests that people associate the category “thick-skinned” with the group “working-class” and the category “thin-skinned” with the group “upper-class” (Cheek et al., 2021b). Much more work, however, is needed on the extent to which the thick skin bias is represented in implicit beliefs.

Intersectionality

The studies in this dissertation showed that the thick skin bias generalized to judgments about a variety of targets, including men and women; White, Black, Asian, and Latinx individuals; and children and adults. Future research would benefit from more intentionally adopting an intersectional lens (e.g., Cole, 2009; Crenshaw, 1991; Hancock, 2007; Purdie-Vaughns & Eibach, 2008), examining how beliefs about perceived vulnerability to harm vary across targets with different intersecting identities. Indeed, previous research on social perception in general (e.g., Goff et al., 2008; Johnson et al., 2012; Sesko & Biernat, 2010; Schug et al., 2015), and on stereotypes about social class in particular (Brown-Iannuzzi et al., 2017; Cozzarelli et al., 2002; Limbert & Bullock, 2009; Weeks & Lupfer, 2004), has shown that interactions among multiple identities influence judgments. For example, people judge younger women in poverty differently than older men in poverty (Limbert & Bullock, 2009). As preliminary evidence of the need to consider intersecting identities, Study 14 in Chapter 1 and Studies 2-3 in Chapter 4 suggested that higher-SES Black individuals may be perceived as lower-SES than equivalently described high-SES White individuals, resulting in applications of the thick skin bias to even relatively affluent Black people. On the other hand, throughout the studies in this dissertation, there was little evidence that target gender moderated the thick skin bias. Future research should incorporate a wider range of target individuals who systematically differ on multiple social identities to better situate the thick skin bias within the burgeoning literature on intersectional stereotypes.

Development

The studies in this dissertation explored the thick skin bias in different populations of adults, leaving unanswered the question of whether children's judgments are similarly shaped by

the bias. Multiple decades of research have documented that even young children judge others based on their socioeconomic status (among other social identities; Charlesworth & Banaji, 2021; Elenbaas et al., 2020; Enright et al., 2020; Horwitz et al., 2014; Mistry et al., 2015; Shutts et al., 2016; Woods et al., 2005), and children as young as seven display racial biases in the perception of physical pain (Dore et al., 2014). Moreover, young children understand that lower-SES individuals experience more economic hardship (Dore et al., 2018; Olson et al., 2012). Thus, it seems possible that young children may believe that low-SES individuals are less harmed by negative events than higher-SES individuals. However, Dore et al. (2017) found that judgments of hardship and physical pain were independent in children ages 5-10, whereas they are related in the judgments of adults (Hoffman & Trawalter, 2016). Thus, children's reasoning about people in poverty may be unlikely to directly mirror adults' reasoning; nonetheless, existing research suggests that children are certainly capable of believing that people in poverty are less vulnerable to harm. Whether they do is therefore a worthwhile question for future research.

Cross-Cultural Differences

A final future direction worth mentioning is an exploration of the cross-cultural generalizability of the thick skin bias. The studies in this dissertation were all conducted within the U.S., and thus whether the bias generalizes to other cultural contexts is an open question. On one hand, the cognitive mechanism suggested in Chapter 2—that people overgeneralize intuitions about psychophysical adaptation—might be expected to emerge across cultures, given that the experience of psychophysical adaptation may be common among people around the world. On the other hand, narratives about hardship and stereotypes about people in poverty vary across countries (da Costa & Dias, 2015; Dagdeviren et al., 2017; Durante et al., 2017; Khatri et

al., 2020; Lepianka et al., 2010), as do sources of stereotypes like media coverage (e.g., Larsen & Dejgaard, 2013), so there may be cultural differences in the prevalence of the thick skin bias. For instance, a possibility from the complementary stereotypes literature is that the thick skin bias will emerge more strongly in more unequal societies—greater inequality may motivate people to justify the status quo by attributing more toughness to lower-SES individuals. Doing so would both help people believe that lower-SES individuals do not suffer as much and would support a belief in the fairness of a system in which “no one has it all” (e.g., Bullock & Reppond, 2018; Durante et al., 2017; Kay et al., 2007).

Coda

Economic inequality is a defining problem of the 21st century, and psychology is well-positioned to contribute theoretical and applied insights that help improve the lives of those who live in scarcity. The 33 studies in this dissertation revealed that widespread beliefs about the “toughening” effects of poverty may have vast and unrealized implications for understanding some of the neglect and unequal treatment encountered by low-SES individuals. As future research further explores the thick skin bias and other stereotypes that perpetuate and magnify inequality, perhaps new interventions and policy solutions will immerge that can help reduce these inequalities and injustices, with an increased recognition of the true lived experiences of people in poverty. At the very least, it is a goal worth pursuing.

References

- Adler, N. E., Epel, E. S., Castellazzo, G., Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy White women. *Health Psychology, 19*, 586-592.
- Ahmed, S. (2010). Feminist killjoys (and other willful subjects). *Scholar and Feminist Online, 8*, 1-8.
- Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.
- Bagley, E. J., Kelly, R. J., Buckhalt, J. A., & El-Sheikh, M. (2015). What keeps low-SES children from sleeping well: The role of presleep worries and sleep environment. *Sleep Medicine, 16*, 496-502.
- Barwood, M. J., Corbett, J., Tipton, M., Wagstaff, C., & Massey, H. (2017). Habituation of the cold shock response is inhibited by repeated anxiety: implications for safety behaviour on accidental cold water immersions. *Physiology & behavior, 174*, 10-17.
- Bevan, W., & Darby, C. L. (1955). Patterns of experience and the constancy of an indifference point for weight. *The American Journal of Psychology, 68*, 575-584.
- Blake, K. R., & Gangestad, S. (2020). On attenuated interactions, measurement error, and statistical power: Guidelines for social and personality psychologists. *Personality and Social Psychology Bulletin*, in press.
- Blyth, F. M. (2010). The demography of chronic pain: an overview. In P. Croft, F. M. Blyth, & D. van der Windt (Eds.), *Chronic pain epidemiology: From aetiology to public health* (pp. 19-27), Oxford, UK: Oxford University Press.

- Breslau, N., Chilcoat, H. D., Kessler, R. C., & Davis, G. C. (1999). Previous exposure to trauma and PTSD effects of subsequent trauma: Results from the Detroit Area Survey of Trauma. *American Journal of Psychiatry*, 156, 902-907.
- Brown-Iannuzzi, J. L., Dotsch, R., Cooley, E., & Payne, B. K. (2017). The relationship between mental representations of welfare recipients and attitudes toward welfare. *Psychological Science*, 28, 92-103.
- Bryant, S. A., & Spencer, G. A. (2003). University students' attitudes about attributing blame in domestic violence. *Journal of Family Violence*, 18, 369-376.
- Bucchianeri, M. M., Eisenberg, M. E., Wall, M. M., Piran, N., & Neumark-Sztainer, D. (2014). Multiple types of harassment: associations with emotional well-being and unhealthy behaviors in adolescents. *Journal of Adolescent Health*, 54(6), 724-729.
- Buchanan, N. T., Settles, I. H., & Woods, K. C. (2008). Comparing sexual harassment subtypes among black and white women by military rank: Double jeopardy, the jezebel, and the cult of true womanhood. *Psychology of Women Quarterly*, 32, 347-361.
- Bullock, H. E. (2013). *Women and poverty: Psychology, public policy, and social justice*. New York: John Wiley and Sons.
- Bullock, H. E., & Reppond, H. A. (2018). Of "takers" and "makers": A social psychological analysis of class and classism. In P. L. Hammack Jr. (Ed.), *The Oxford Handbook of Social Psychology and Social Justice* (pp. 223-244). New York: Oxford University Press.
- Bullock, H. E., Williams, W. R., & Limbert, W. M. (2003). Predicting support for welfare policies: The impact of attributions and beliefs about inequality. *Journal of Poverty*, 7, 35-56.

- Bullock, H. E., Wyche, K. F., & Williams, W. R. (2001). Media images of the poor. *Journal of Social Issues, 57*, 229-246.
- Butler, D. M., & Broockman, D. E. (2011). Do politicians racially discriminate against constituents? A field experiment on state legislators. *American Journal of Political Science, 55*, 463-477.
- Calarco, J. M. (2018). *Negotiating opportunities: How the middle class secures advantages in school*. New York: Oxford University Press.
- Carlson, B. E., McNutt, L.-A., Choi, D. Y., & Rose, I. M. (2002). Intimate partner abuse and mental health: The role of social support and other protective factors. *Violence Against Women, 8*, 720-745.
- Caspi, A., Bolger, N., & Eckenrode, J. (1987). Linking person and context in the daily stress process. *Journal of Personality and Social Psychology, 52*, 184-195.
- Chan, D. K.-S., Lam, C. B., Chow, S. Y., Y Cheung, S. F. (2008). Examining the job-related, psychological, and physical outcomes of workplace sexual harassment: A meta-analytic review. *Psychology of Women Quarterly, 32*, 362-376.
- Charlesworth, T. E. S., & Banaji, M. R. (2019). Patterns of implicit and explicit attitudes: I. Long-term change and stability from 2007 to 2016. *Psychological Science, 30*, 174-192.
- Charlesworth, T. E. S., & Banaji, M. R. (2021). The development of social group cognition. In D. Carlston, K. Johnson, & K. Hugenberg (Eds.), *The Oxford Handbook of Social Cognition* (2nd ed.). Oxford University Press.
- Cheek, N. N. (2019). *Reported thoughts while making judgments about others' thick skin*. [Unpublished raw data].
- Cheek, N. N. (2021a). *The cognitive roots of the thick skin bias*. Manuscript in preparation.

- Cheek, N. N. (2021b). *People think the everyday effects of COVID-19 are not as bad for people in poverty*. Manuscript in preparation.
- Cheek, N. N. (2021c). *Endorsement of statements about money and hardship*. [Unpublished raw data].
- Cheek, N. N., Bandt-Law, B., Sinclair, S., & Shafir, E. (2021a). *People think sexual harassment and domestic abuse are less harmful for women in poverty*. Manuscript in preparation.
- Cheek, N. N., Goebel, J., & McMahon, C. (2021b). *Implicit associations between working-class people and thick skin*. [Unpublished raw data].
- Cheek, N. N., & Shafir, E. (2020). The thick skin bias in judgments about people in poverty. *Behavioural Public Policy*, in press.
- Cherng, H.-Y. S., Calarco, J. M., & Kao, G. (2013). Along for the ride: Best friends' resources and adolescents' college completion. *American Educational Research Journal*, 50, 76-106.
- Chetty, R., Grusky, D., Hell, M., Hendren, N., Manduca, R., & Narang, J. (2017). The fading American dream: Trends in absolute income mobility since 1940. *Science*, 356, 398-406.
- Chou, E. Y., Parmar, B. L., & Galinsky, A. D. (2016). Economic insecurity increases physical pain. *Psychological Science*, 27, 443-454.
- Clair, M. (2020). *Privilege and punishment: How race and class matter in criminal court*. Princeton University Press.
- Coker, A. L., Davis, K. E., Arias, I., Desai, S., Sanderson, M., Brandt, H. M., & Smith, P. H. (2002). Physical and mental health effects of intimate partner violence for men and women. *American Journal of Preventive Medicine*, 23, 260-268.

- Cole, E. R. (2009). Intersectionality and research in psychology. *American Psychologist*, 64, 170-180.
- Cortina, L. M. (2004). Hispanic perspectives on sexual harassment and social support. *Personality and Social Psychology Bulletin*, 30, 570-584.
- Costa, M. (2017). How responsive are political elites? A meta-analysis of experiments on public officials. *Journal of Experimental Political Science*, 4, 241-254.
- Cozzarelli, C., Tagler, M. J., & Wilkinson, A. V. (2002). Do middle-class students perceive poor women and poor men differently? *Sex Roles*, 47, 519-529.
- Cozzarelli, C., Wilkinson, A. V., & Tagler, M. J. (2001). Attitudes toward the poor and attributions for poverty. *Journal of Social Issues*, 57, 207-227.
- Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43, 1241-1299.
- Croizet, J.-C., Goudeau, S., Marot, M., & Millet, M. (2017). How do educational contexts contribute to the social class achievement gap: Documenting symbolic violence from a social psychological point of view. *Current Opinion in Psychology*, 18, 105-110.
- da Costa, L. P., & Dias, J. S. (2015). What do Europeans believe to be the causes of poverty? A multilevel analysis of heterogeneity within and between countries. *Social Indicators Research*, 122, 1-20.
- Dagdeviren, H., Donoghue, M., & Meier, L. (2017). The narratives of hardship: The new and the old poor in the aftermath of the 2008 crisis in Europe. *The Sociological Review*, 65, 369-385.

- Davis, M. H., Conklin, L., Smith, A., & Luce, C. (1996). Effect of perspective taking on the cognitive representation of persons: A merging of the self and other. *Journal of Personality and Social Psychology*, 70, 713-726.
- De Judicibus, M., & McCabe, M. R. (2001). Blaming the target of sexual harassment: Impact of gender role, sexist attitudes, and work role. *Sex Roles*, 44, 401-417.
- DeParle, J. (2020, April 12). The coronavirus class divide: Space and privacy. *New York Times*.
<https://www.nytimes.com/2020/04/12/us/politics/coronavirus-poverty-privacy.html>
- Deska, J. C., Kunstman, J., Lloyd, E. P., Almaraz, S. M., Bernstein, M. J., Gonzales, J. P., & Hugenberg, K. (2020). Race-based biases in judgments of social pain. *Journal of Experimental Social Psychology*, 88, 103964.
- Dienstbier, R. A. (1989). Arousal and physiological toughness: Implications for mental and physical health. *Psychological Review*, 96, 84-100.
- Dobbin, F., & Kalev, A. (2020). Making discrimination and harassment complaint systems better. In D. Pedulla (Ed.), *What works? Evidence-based ideas to increase diversity, equity, and inclusion in the workplace* (pp. 24-29). Radcliffe Institute for Advanced Study.
- Dore, R. A., Hoffman, K. M., Lillard, A. S., & Trawalter, S. (2014). Children's racial bias in perceptions of others' pain. *British Journal of Developmental Psychology*, 32, 218-231.
- Dore, R. A., Hoffman, K. M., Lillard, A. S., & Trawalter, S. (2018). Developing cognitions about race: White 5- to 10-year-olds' perceptions of hardship and pain. *European Journal of Social Psychology*, 48, 121-132.
- Durante, F., & Fiske, S. T. (2017). How social-class stereotypes maintain inequality. *Current Opinion in Psychology*, 18, 43-48.

- Durante, F., Tablante, C. B., & Fiske, S. T. (2017). Poor but warm, rich but cold (and competent): Social classes in the stereotype content model. *Journal of Social Issues*, 73, 138-157.
- Egger, H. L., Pine, D. S., Nelson, E., Leibenluft, E., Ernst, M., Towbin, K. E., & Angold, A. (2011). The NIMH Child Emotional Face Picture Set (NIMH-ChEFS): A new set of children's facial emotion stimuli. *International Journal of Methods in Psychiatric Research*, 20, 145-156.
- Ehrenreich, B. (2001). *Nickel and dimed: On (not) getting by in America*. New York, NY: Metropolitan Books.
- Elenbaas, L., Rizzo, M. T., & Killen, M. (2020). A developmental-science perspective on social inequality. *Current Directions in Psychological Science*, in press.
- Elofsson, J., Tamposi, A., Gamson, D., & Kurstin, G. (2011). Stronger (What doesn't kill you). [Recorded by K. Clarkson]. On *Stronger* [CD]. New York: RCA Records.
- Enright, E. A., Alonso, D. J., Lee, B. M., & Olson, K. R. (2020). Children's understanding and use of four dimensions of social status. *Journal of Cognition and Development*, 21, 573-602.
- Evans, G. W., & Cassells, R. C. (2014). Childhood poverty, cumulative risk exposure, and mental health in emerging adults. *Clinical Psychological Science*, 2(3), 287-296.
- Evans, G. W., & Kim, P. (2012). Childhood poverty and young adults' allostatic load: The mediating role of childhood cumulative risk exposure. *Psychological Science*, 23, 979-983.

- Farnum, K. S., & Stevenson, M. C. (2013). Economically disadvantaged juvenile offenders tried in adult court are perceived as less able to understand their actions, but more guilty. *Psychology, Crime & Law*, 19, 727-744.
- Faul, F., Erdfelder, E., Lang, A.-B., Buchner, A. (2007). G*power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavioral Research Methods*, 39, 175-191.
- Feather, N. T. (1974). Explanations of poverty in Australian and American samples: The person, society, or fate? *Australian Journal of Psychology*, 26, 199-216.
- Feather, N. T. (1984). Protestant ethic, conservatism, and values. *Journal of Personality and Social Psychology*, 46, 1132-1141.
- Fernandez, M. (2020, March 20). Coronavirus and poverty: A mother skips meals so her children can eat. *New York Times*. <https://www.nytimes.com/2020/03/20/us/coronavirus-poverty-school-lunch.html>
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82, 878-902.
- Fiske, S. T., & Markus, H. R. (Eds.). (2012) *Facing social class: How societal rank influences interaction*. New York: Russel Sage Foundation.
- Furnham, A., & Gunter, B. (1984). Just world beliefs and attitudes towards the poor. *British Journal of Social Psychology*, 23, 265-269.
- Galinsky, A. D., Ku, G., & Wang, C. S. (2005). Perspective-taking and self-other overlap: Fostering social bonds and facilitating social coordination. *Group Processes & Intergroup Relations*, 8, 109-124.

- Garfin, D. R., Holman, E. A., & Silver, R. C. (2015). Cumulative exposure to prior collective trauma and acute stress responses to the Boston Marathon bombings. *Psychological Science*, 26, 675-683.
- Gawronski, B., & Bodenhausen, G. V. (2006). Associative and propositional process in evaluation: An integrative review of implicit and explicit attitude change. *Psychological Bulletin*, 132, 692-731.
- Gerber, M. M., Frankfurt, S. B., Contractor, A. A., Oudshoorn, K., Dranger, P., & Brown, L. A. (2018). Influence of multiple traumatic event types on mental health outcomes: Does count matter? *Journal of Psychopathology and Behavioral Assessment*, 40, 645-654.
- Gilbert, D. T., & Malone, P. S. (1995). The correspondence bias. *Psychological Bulletin*, 117, 21-38.
- Gilens, M. (2005). Inequality and democratic responsiveness. *Public Opinion Quarterly*, 69, 778-796.
- Gilovich, T., Griffin, D., & Kahneman, D. (Eds.) (2002). *Heuristics and biases: The psychology of intuitive judgment*. New York: Cambridge University Press.
- Goff, P. A., Thomas, M. A., & Jackson, M. C. (2008). “Ain’t I a woman?”: Towards an intersectional approach to person perception and group-based harms. *Sex Roles*, 59, 392-403.
- Goh, J. X., Bandt-Law, B., Cheek, N. N., Sinclair, S., & Kaiser, C. R. (2021). Narrow prototypes and neglected victims: Understanding perceptions of sexual harassment. *Journal of Personality and Social Psychology*, in press.

- Goh, J. X., Hall, J. A., & Rosenthal, R. (2016). Mini meta-analysis of your own studies: Some arguments on why and a primer on how. *Social and Personality Psychology Compass*, 10, 535-549.
- Goodman, L. A., Smyth, K. F., Borges, A. M., & Singer, R. (2009). When crises collide: How intimate partner violence and poverty intersect to shape women's mental health and coping? *Trauma, Violence, and Abuse*, 10, 306-329.
- Green, C., Todd, K. H., Lebovits, A., & Francis, M. (2006). Disparities in pain: Ethical issues. *Pain Medicine*, 7, 530-533.
- Greenwald, A. G., & Lai, C. K. (2020). Implicit social cognition. *Annual Review of Psychology*, 71, 419-445.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology*, 74, 1464-1480.
- Griefahn, B., Bröde, P., Marks, A., & Basner, M. (2008). Autonomic arousals related to traffic noise during sleep. *Sleep*, 31, 569-577.
- Grinstein-Weiss, M., & Gupta, B. (2020, April 6). We don't need a map to tell us who COVID-19 hit the hardest in St. Louis. *Brookings*. <https://www.brookings.edu/blog/up-front/2020/04/06/we-dont-need-a-map-to-tell-us-who-covid-19-hits-the-hardest-in-st-louis/>
- Hafer, C. L., & Sutton, R. (2016). Belief in a just world. In C. Sabbagh & M. Schmitt (Eds.), *Handbook of social justice theory and research* (pp. 145-160). New York: Springer.
- Haider, A. H., Sexton, J., Sriram, N., Cooper, L. A., Efron, D. T., Swoboda, S., Villegas, C. V., Haut, E. R., Bonds, M., Pronovost, P. J., Lipsett, P. A., Freischlag, J. A., & Cornwell III,

- E. E. (2011). Association of unconscious race and social class with vignette-based clinical assessment by medical students. *Journal of the American Medical Association*, 306, 942-951.
- Hancock, A.-M. (2007). When multiplication doesn't equal quick addition: Examining intersectionality as a research paradigm. *Perspectives on Politics*, 5, 63-79.
- Harris, A. (2016). *A pound of flesh: Monetary sanctions as punishment for the poor*. Russell Sage Foundation.
- Harvey, O. J., & Campbell, D. T. (1963). Judgments of weight as affected by adaptation range, adaptation duration, magnitude of unlabeled anchor, and judgmental language. *Journal of Experimental Psychology*, 65, 12-21.
- Haslam, N. (2006). Dehumanization: An integrative review. *Personality and Social Psychology Review*, 10, 252-264.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional analysis: A regression-based approach*. New York: Guilford Press.
- Helson, H. (1964). *Adaptation-level theory*. New York: Harper & Row.
- Hoffman, K. M., & Trawalter, S. (2016). Assumptions about life hardship and pain perception. *Group Processes & Intergroup Relations*, 19, 493-508.
- Hoffman, K. M., Trawalter, S., Axt, J. R., & Oliver, M. N. (2016). Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. *Proceedings of the National Academy of Sciences*, 113, 4296-4301.
- Horwitz, S. R., Shutts, K., & Olson, K. R. (2014). Social class differences produce social group preferences. *Developmental Science*, 17, 991-1002.

- Howard, L. M., Trevillion, K., & Agnew-Davies, R. (2010). Domestic violence and mental health. *International Review of Psychiatry*, 22, 525-534.
- Hunt, M. O., & Bullock, H. E. (2016). Ideologies and beliefs about poverty. In D. Brady & L. M. Burton (Eds.), *The Oxford handbook of the social science of poverty* (pp. 93-116). New York: Oxford University Press.
- Iyengar, S. (1990). Framing responsibility for political issues: The case of poverty. *Political Behavior*, 12, 19-40.
- John-Henderson, N., Jacobs, E. G., Mendoza-Denton, R., & Francis, D. D. (2013). Wealth, health, and the moderating role of implicit social class bias. *Annals of Behavioral Medicine*, 45, 173-179.
- Johnson, K. L., Freeman, J. B., & Pauker, K. (2012). Race is gendered: How covarying phenotypes and stereotypes bias sex categorization. *Journal of Personality and Social Psychology*, 102, 116-131.
- Jones, B. L., & Jones, J. S. (2020, April 5). Gov. Cuomo is wrong, covid-19 is anything but an equalizer. *Washington Post*. <https://www.washingtonpost.com/outlook/2020/04/05/gov-cuomo-is-wrong-covid-19-is-anything-an-equalizer/>
- Jones, E. E., & Nisbett, R. E. (1972). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 79-94). General Learning Press.
- Josephson, J. (2002). The intersectionality of domestic violence and welfare in the lives of poor women. *Journal of Poverty*, 6, 1-20.

- Jost, J. T. (2019). The IAT is dead, long live the IAT: Context-sensitive measures of implicit attitudes are indispensable to social and political psychology. *Current Directions in Psychological Science*, 28, 10-19.
- Jost, J. T. (2020). *A theory of system justification*. Harvard University Press.
- Joynt, M., Train, M. K., Robbins, B. W., Halterman, J. S., Caiola, E., & Fortuna, R. J. (2013). The impact of neighborhood socioeconomic status and race on the prescribing of opioids in emergency departments throughout the United States. *Journal of General Internal Medicine*, 28, 1604-1610.
- Kay, A. C., & Jost, J. T. (2003). Complementary justice: Effects of “poor but happy” and “poor but honest” stereotype exemplars on system justification and implicit activation of the justice motive. *Journal of Personality and Social Psychology*, 85, 823-837.
- Kay, A. C., Jost, J. T., Mandisodza, A. N., Sherman, S. J., Petrocelli, J. V., & Johnson, A. L. (2007). Panglossian ideology in the service of system justification: How complementary stereotypes help us to rationalize inequality. *Advances in Experimental Social Psychology*, 39, 305-358.
- Kay, A. C., Jost, J. T., & Young, S. (2005). Victim derogation and victim enhancement as alternate routes of system justification. *Psychological Science*, 16, 240-246.
- Kahneman, D. (2003). A perspective on judgment and choice. *American Psychologist*, 58, 697-720.
- Khatry, P., Manokara, K., & Harris, L. T. (2020). Socioeconomic status and dehumanization in India: Elaboration of the stereotype content model in a non-WEIRD sample. *Social Psychological and Personality Science*, in press.
- Koontz, D. (1988). *Lightning* [Kindle version]. New York: Berkley Books.

- Kraus, M. W., Piff, P. W., & Keltner, D. (2011). Social class as culture: The convergence of resources and rank in the social realm. *Current Directions in Psychological Science*, 20, 246-250.
- Kristen, E., Banuelos, B., & Urban, D. (2015). Workplace violence and harassment of low-wage workers. *Berkeley Journal of Employment & Labor Law*, 36, 169-213.
- Kugelmass, H. (2016). "Sorry, I'm not accepting new patients": An audit study of access to mental health care. *Journal of Health and Social Behavior*, 57, 168-183.
- Kupchick, A., & Ward, G. (2014). Race, poverty, and exclusionary school security: An empirical analysis of U.S. elementary, middle, and high schools. *Youth Violence and Juvenile Justice*, 12, 332-354.
- Kurdi, B., & Banaji, M. R. (2017). Repeated evaluative pairings and evaluative statements: How effectively do they shift implicit attitudes? *Journal of Experimental Psychology: General*, 146, 194-213.
- Kurdi, B., Mann, T. C., Charlesworth, T. E. S., & Banaji, M. R. (2019a). The relationship between implicit intergroup attitudes and beliefs. *Proceedings of the National Academy of Science*, 116, 5862-5871.
- Kurdi, B., Ratliff, K. A., & Cunningham, W. A. (2020). Can the Implicit Association Test serve as a valid measure of automatic cognition? A response to Schimmack (2020). *Perspectives on Psychological Science*. In press.
- Kurz, D. (1998). Women, welfare, and domestic violence. *Social Justice*, 25, 105-122.
- Lane, R. E. (1959). The fear of equality. *American Political Science Review*, 53, 35-51.

- Larsen, C. A., & Dejgaard, T. E. (2013). The institutional logic of images of the poor and welfare recipients: A comparative study of British, Swedish, and Danish newspapers. *Journal of European Social Policy*, 23, 287-299.
- Laurison, D., & Friedman, S. (2016). The class pay gap in higher professional and managerial occupations. *American Sociological Review*, 81, 668-695.
- Legassem J. (2020, June 11). COVID-19 is highlighting mental health disparities in healthcare. *Healthcare Finance News*. <https://www.healthcarefinancenews.com/news/covid-19-highlighting-mental-health-disparities-healthcare>
- Lepianka, D., Gelissen, J., & van Oorschot, W. (2010). Popular explanations of poverty in Europe: Effects of contextual and individual characteristics across 28 European countries. *Acta Sociologica*, 53, 53-72.
- Lerner, M. J. (1998). The two forms of belief in a just world: Some thoughts on why and how people care about justice. In L. Montada & M. J. Lerner (Eds.), *Responses to victimizations and belief in a just world* (pp. 247-269). Plenum Press.
- Lilgendahl, J. P., & McAdams, D. P. (2011). Constructing stories of self-growth: How individual differences in patterns of autobiographical reasoning relate to well-being in midlife. *Journal of Personality*, 79, 391-428.
- Limbert, W. M., & Bullock, H. E. (2009). Framing U.S. redistributive policies: Tough love for poor women and tax cuts for seniors. *Analyses of Social Issues and Public Policy*, 9, 57-83.
- Litman, L., Robinson, J., & Abbercock, T. (2017). TurkPrime.com: A versatile crowdsourcing data acquisition platform for the behavioral sciences. *Behavior Research Methods*, 49, 433-442.

- LoBue, V., & Thrasher, C. (2015). The Child Affective Facial Expression (CAFE) set: Validity and reliability from untrained adults. *Frontiers in Psychology, 5*, 1532.
- Lott, B. (2002). Cognitive and behavioral distancing from the poor. *American Psychologist, 57*, 100-110.
- Lott, B. (2012). The social psychology of class and classism. *American Psychologist, 67*, 650-658.
- Loughnan, S., Haslam, N., Sutton, R. M., & Spencer, B. (2014). Dehumanization and social class: Animality in the stereotypes of “white trash,” “chavs,” and “bogans.” *Social Psychology, 45*, 54-61.
- Ma, D. S., Correll, J., & Wittenbrink, B. (2015). The Chicago face database: A free stimulus set of faces and norming data. *Behavioral Research Methods, 47*, 1122-1135.
- McAdams, D. P., & McLean, K. C. (2013). Narrative identity. *Current Directions in Psychological Science, 22*, 233-238.
- McCall, L., Burk, D., Laperrière, M., & Richeson, J. A. (2017). Exposure to rising inequality shapes Americans’ opportunity beliefs and policy support. *Proceedings of the National Academy of Sciences, 114*, 9593-9598.
- McLaughlin, H., Uggan, C., & Blackstone, A. (2007). The economic and career effects of sexual harassment on working women. *Gender & Society, 31*, 333-358.
- Mende-Siedlecki, P., Qu-Lee, J., Backer, R., & Van Bavel, J. J. (2019). Perceptual contributions to racial bias in pain recognition. *Journal of Experimental Psychology: General, 148*, 863-889.
- Millar, K., & Steels, M. J. (1990). Sustained peripheral vasoconstriction while working in continuous intense noise. *Aviation, Space, and Environmental Medicine, 61*, 695-698.

- Minear, M., & Park, D. C. (2004). A lifespan database of adult facial stimuli. *Behavior Research Methods, Instruments, & Computers*, 36, 630-633.
- Mistry, R. S., Brown, C. S., White, E. S., Chow, K. A., & Gillen-O'Neel, C. (2015). Elementary school children's reasoning about social class: A mixed-methods study. *Child Development*, 86, 1653-1671.
- Mo, C. H., & Conn, K. M. (2018). When do the advantaged see the disadvantages of others? A quasi-experimental study of national service. *American Political Science Review*, 112, 721-741.
- Morgan, R. E., & Kena, G. (2018). Criminal victimization, 2016: Revised. *Bureau of Justice Statistics Bulletin*. Retrieved from: <https://www.bjs.gov/content/pub/pdf/cv16.pdf>
- Morris, J. A., & Feldman, D. C. (1996). The dimensions, antecedents, and consequences of emotional labor. *Academy of Management Review*, 21, 986-1010.
- Mowen, T. J. (2017). The collateral consequences of "criminalized" school punishment on disadvantaged parents and families. *The Urban Review*, 49, 832-851.
- Nietzsche, F. (1997). *Twilight of the idols* (R. Polt, Trans.). Hackett Publishing Company. (Original work published 1889).
- North, A. (2020, April 10). Every aspect of the coronavirus pandemic exposes America's devastating inequalities. *Vox*. <https://www.vox.com/2020/4/10/21207520/coronavirus-deaths-economy-layoffs-inequality-covid-pandemic>
- Nosek, B. A. (2005). Moderators of the relationship between implicit and explicit evaluation. *Journal of Experimental Psychology: General*, 134, 565-584.
- Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2007). The Implicit Association Test at age 7: A methodological and conceptual review. In J. A. Bargh (Ed.), *Social psychology and the*

- unconscious: The automaticity of higher mental processes* (pp. 265-292). New York: Psychology Press.
- OECD. (2008). Growing unequal? Income distribution and poverty in OECD countries. Paris, France: Author.
- Oh, D., Shafir, E., & Todorov, A. (2020). Economic status cues from clothes affect perceived competence from faces. *Nature Human Behaviour*, 4, 287-293.
- Oldmeadow, J., & Fiske, S. T. (2007). System-justifying ideologies moderate status=competence stereotypes: Roles for belief in a just world and social dominance orientation. *European Journal of Social Psychology*, 37, 1135-1148.
- Olson, K. R., Shutts, K., Kinzler, K. D., & Weisman, K. G. (2012). Children associate racial groups with wealth: Evidence from South Africa. *Child Development*, 83, 1884-1899.
- Oppel Jr., R. A., Gebeloff, R., Lai, K. K. R., Wright, W., & Smith, M. (2020, July 5). The fullest look yet at the racial inequality of coronavirus. *New York Times*.
<https://www.nytimes.com/interactive/2020/07/05/us/coronavirus-latinos-african-americans-cdc-data.html?referringSource=articleShare>
- Paluck, E. L., Porat, R., Clark, C. S., & Green, D. P. (2021). Prejudice reduction: Progress and challenges. *Annual Review of Psychology*, 72, 533-560.
- Parliamentary and Health Service Ombudsman (2015). Breaking down the barriers: Older people and complaints about health care. Retrieved at:
https://www.ombudsman.org.uk/sites/default/files/Breaking_down_the_barriers_report.pdf
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90, 751-783.

- Piff, P. K., Wiwad, D., Robinson, A. R., Aknin, L. B., Mercier, B., & Shariff, A. (2020). Shifting attributions for poverty motivates opposition to inequality and enhances egalitarianism. *Nature Human Behaviour*, 4, 496-505.
- Piketty, T. (2014). *Capital in the 21st century*. Harvard University Press.
- Prentice, S. (2007). Less access, worse quality. *Journal of Children and Poverty*, 13, 57-73.
- Purdie-Vaughns, V., & Eibach, R. P. (2008). Intersectional invisibility: The distinctive advantages and disadvantages of multiple subordinate-group identities. *Sex Roles*, 59, 377-391.
- R Core Team (2017). *R: A language and environment for statistical computing*. Vienna, Austria: R Foundation for Statistical Computing.
- Rao, G. (2019). Familiarity does not breed contempt: Generosity, discrimination, and diversity in Delhi schools. *American Economic Review*, 109, 774-809.
- Richard, F. D., Bond Jr., C. F., & Stokes-Zoota, J. J. (2003). One hundred years of social psychology quantitatively described. *Review of General Psychology*, 7, 331-363.
- Riley, R. (2018, November 15). #MeToo founder Tarana Burke blasts the movement for ignoring poor women. *Detroit Free Press*.
<https://www.freep.com/story/news/columnists/rochelle-riley/2018/11/15/tarana-burke-metoo-movement/2010310002/>
- Rosenman, S. (2002). Trauma and posttraumatic stress disorder in Australia: Findings in the population sample of the Australian National Survey of Mental Health and Wellbeing. *Australian and New Zealand Journal of Psychiatry*, 36, 515-520.
- Ross, H. L., & Littlefield, N. O. (1978). Complaint as a problem-solving mechanism. *Law & Society Review*, 12, 199-216.

- Rudman, L. A., Feinberg, J., & Fairchild, K. (2002). Minority members' implicit attitudes: Automatic ingroup bias as a function of group status. *Social Cognition, 20*, 294-320.
- Sainz, M., Loughnan, S., Martínez, R., Moya, M., & Rodríguez-Bailón, R. (2020). Dehumanization of socioeconomically disadvantaged groups decreases support for welfare policies via perceived wastefulness. *International Review of Social Psychology, 33*, 1-13.
- Sainz, M., Martínez, R., Sutton, R. M., Rodríguez-Bailón, R., & Moya, M. (2020). Less human, more to blame: Animalizing poor people increases blame and decreases support for wealth redistribution. *Group Processes and Intergroup Relations, 23*, 546-559.
- Santora, T. (2019, August, 15). Refresh my memory. *Psychology Today*.
<https://www.psychologytoday.com/us/articles/201908/refresh-my-memory>
- Schistad, E. I., Stubhaug, A., Furberg, A.-S., Engdahl, B. L., & Nielsen, C. S. (2017). C-reactive protein and cold-pressor tolerance in the general population: The Tromsø Study. *Pain, 158*, 1280-1288.
- Schug, J., Alt, N. P., & Klauer, K. C. (2015). Gendered race prototypes: Evidence for the non-prototypicality of Asian men and Black women. *Journal of Experimental Social Psychology, 56*, 121-125.
- Schuller, R. A., McKimmie, B. M., Masser, B., & Klipperstine, M. A. (2010). Judgments of sexual assault: The impact of complainant emotional demeanor, gender, and victim stereotypes. *New Criminal Law Review, 13*, 759-780.
- Seery, M. D., Leo, R. J., Lupien, S. P., Kondrak, C. L., & Almonte, J. L. (2013). An upside to adversity? Moderate cumulative lifetime adversity is associated with resilient responses in the face of controlled stressors. *Psychological Science, 24*, 1181-1189.

- Seery, M. D., & Quinton, W. J. (2016). Understanding resilience: From negative life events to everyday stressors. In J. M. Olson & M. P. Zanna (Eds.), *Advances in Experimental Social Psychology*, 54 (Vol. 54, pp. 181-245). Cambridge, MA: Academic Press.
- Samuels, A. (2017, December 27). Low-wage workers aren't getting justice for sexual harassment. *The Atlantic*. <https://www.theatlantic.com/business/archive/2017/12/low-wage-workers-sexual-harassment/549158/>
- Sesko, A. K., & Biernat, M. (2010). Prototypes of race and gender: The invisibility of Black women. *Journal of Experimental Social Psychology*, 46, 356-360.
- Shah, A. K., Mullainathan, S., & Shafir, E. (2012). Some consequences of having too little. *Science*, 338, 682-685.
- Shutts, K., Brey, E. L., Dornbusch, L. A., Slywotzky, N., & Olson, K. R. (2016). Children use wealth cues to evaluate others. *PLoS ONE*, 11, e0149360.
- Simonsohn, U. (2014, March 12). No-way interactions [Blog post]. Retrieved from <http://web.archive.org/web/20150206205257/http://datacolada.org/2014/03/12/17-no-way-interactions-2/>
- Sin, S.-C. J. (2011). Neighborhood disparities in access to information resources: Measuring and mapping U.S. public libraries' funding and service landscapes. *Library & Information Science Research*, 33, 41-53.
- Slabbert, I. (2017). Domestic violence and poverty: Some women's experiences. *Research on Social Work Practice*, 27, 223-230.
- Smith, J. P. (1999). Healthy bodies and thick wallets: The dual relation between health and economic status. *Journal of Economic Perspectives*, 13, 145-166.

- Snibbe, A. C., & Markus, H. R. (2005). You can't always get what you want: Educational attainment, agency, and choice. *Journal of Personality and Social Psychology*, 88, 703-720.
- Sokoloff, N. J., & Dupont, I. (2005). Domestic violence at the intersections of race, class, and gender: Challenges and contributions to understanding violence against marginalized women in diverse communities. *Violence Against Women*, 11, 38-64.
- Soll, J. B., Milkman, K. L., & Payne, J. W. (2015). A user's guide to debiasing. In G. Keren & G. Wu (Eds.), *The Wiley Blackwell Handbook of Judgment and Decision Making* (pp. 924-951). John Wiley & Sons.
- Spence, J. T., & Buckner, C. E. (2000). Instrumental and expressive traits, trait stereotypes, and sexist attitudes. *Psychology of Women Quarterly*, 24, 44-62.
- Spencer, B. (2016). The impact of class and sexuality-based stereotyping on rape blame. *Sexualization, Media, & Society*, April-June, 1-8.
- Stevens, A. (2020). Governments cannot just 'follow the science' on COVID-19. *Nature Human Behavior*, 4, 560.
- Taibbi, M. (2014). *The divide: American injustice in the age of the wealth gap*. New York: Spiegel & Grau.
- Tan, C., Basta, J., Sullivan, C. M., & Davidson II, W. S. (1995). The role of social support in the lives of women exiting domestic violence shelters: An experimental study. *Journal of Interpersonal Violence*, 10, 437-451.
- Tensley, B. (2020, April 6). How coronavirus is deepening American inequality. *CNN*.
<https://www.cnn.com/2020/04/06/politics/coronavirus-equalizer-myth-race-income/index.html>

- The White House, Office of the First Lady (2016, June 3). *Remarks by the First Lady at the City College of New York commencement* [Press release]. Retrieved from <https://obamawhitehouse.archives.gov/the-press-office/2016/06/03/remarks-first-lady-city-college-new-york-commencement>
- Tirado, L. (2012). *Hand to mouth: Living in bootstrap American*. New York: Berkley Books.
- Tjaden, P., & Thoennes, N. (2000). Prevalence and consequences of male-to-female and female-to-male intimate partner violence as measured by the National Violence Against Women Survey. *Violence Against Women*, 6, 142-161.
- Topolski, R., Boyd-Bowman, K. A., & Ferguson, H. (2003). Grapes of wrath: Discrimination in the produce aisle. *Analyses of Social Issues and Public Policy*, 3, 111-119.
- Trawalter, S., & Hoffman, K. M. (2015). Got pain? Racial bias in perceptions of pain. *Social and Personality Psychology Compass*, 9, 146-157.
- Turner, R. J., Wheaton, B., & Lloyd, D. A. (1995). The epidemiology of social stress. *American Sociological Review*, 60, 104-125.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124–1131.
- Valentino-DeVris, J., Lu, D. & Dance, G. J. X. (2020, April 3). Location data says it all: Staying at home during coronavirus is a luxury. *New York Times*.
<https://www.nytimes.com/interactive/2020/04/03/us/coronavirus-stay-home-rich-poor.html?referringSource=articleShare>
- Valtorta, R. R., Baldissarri, C., Andrighetto, L., & Volpato, C. (2019). Dirty jobs and dehumanization of workers. *British Journal of Social Psychology*, 58, 955-970.

- Viechtbauer, W. (2010). Conducting meta-analyses in R with the metaphor package. *Journal of Statistical Software*, 36, 1–48.
- van Emmerik, IJ. H., Euwema, M. C., & Bakker, A. B. (2007). Threats of workplace violence and the buffering effect of social support. *Group & Organization Management*, 32, 152-175.
- von Braum, J., Zamagni, S., & Sorondo, M. S. (2020). The moment to see the poor. *Science*, 368, 214.
- Wade, L. (2020, May 14). From Black Death to fatal flu, past pandemics show why people on the margins suffer most. *Science*. <https://www.sciencemag.org/news/2020/05/black-death-fatal-flu-past-pandemics-show-why-people-margins-suffer-most>
- Wadhera, R. K., Wadhera, P., & Gaba, P. (2020). Variation in COVID-19 hospitalizations and deaths across New York City boroughs. *JAMA*, 323, 2192-2195.
- Waytz, A., Hoffman, K. M., & Trawalter, S. (2015). A superhumanization bias in White's perceptions of Blacks. *Social Psychological and Personality Science*, 6, 352-359.
- Weeks, M., & Lupfer, M. B. (2004). Complicating race: The relationship between prejudice, race, and social class categorizations. *Personality and Social Psychology Bulletin*, 30, 972-984.
- Weiner, B., Osborne, D., & Rudolph, U. (2011). An attributional analysis of reactions of poverty: The political ideology of the giver and the perceived morality of the receiver. *Personality and Social Psychology Bulletin*, 15, 199-213.
- Western, B. (2006). *Punishment and inequality in America*. New York: Russel Sage Foundation.
- Wharton, A. S. (2009). The sociology of emotional labor. *Annual Review of Sociology*, 35, 147-165.

- Williams, J. B. (2020). Maximizing #MeToo: Intersectionality and the movement. *Boston College Law Review*, forthcoming.
- Williams, T. M., & Kornblum, W. (1985). *Growing up poor*. Lexington Books.
- Williams, K. E. G., Sng, W., & Neuberg, S. L. (2016). Ecology-driven stereotypes override race stereotypes. *Proceedings of the National Academy of Sciences*, 113, 310-315.
- Wilson, T. D., & Brekke, N. (1994). Mental contamination and mental correction: Unwanted influences on judgments and evaluations. *Psychological Bulletin*, 116, 117-142.
- Wolch, J., Wilson, J. P., & Fehrenbach, J. (2005). Parks and park funding in Los Angeles: An equity-mapping analysis. *Urban Geography*, 26, 4-35.
- Woods, T. A., Kurtz-Costes, B., & Rowley, S. J. (2005). The development of stereotypes about the rich and poor: Age, race, and family income differences in beliefs. *Journal of Youth and Adolescence*, 34, 437-445.
- Woolf, C. J. (2011). Central sensitization: Implications for diagnosis and treatment of pain. *Pain*, 152, S2-S15.
- Wu, S., Cheek, N. N., & Shafir, E. (2021). *Scarcity undermines pleasurable thinking*. Manuscript submitted for publication.
- Yancy, C. W. (2020). COVID-19 and African Americans. *JAMA*, 323, 1891-1892.
- Zucker, G. S., & Weiner, B. (1993). Conservatism and perceptions of poverty: An attributional analysis. *Journal of Applied Social Psychology*, 23, 925-943.

Appendix A: Supplementary Material for Chapter 1

Supplemental Details and Analyses for Main Studies

Participant Demographics

Participant demographics from all studies are presented in Table S1.

Supplemental Analyses: Role of Target Gender

To investigate whether target gender would moderate the effect of target SES on event ratings, we examined the interaction between target SES and gender in each study. As shown in Table S2, in no study did target gender moderate the effect of target SES. Thus, the thick skin bias generalizes across perceptions of both men and women.

Supplemental Analyses: Participant SES and Self-Ratings of Events

Across studies, participants completed measures of their own SES, including their personal income, household income, subjective social status (Adler et al., 2000), and education. For household income, we followed the OECD (2008) equivalence transformation by coding household income as the midpoint of the income bin and dividing it by the square root of the household size, after which we log-transformed this value. We also log-transformed personal income. Education was coded as “working class” if the participant did not have a B.A., and “middle class” if the participant did have a B.A. (Snibbe & Markus, 2005).

Contrary to what would be expected if the thick skin bias reflected a true phenomenon, participant SES was not positively correlated with ratings of how harmful the negative events would be for the self. Instead, participant SES rarely correlated with self-ratings, and when it did, the correlation was negative (see Table S3). The most reliable negative correlated emerged in the nationally representative sample (Study 14), which had the largest SES range.

Supplemental Analyses: Participant SES and the Thick Skin Bias

Participant SES did not reliably moderate the effect of target SES across studies; thus, both lower-SES and higher-SES participants displayed the thick skin bias (see Table S4).

Supplemental Analyses: Perceptions of Others in Relation to the Self

Study 1a. Participants thought that the low-SES target would be less negatively affected than they would be ($M = 6.62$, $SD = 1.31$), $t(105) = -4.23$, $p < .001$, $d = -.41$, 95% CI $[-.68, -.14]$, whereas they thought that the high-SES target would be more negatively affected than they would be ($M = 6.51$, $SD = 1.17$), $t(107) = 11.09$, $p < .001$, $d = 1.07$, 95% CI $[.78, 1.35]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 212) = 94.23$, $p < .001$, $\eta_p^2 = .31$, 90% CI $[.22, .38]$.

Study 1b. Participants thought that the low-SES target would be less negatively affected than they would be ($M = 6.99$, $SD = 1.24$), $t(108) = -6.40$, $p < .001$, $d = -.61$, 95% CI $[-.88, -.34]$, whereas they thought the high-SES target would be more negatively affected than they would be ($M = 6.94$, $SD = 1.14$), $t(99) = 7.10$, $p < .001$, $d = .71$, 95% CI $[.42, 1.00]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 207) = 86.47$, $p < .001$, $\eta_p^2 = .29$, 90% CI $[.21, .37]$.

Study 1c. Participants thought that the low-SES target would be less negatively affected than they would be ($M = 7.06$, $SD = 1.25$), $t(105) = -7.70$, $p < .001$, $d = -.75$, 95% CI $[-1.03, -.47]$, whereas they thought that they high-SES target would be more negatively affected than they would be ($M = 6.84$, $SD = 1.25$), $t(103) = 10.21$, $p < .001$, $d = 1.00$, 95% CI $[.71, 1.29]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 208) = 149.46$, $p < .001$, $\eta_p^2 = .42$, 90% CI $[.34, .49]$.

Study 1d. Participants thought that the low-SES target would be less negatively affected than they would be ($M = 6.83$, $SD = 1.12$), $t(107) = -5.04$, $p < .001$, $d = -.48$, 95% CI $[-.76, -.21]$, whereas they thought that they high-SES target would be more negatively affected than they would be ($M = 6.82$, $SD = 1.04$), $t(113) = 8.16$, $p < .001$, $d = .76$, 95% CI $[.50, 1.03]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 220) = 86.35$, $p < .001$, $\eta_p^2 = .28$, 90% CI $[.20, .36]$.

Study 2. Participants thought that they would be less affected by the negative events ($M = 6.92$, $SD = 1.34$) than the low-SES target, $t(109) = -6.04$, $p < .001$, $d = -.58$, 95% CI $[-.85, -.31]$, whereas they thought they would be more affected by the events ($M = 7.11$, $SD = 1.16$) than the high-SES target, $t(110) = 5.38$, $p < .001$, $d = .51$, 95% CI $[.24, .78]$. Participants thought they would be affected by the negative events to the same degree ($M = 6.92$, $SD = 1.25$) as the neutral target, $t(114) = .62$, $p = .534$, $d = .06$, 95% CI $[-.20, .32]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 333) = 42.90$, $p < .001$, $\eta_p^2 = .20$, 90% CI $[.07, .17]$.

Study 3. Participants thought that the low-SES target would be marginally more positively affected by the events than they would be ($M = 7.99$, $SD = .94$), $t(97) = 1.84$, $p = .069$, $d = .19$, 95% CI $[-.09, .47]$, whereas they thought that the high-SES target would be less positively affected by the events than they would ($M = 7.94$, $SD = 1.15$), $t(96) = -4.87$, $p < .001$, $d = -.49$, 95% CI $[-.78, -.21]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 193) = 24.18$, $p < .001$, $\eta_p^2 = .11$, 90% CI $[.05, .18]$.

Study 4. For the equally unexpected events, participants thought that the negative events would be as harmful for themselves ($M = 6.79$, $SD = 1.16$) as for the low-SES target, $t(143) = -1.39$, $p = .168$, $d = -.12$, 95% CI $[-.35, .12]$, whereas they thought that the high-SES target would

be more negatively affected than they would be ($M = 6.42$, $SD = 1.10$), $t(141) = 13.31$, $p < .001$, $d = 1.17$, 95% CI [.87, 1.37]. This interaction between self- versus target-ratings and condition was significant, $F(1, 284) = 100.97$, $p < .001$, $\eta_p^2 = .26$, 90% CI [.19, .33]. For the differentially expected events, participants thought that the low-SES target would be less negatively affected by the events than they would be ($M = 7.43$, $SD = 1.25$), $t(143) = -3.76$, $p < .001$, $d = -.31$, 95% CI [-.55, -.08], whereas they thought that the high-SES target would be more negatively affected than they would be ($M = 7.01$, $SD = 1.39$), $t(141) = 12.03$, $p < .001$, $d = 1.01$, 95% CI [.76, 1.26]. This interaction between self- versus target-ratings and condition was again significant, $F(1, 284) = 123.37$, $p < .001$, $\eta_p^2 = .30$, 90% CI [.23, .37].

Study 5a. There was a three-way interaction between past SES, present SES, and participants' ratings of the effect of the events for themselves and the target, $F(1, 200) = 9.96$, $p = .002$, $\eta_p^2 = .05$, 90% CI [.01, .10]. The only target for whom participants thought the negative events would be worse than for themselves ($M_{self} = 6.68$, $SD_{self} = 1.25$) was the target who was high-SES in both the past and present, $t(51) = 3.60$, $p = .001$, $d = .50$, 95% CI [.11, .89]. Participants thought the events would be worse for themselves when they rated the target who was previously high-SES but was now low-SES ($M_{self} = 6.98$, $SD_{self} = .96$), $t(52) = -4.84$, $p < .001$, $d = -.67$, 95% CI [-1.06, -.27], the target who was previously low-SES but was now high-SES ($M_{self} = 6.87$, $SD_{self} = .97$), $t(46) = -6.43$, $p < .001$, $d = -.94$, 95% CI [-1.36, -.51], and the target who was low-SES in both the past and the present ($M_{self} = 6.81$, $SD_{self} = 1.22$), $t(51) = -9.21$, $p < .001$, $d = -1.28$, 95% CI [-1.70, -.86]. This latter difference was also the largest self-other difference.

Study 5b. There was a three-way interaction between past SES, present SES, and participants' ratings of the effect of the events for themselves and the target, $F(1, 219) = 57.89$, p

$< .001$, $\eta_p^2 = .21$, 90% CI [.13, .28]. The only target for whom participants thought the negative events would be worse than for themselves ($M_{self} = 6.89$, $SD_{self} = 1.21$) was the target who was high-SES in both the past and present, $t(58) = 6.78$, $p < .001$, $d = .88$, 95% CI [.51, 1.26].

Participants thought the events would be worse for themselves when they rated the target who was previously high-SES but was now low-SES ($M_{self} = 6.76$, $SD_{self} = 1.00$), $t(57) = -9.76$, $p < .001$, $d = -1.28$, 95% C([-1.68, .88], the target who was previously low-SES but was now high-SES ($M_{self} = 4.49$, $SD_{self} = 1.43$), $t(52) = -6.33$, $p < .001$, $d = -.87$, 95% CI [-1.27, -.47], and the target who was low-SES in both the past and the present ($M_{self} = 6.83$, $SD_{self} = 1.17$), $t(52) = -6.83$, $p < .001$, $d = -.94$, 95% CI [-1.34, -.54].

Study 6. Despite the fact that they were adults rating the effect of the negative events on a child, participants thought that the low-SES child would be less affected than they would be ($M = 6.63$, $SD = 1.21$), $t(171) = -8.38$, $p < .001$, $d = -.64$, 95% CI [-.86, -.42], whereas they thought that the high-SES child would be more negatively affected than they would be ($M = 6.67$, $SD = 1.23$), $t(183) = 7.87$, $p < .001$, $d = .58$, 95% CI [.37, .79]. This interaction between self- versus target-ratings and condition was significant, $F(1, 354) = 133.04$, $p < .001$, $\eta_p^2 = .27$, 90% CI [.21, .33].

Study 7. Participants thought that the low-SES child would be more positively affected by the events than they would be ($M = 7.87$, $SD = 1.19$), $t(185) = 3.71$, $p < .001$, $d = .27$, 95% CI [.07, .48], whereas they thought that the high-SES child would be less positively affected by the events than they would be ($M = 7.97$, $SD = 1.02$), $t(188) = -2.98$, $p = .003$, $d = -.22$, 95% CI [-.42, -.01]. This interaction between self- versus target-ratings and condition was significant, $F(1, 373) = 21.72$, $p < .001$, $\eta_p^2 = .06$, 90% CI [.02, .10].

Study 8. Despite the fact that they were adults rating the effect of the negative events on a child, participants thought that the low-SES child would be less affected than they would be ($M = 6.15$, $SD = 1.44$), $t(211) = -2.97$, $p = .003$, $d = -.20$, 95% CI $[-.39, -.01]$, whereas they thought that the high-SES child would be more negatively affected than they would be ($M = 6.28$, $SD = 1.49$), $t(196) = 14.13$, $p < .001$, $d = 1.01$, 95% CI $[.80, 1.22]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 407) = 108.59$, $p < .001$, $\eta_p^2 = .21$, 90% CI $[.16, .27]$.

Study 9. Participants thought they would be less positively affected by the events ($M = 7.64$, $SD = 1.30$) than the child target, $t(420) = 7.01$, $p < .001$, $d = .35$, 95% CI $[.21, .48]$, and this difference was equally large for the low-SES and high-SES child, $F(1, 419) = .65$, $p = .422$, $\eta_p^2 = .00$, 90% CI $[.00, .01]$.

Study 11. Participants thought that the negative events would be as harmful for themselves ($M = 6.57$, $SD = 1.20$) as for the low-SES target, $t(44) = -1.35$, $p = .183$, $d = -.20$, 95% CI $[-.62, .21]$, whereas they thought the events would be less harmful for themselves ($M = 6.41$, $SD = 1.07$) than for the high-SES target, $t(43) = 6.90$, $p < .001$, $d = 1.04$, 95% CI $[.60, 1.49]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 87) = 28.66$, $p < .001$, $\eta_p^2 = .25$, 90% CI $[.12, .36]$.

Study 12. Participants thought that they would be more negatively affected by the events ($M = 6.16$, $SD = 1.15$) than the low-SES target, $t(18) = -2.90$, $p = .010$, $d = -.67$, 95% CI $[-1.32, -.01]$, whereas they thought they would be less negatively affected ($M = 6.03$, $SD = 1.44$) than the high-SES target, $t(17) = 4.14$, $p = .001$, $d = .98$, 95% CI $[.29, 1.67]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 35) = 20.28$, $p < .001$, $\eta_p^2 = .37$, 90% CI $[.16, .52]$.

Study 13.

First Sample. Participants thought that the events would negatively affect themselves ($M = 6.22$, $SD = 1.35$) to the same extent as the low-SES 10-year-old, $t(25) = -1.21$, $p = .240$, $d = -.24$, 95% CI $[-.78, -.31]$, whereas they thought that they would be less negatively affected ($M = 5.49$, $SD = 1.73$) than the high-SES 10-year-old, $t(26) = 3.71$, $p = .001$, $d = .71$, 95% CI $[.16, 1.26]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 51) = 11.93$, $p = .001$, $\eta_p^2 = .19$, 90% CI $[.05, .34]$.

Second Sample. Participants thought that they would less negatively affected by the events than both the low-SES child ($M = 5.54$, $SD = 1.75$), $t(70) = 3.53$, $p = .001$, $d = .42$, 95% CI $[.09, .75]$, and the high-SES child ($M = 5.65$, $SD = 1.64$), $t(84) = 10.08$, $p < .001$, $d = 1.09$, 95% CI $[.77, 1.42]$. The self-other difference was larger for the high-SES child than for the low-SES child, $F(1, 154) = 5.23$, $p = .024$, $\eta_p^2 = .03$, 90% CI $[.00, .09]$.

Study 14. Participants thought that the low-SES target would be as affected by the events as they would be ($M = 6.59$, $SD = 1.34$), $t(391) = -1.05$, $p = .297$, $d = -.05$, 95% CI $[-.19, .09]$, whereas they thought that the high-SES target would be more negatively affected by the events than they would be ($M = 6.60$, $SD = 1.16$), $t(379) = 10.33$, $p < .001$, $d = .53$, 95% CI $[.38, .67]$. This interaction between self- versus other-ratings was significant, $F(1, 707) = 35.23$, $p < .001$, $\eta_p^2 = .05$, 90% CI $[.02, .08]$, and was not qualified by target gender, $F(1, 707) = .36$, $p = .551$, $\eta_p^2 = .00$, 90% CI $[.00, .01]$, target race, $F(1, 707) = 1.35$, $p = .245$, $\eta_p^2 = .00$, 90% CI $[.00, .01]$, or their interaction, $F(1, 707) = 2.66$, $p = .104$, $\eta_p^2 = .00$, 90% CI $[.00, .01]$.

Supplemental Studies

Supplemental Study 1

Sample. We recruited 251 participants through MTurk. To be included in analyses, participants were required to pass an attention check question and confirm that they did not respond randomly. In total, 238 participants met these criteria and were included in analyses.

Materials and Procedure. Participants were randomly assigned to read about either a low-SES or high-SES White man (using the SES descriptions from previous studies). After reading about the individual, participants rated how unexpected a series of 10 events would be on a scale from 0 (not at all unexpected) to 10 (extremely unexpected). The events are presented in Table S15.

Results. We compared the perceived unexpectedness of each event for the low-SES and high-SES target. Five of the events were rated as equally unexpected (see Table S15) for both individuals. We chose these five events to use for Studies 4 and 15.

Supplemental Study 2

Sample. We recruited 294 participants through MTurk, of whom 266 met the inclusion criteria from Supplemental Study 1.

Materials and Procedure. The materials and procedure were identical to Study 1a, with one exception. In addition to rating how negatively affected the low-SES or high-SES target would be by the 11 events, participants also rated how tough the target seemed on four questions (“How tough do you think Jordan is?”; “How weak do you think Jordan is?” [reversed]; “How resilient do you think Jordan is?”; and “How easily upset do you think Jordan is?” [reversed]). We expected that the low-SES target would be perceived as tougher, and that this perception would mediate the effect of SES condition on the perceived impact of the negative events.

Results. As in previous studies, participants thought the low-SES target would be less affected by the negative events ($M = 7.37$, $SD = 1.71$) than the high-SES target ($M = 8.93$, $SD =$

1.41), $t(264) = 8.09, p < .001, d = .99, 95\% \text{ CI } [.72, 1.26]$. Participants also thought that the low-SES target was tougher ($M = 7.25, SD = 1.64$) than the high-SES target ($M = 4.97, SD = 1.87$), $t(264) = -10.57, p < .001, d = -1.30, 95\% \text{ CI } [-1.58, -1.01]$, and this perception mediated the effect of SES on perceived harm using Hayes' (2013) PROCESS macro for SPSS with 5,000 resamples, indirect effect = .57, 95% CI [.27, .89].

Supplemental Study 3

Sample. We recruited 301 participants through MTurk, of whom 214 met the inclusion criteria (passing two attention check questions and confirming nonrandom responding).

Materials and Procedure. Participants were randomly assigned to read about a White man, a White woman, a Black man, or a Black woman. All targets were described as high-SES using the descriptions from previous studies. After reading about a target, participants provided their perception of the target's general social class and of the target's income. Participants rated the target's social class on a 5-point scale with common class labels (poor, working class, middle class, upper-middle class, upper class). Participants rated the target's perceived income on the same 12-point scale used to indicate their own income, which ranged from "Less than \$10,000" to "More than \$150,000."

Results. Participants perceived the high-SES White target to be of a higher social class ($M = 3.85, SD = .77$) than the high-SES Black target ($M = 3.48, SD = .86$), $t(202.49) = 3.35, p = .001, d = .46, 95\% \text{ CI } [.19, .74]$. Participants also perceived the high-SES White target as earning a higher income ($M = 7.40, SD = 2.90$) than the high-SES Black target ($M = 6.87, SD = 2.42$), though this difference was not significant, $t(212) = 1.43, p = .153, d = .20, 95\% \text{ CI } [-.07, .47]$. Target gender did not moderate the effect of target race on perceptions of class, $F(1, 210) = 1.12,$

$p = .292$, $\eta_p^2 = .01$, 90% CI [.00, .03], or income, $F(1, 210) = .52$, $p = .474$, $\eta_p^2 = .00$, 90% CI [.00, .03].

Supplemental Study 4

Sample. We recruited 352 participants through MTurk, of whom 203 met the inclusion criteria from Supplemental Study 3.

Materials and Procedure. The materials and procedure were identical to Study 1a, with one exception. Instead of describing targets as relatively low- or high-SES, we described targets as having experienced a relatively large or small amount of hardship (while holding SES constant). Specifically, in the condition with more hardship, participants read the following:

Jordan lives in a large city in the U.S. He [she] grew up in a middle-class household and has never had to struggle financially. Nonetheless, Jordan has experienced many hardships in his [her] life. He [she] had few friends growing up, and his [her] parents often neglected him [her]. He [she] has also faced some health problems and suffered personal losses.

In contrast, in the condition with little hardship, participants instead read:

Jordan lives in a large city in the U.S. He [she] grew up in a middle-class household and has never had to struggle financially. Jordan has experienced few hardships in his [her] life. He [she] had many friends growing up, and his [her] parents doted on him [her]. He [she] has always been in good health and has never suffered any great personal losses.

We expected that targets who had experienced more hardship would be perceived as less negatively affected by the events than targets who had experienced less hardship.

Results. Participants thought the target who had experienced more hardship would be less affected by the negative events ($M = 6.90$, $SD = 1.58$) than the target who had experienced less hardship ($M = 7.56$, $SD = 1.49$), $t(201) = 3.07$, $p = .002$, $d = .43$, 95% CI [.15, .71]. The effect of hardship was not moderated by target gender, $F(1, 199) = .00$, $p = .967$, $\eta_p^2 = .00$.

Participants thought that the target who experienced more hardship would be slightly less negatively affected than they would be ($M = 7.11$, $SD = 1.37$), $t(105) = -1.72$, $p = .088$, $d = -.17$, 95% CI $[-.44, .10]$, whereas they thought that the target who experienced less hardship would be more negatively affected than they would be ($M = 7.20$, $SD = 1.38$), $t(96) = 3.03$, $p = .003$, $d = .31$, 95% CI $[.02, .59]$. This interaction between self- versus target-ratings and condition was significant, $F(1, 201) = 11.10$, $p = .001$, $\eta_p^2 = .05$, 90% CI $[.01, .11]$.

Supplemental Study 5

Sample. We recruited 352 participants through MTurk, of whom 265 met the inclusion criteria from Supplemental Studies 3 and 4.

Materials and Procedure. The procedure was similar to Study 1a, except that participants rated the impact of the 11 negative events for both a low-SES and a high-SES target (i.e., the design was within-subjects). Participants read about a male target named Jordan who was described as relatively low-SES using the relevant description from Study 1a, as well as a target named Thomas, who was described as relatively high-SES using the relevant description from Study 1a. Participants read about the two targets in a counterbalanced order; order did not moderate results, $F(1, 263) = 2.01$, $p = .157$, $\eta_p^2 = .01$, 90% CI $[.00, .03]$.

Results. As in the between-subjects version, participants thought that the low-SES target would be less affected by the negative events ($M = 6.24$, $SD = 1.74$) than the high-SES target ($M = 7.66$, $SD = 1.35$), $t(264) = 12.01$, $p < .001$, $d = .74$, 95% CI $[.56, .91]$. Thus, even when the comparison between low- and high-SES targets was made more explicit, participants displayed the thick skin bias.

Supplemental Study 6

Sample. We recruited 118 participants through MTurk, of whom 111 met the inclusion criteria from Supplemental Study 1.

Materials and Procedure. Participants were randomly assigned to one of two conditions. In the “poor” condition, participants were asked, “What do you think the typical poor person’s sensitivity to pain is?” In the “rich” condition, participants were asked the same question but about a “typical rich person.” Participants responded by rating pain sensitivity on a scale from 0 (not at all sensitive) to 100 (most sensitive imaginable).

Results. Participants thought that the typical poor person was less sensitive to pain ($M = 52.31$, $SD = 16.46$) than the typical rich person ($M = 64.68$, $SD = 19.03$), $t(109) = 3.66$, $p < .001$, $d = .69$, 95% CI [.30, 1.09].

Table S1: Participant Demographics

Study	Gender (%)	Age	Ethnicity (%)	Personal Income (%)	Household Income (%)	Social Status	Personal Education (%)
Study 1a	Female: 53.7 Male: 46.3	M = 35.69 SD = 12.74	Black: 7.5 Asian: 7.0 White: 74.8 Latinx: 3.7 Native American: .9 Multiracial: 5.1 Other: .9	<10K: 26.2 10K-19,999: 13.1 20K-29,999: 15.0 30K-30,999: 13.1 40K-49,999: 7.5 50K-50,999: 5.1 60K-69,999: 7.9 70K-79,999: 4.7 80K-89,999: 2.3 90K-99,999: 2.3 100K-149,999: 1.9 >150K: .9	<10K: 6.1 10K-19,999: 5.6 20K-29,999: 10.7 30K-30,999: 9.8 40K-49,999: 12.6 50K-50,999: 10.7 60K-69,999: 9.8 70K-79,999: 9.3 80K-89,999: 5.1 90K-99,999: 5.6 100K-149,999: 8.9 >150K: 5.6	M = 4.90 SD = 1.71	Working Class: 51.9 Middle Class: 48.1
Study 1b	Female: 53.1 Male: 46.4 Other: .5	M = 35.99 SD = 11.88	Black: 9.6 Asian: 4.3 White: 78.0 Latinx: 4.8 Native American: 1.0 Multiracial: 2.4	<10K: 19.1 10K-19,999: 12.9 20K-29,999: 10.0 30K-30,999: 14.4 40K-49,999: 11.5 50K-50,999: 15.8 60K-69,999: 5.7 70K-79,999: 4.3 80K-89,999: 2.9 90K-99,999: 1.0 100K-149,999: 2.4 >150K: 0	<10K: 3.3 10K-19,999: 6.7 20K-29,999: 12.0 30K-30,999: 12.4 40K-49,999: 10.0 50K-50,999: 12.9 60K-69,999: 8.6 70K-79,999: 6.2 80K-89,999: 7.2 90K-99,999: 7.2 100K-149,999: 10.5 >150K: 2.9	M = 5.35 SD = 1.76	Working Class: 45.9 Middle Class: 54.1
Study 1c	Female: 52.4 Male: 47.1 Other: .5	M = 34.39 SD = 10.61	Black: 10.5 Asian: 7.6 White: 72.4 Latinx: 4.8	<10K: 19.5 10K-19,999: 16.2 20K-29,999: 13.8	<10K: 3.8 10K-19,999: 6.2 20K-29,999: 12.4	M = 5.01 SD = 1.90	Working-Class: 41.9 Middle Class: 58.1

				Native American: 1.0 Multiracial: 3.3 Other: .5	30K-30,999: 13.3 40K-49,999: 11.9 50K-50,999: 3.8 60K-69,999: 9.0 70K-79,999: 6.2 80K-89,999: 1.4 90K-99,999: 1.0 100K-149,999: 3.3 >150K: .5	30K-30,999: 14.4 40K-49,999: 10.5 50K-50,999: 9.1 60K-69,999: 9.6 70K-79,999: 7.2 80K-89,999: 3.8 90K-99,999: 5.3 100K-149,999: 12.9 >150K: 4.8 <10K: 2.3 10K-19,999: 5.9 20K-29,999: 13.1 30K-30,999: 7.2 40K-49,999: 11.8 50K-50,999: 12.2 60K-69,999: 7.7 70K-79,999: 11.3 80K-89,999: 4.1 90K-99,999: 7.2 100K-149,999: 12.7 >150K: 4.5 <10K: 3.0 10K-19,999: 5.1 20K-29,999: 7.5 30K-30,999: 11.3 40K-49,999: 11.3 50K-50,999: 10.7 60K-69,999: 10.1 70K-79,999: 9.0 80K-89,999: 6.0 90K-99,999: 7.5				
Study 1d	Female: 54.5 Male: 45.0 Other: .5	M = 34.24 SD = 11.25	Black: 9.0 Asian: 8.1 White: 68.8 Latinx: 9.5 Native American: .5 Multiracial: 3.2 Other: .9					M = 5.16 SD = 1.68	Working Class: 43.9 Middle Class: 56.1	
Study 2	Female: 50.7 Male: 49.3	M = 34.99 SD = 11.90	Black: 15.5 Asian: 3.6 White: 73.4 Latinx: 3.3 Native American: 2.4 Multiracial: 1.5 Other: .3					M = 5.54 SD = 1.79	Working Class: 38.2 Middle Class: 61.8	

Study 3	Female: 55.4 Male: 44.1 Other: .5	M = 35.24 SD = 10.69	Black: 7.7 Asian: 4.6 White: 82.6 Latinx: 3.1 Native American: .5 Multiracial: 1.5	100K-149,999: 4.2 >150K: 1.5	100K-149,999: 13.4 >150K: 5.1 <10K: 3.6 10K-19,999: 7.2 20K-29,999: 7.7 30K-30,999: 9.7 40K-49,999: 11.8 50K-50,999: 9.7 60K-69,999: 12.3 70K-79,999: 9.2 80K-89,999: 4.6 90K-99,999: 7.2 100K-149,999: 11.3	M = 5.09 SD = 1.74	Working Class: 50.3 Middle Class: 49.7
				<10K: 19.5 10K-19,999: 12.8 20K-29,999: 12.3 30K-30,999: 16.4 40K-49,999: 13.8 50K-50,999: 7.7 60K-69,999: 5.1 70K-79,999: 4.6 80K-89,999: 2.6 90K-99,999: 1.5 100K-149,999: 3.1 >150K: .5	<10K: 5.6 <10K: 8.4 10K-19,999: 8.4 20K-29,999: 10.9 30K-30,999: 11.9 40K-49,999: 8.1 50K-50,999: 10.2 60K-69,999: 7.7 70K-79,999: 8.1 80K-89,999: 4.9 90K-99,999: 6.3 100K-149,999: 9.5 >150K: 5.6 <10K: 3.4 10K-19,999: 5.4 20K-29,999: 11.3 30K-30,999: 11.8		
Study 4	Female: 53.7 Male: 44.9 Other: 1.4	M = 33.04 SD = 13.24	Black: 6.3 Asian: 11.9 White: 69.8 Latinx: 6.3 Multiracial: 5.3 Other: .4	<10K: 33.3 10K-19,999: 14.4 20K-29,999: 11.9 30K-30,999: 13.3 40K-49,999: 6.3 50K-50,999: 5.6 60K-69,999: 3.2 70K-79,999: 6.3 80K-89,999: 2.5 90K-99,999: .4 100K-149,999: 1.4 >150K: 1.4	<10K: 33.3 10K-19,999: 14.4 20K-29,999: 11.9 30K-30,999: 13.3 40K-49,999: 6.3 50K-50,999: 5.6 60K-69,999: 3.2 70K-79,999: 6.3 80K-89,999: 2.5 90K-99,999: .4 100K-149,999: 1.4 >150K: 1.4	M = 4.87 SD = 1.70	Working Class: 52.3 Middle Class: 47.7
				<10K: 19.1 10K-19,999: 11.3 20K-29,999: 16.2 30K-30,999: 13.7	<10K: 5.6 <10K: 3.4 10K-19,999: 5.4 20K-29,999: 11.3 30K-30,999: 11.8		
Study 5a	Female: 60.3 Male: 39.7	M = 34.19 SD = 10.54	Black: 5.9 Asian: 9.3 White: 76.0 Latinx: 4.9	<10K: 19.1 10K-19,999: 11.3 20K-29,999: 16.2 30K-30,999: 13.7	<10K: 5.6 <10K: 3.4 10K-19,999: 5.4 20K-29,999: 11.3 30K-30,999: 11.8	M = 5.03 SD = 1.67	Working Class: 48.0 Middle Class: 52.0
				<10K: 19.1 10K-19,999: 11.3 20K-29,999: 16.2 30K-30,999: 13.7	<10K: 5.6 <10K: 3.4 10K-19,999: 5.4 20K-29,999: 11.3 30K-30,999: 11.8		

Study 5b	Female: 55.6 Male: 43.9 Other: .4 M = 36.36 SD = 12.56 Black: 4.0 Asian: 8.5 White: 74.4 Latinx: 7.6 Native American: 2.2 Multiracial: 2.7 Other: .4	Native American: 2.0 Multiracial: 2.0	40K-49,999: 13.2	40K-49,999: 12.7	M = 4.91 SD = 1.69 Working Class: 49.8 Middle Class: 50.2
			50K-50,999: 9.8	50K-50,999: 10.8	
			60K-69,999: 3.4	60K-69,999: 3.9	
			70K-79,999: 3.9	70K-79,999: 10.3	
			80K-89,999: 2.9	80K-89,999: 8.8	
			90K-99,999: 2.9	90K-99,999: 4.4	
			100K-149,999: 3.4	100K-149,999: 10.8	
			>150K: 0	>150K: 6.4	
			<10K: 24.2	<10K: 7.6	
			10K-19,999: 9.4	10K-19,999: 5.4	
Study 6	Female: 58.1 Male: 41.3 Other: .6 M = 36.29 SD = 11.35 Black: 11.2 Asian: 5.6 White: 73.0 Latinx: 6.7 Native American: .6 Multiracial: 2.2 Other: .6	Black: 11.2 Asian: 5.6 White: 73.0 Latinx: 6.7 Native American: .6 Multiracial: 2.2 Other: .6	40K-49,999: 18.3	40K-49,999: 7.3	M = 4.86 SD = 1.72 Working Class: 43.8 Middle Class: 56.2
			50K-50,999: 14.6	50K-50,999: 13.5	
			60K-69,999: 5.1	60K-69,999: 7.9	
			70K-79,999: 5.6	70K-79,999: 8.7	
			80K-89,999: 1.1	80K-89,999: 5.9	
			90K-99,999: 2.5	90K-99,999: 6.7	
			100K-149,999: 3.7	100K-149,999: 13.0	
			>150K: 1.3	>150K: 4.0	
			<10K: 18.3	<10K: 3.1	
			10K-19,999: 11.0	10K-19,999: 7.3	

Study 7	Female: 64.5 Male: 35.2 Other: .3	M = 37.58 SD = 11.64	Black: 7.2 Asian: 5.9 White: 78.9 Latinx: 3.7 Native American: 1.3 Multiracial: 2.7 Other: .3	<10K: 20.0 10K-19,999: 9.6 20K-29,999: 15.2 30K-30,999: 14.7 40K-49,999: 11.5 50K-50,999: 10.4 60K-69,999: 6.7 70K-79,999: 5.6 80K-89,999: 1.1 90K-99,999: 2.1 100K-149,999: 2.7 >150K: .5	>150K: 1.7 100K-149,999: 10.4 >150K: 5.1 <10K: 2.9 10K-19,999: 4.3 20K-29,999: 10.7 30K-30,999: 9.9 40K-49,999: 9.3 50K-50,999: 10.4 60K-69,999: 9.3 70K-79,999: 13.6 80K-89,999: 4.3 90K-99,999: 8.0 100K-149,999: 13.3	M = 5.18 SD = 1.69	Working Class: 45.9 Middle Class: 54.1
Study 8	Female: 57.2 Male: 42.8	M = 36.08 SD = 11.96	Black: 7.3 Asian: 7.3 White: 72.9 Latinx: 7.8 Native American: .5 Multiracial: 4.2	<10K: 19.3 10K-19,999: 11.0 20K-29,999: 16.1 30K-30,999: 12.7 40K-49,999: 11.7 50K-50,999: 8.1 60K-69,999: 7.8 70K-79,999: 2.9 80K-89,999: 2.2 90K-99,999: 2.9 100K-149,999: 3.7 >150K: 1.5	>150K: 4.0 <10K: 2.7 10K-19,999: 5.1 20K-29,999: 11.2 30K-30,999: 10.0 40K-49,999: 12.7 50K-50,999: 9.8 60K-69,999: 10.8 70K-79,999: 9.0 80K-89,999: 4.6 90K-99,999: 5.1 100K-149,999: 11.5 >150K: 7.3 <10K: 4.8 10K-19,999: 7.4 20K-29,999: 6.9 30K-30,999: 10.7	M = 5.24 SD = 1.65	Working Class: 47.7 Middle Class: 52.3
Study 9	Female: 58.4 Male: 40.9 Other: .7	M = 35.14 SD = 10.99	Black: 8.1 Asian: 9.0 White: 72.4 Latinx: 4.5 Native American: .5	<10K: 20.0 10K-19,999: 14.0 20K-29,999: 10.0 30K-30,999: 12.6	>150K: 1.5 <10K: 20.0 10K-19,999: 14.0 20K-29,999: 10.0 30K-30,999: 12.6	M = 5.21 SD = 1.72	Working Class: 46.8 Middle Class: 53.2

Study 10	Female: 31.8 Male: 68.2	M = 37.48 SD = 12.94	Black: 0 Asian: 4.5 White: 65.9 Latinx: 20.5 Multiracial: 2.3 Other: 6.8	Multiracial: 5.2 Other: .2	40K-49,999: 14.7 50K-50,999: 10.0 60K-69,999: 5.7 70K-79,999: 5.5 80K-89,999: 2.6 90K-99,999: 1.2 100K-149,999: 2.4 >150K: 1.4	40K-49,999: 13.5 50K-50,999: 10.5 60K-69,999: 8.3 70K-79,999: 9.7 80K-89,999: 5.9 90K-99,999: 6.4 100K-149,999: 11.2 >150K: 4.8 <10K: 2.3 10K-19,999: 0 20K-29,999: 4.5 30K-30,999: 2.3 40K-49,999: 9.1 50K-50,999: 2.3 60K-69,999: 4.5 70K-79,999: 6.8 80K-89,999: 6.8 90K-99,999: 2.3 100K-149,999: 31.8	M = 6.20 SD = 1.32	Working Class: 40.9 Middle Class: 59.1
Study 11	Female: 91.0 Male: 7.9 Other: 1.1	M = 28.26 SD = 8.09	Black: 4.5 Asian: 7.9 White: 71.9 Latinx: 6.7 Native American: 1.1 Multiracial: 6.7 Other: 1.1		>150K: 6.8 <10K: 34.8 10K-19,999: 12.4 20K-29,999: 6.7 30K-30,999: 6.7 40K-49,999: 7.9 50K-50,999: 13.5 60K-69,999: 13.5 70K-79,999: 1.1 80K-89,999: 1.1 90K-99,999: 1.1 100K-149,999: 1.1	>150K: 27.3 <10K: 13.5 10K-19,999: 9.0 20K-29,999: 3.4 30K-30,999: 6.7 40K-49,999: 15.7 50K-50,999: 10.1 60K-69,999: 7.9 70K-79,999: 4.5 80K-89,999: 4.5 90K-99,999: 4.5	M = 6.72 SD = 1.32	Working Class: 0 Middle Class: 100

Study 12	Female: 73.0 Male: 24.3 Other: 2.7	M = 25.84 SD = 3.10	White: 91.9 Multiracial: 2.7 Other: 5.4	>150K: 0	100K-149,999: 10.1 >150K: 10.1 <10K: 13.5 10K-19,999: 5.4 20K-29,999: 8.1 30K-30,999: 10.8 40K-49,999: 5.4 50K-50,999: 5.4 60K-69,999: 8.1 70K-79,999: 13.5 80K-89,999: 2.7 90K-99,999: 8.1 100K-149,999: 10.8 >150K: 8.1	M = 6.76 SD = 1.06	Working Class: 0 Middle Class: 100
Study 13 (First Sample)	Female: 75 Male: 25	M = 37.15 SD = 10.52					
Study 13 (Second Sample)	Female: 59.6 Male: 38.5 Prefer not to disclose: 1.9	M = 43.99 SD = 11.11	Black: 6.4 Asian: 7.6 White: 85.3 Latinx: 4.5 Native American: 3.2 Other: .6 Prefer not to disclose: 3.8				
Study 14	Female: 51.8 Male: 48.2	M = 48.32 SD = 15.81	Black: 9.9 Asian: 3.8 White: 80.9 Native American: .8 Multiracial: 4.0		<10K: 5.6 10K-19,999: 4.1 20K-29,999: 7.5 30K-30,999: 11.4 40K-49,999: 10.8 50K-50,999: 7.9		Working Class: 61.3 Middle Class: 38.7

60K-74,999: 11.8
75K-99,999: 14.3
100K-149,999: 14.9
>150K: 11.6

Table S2: Interactions Between Target SES and Gender Across Studies

Study	Target SES X Gender Interaction
Study 1a	$F(1, 210) = 1.62, p = .204, \eta_p^2 = .01, 90\% \text{ CI } [.00, .04]$
Study 1b	$F(1, 205) = 3.75, p = .054, \eta_p^2 = .02, 90\% \text{ CI } [.00, .06]$
Study 1c	$F(1, 206) = 2.39, p = .124, \eta_p^2 = .01, 90\% \text{ CI } [.00, .05]$
Study 1d	$F(1, 218) = 2.09, p = .150, \eta_p^2 = .01, 90\% \text{ CI } [.00, .04]$
Study 2	$F(1, 330) = 1.78, p = .170, \eta_p^2 = .01, 90\% \text{ CI } [.00, .03]$
Study 3	$F(1, 191) = 1.11, p = .293, \eta_p^2 = .01, 90\% \text{ CI } [.00, .04]$
Study 4—Equally Expected	$F(1, 282) = .23, p = .631, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Study 4—Differentially Expected	$F(1, 282) = 1.03, p = .301, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
Study 6	$F(1, 352) = 1.42, p = .235, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
Study 7	$F(1, 371) = .38, p = .536, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Study 8	$F(1, 405) = .06, p = .802, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Study 9	$F(1, 417) = .22, p = .638, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Study 11	$F(1, 85) = .94, p = .336, \eta_p^2 = .01, 90\% \text{ CI } [.00, .07]$
Study 12	$F(1, 33) = .28, p = .598, \eta_p^2 = .01, 90\% \text{ CI } [.00, .12]$
Study 13 – First Sample	$F(1, 49) = .66, p = .420, \eta_p^2 = .01, 90\% \text{ CI } [.00, .11]$
Study 13 – Second Sample	$F(1, 152) = 2.20, p = .140, \eta_p^2 = .01, 90\% \text{ CI } [.00, .06]$

Note. Studies 5a, 5b, and 10 had only male targets. The effects of target gender in Study 14 are reported in the main text.

Table S3: Relations between Participant SES and Self-Rated Harm of Events

Study	SES Variable			
	Personal Income	Household Income	Subjective Status	Education
Study 1a	$r = -.16, p = .019$	$r = -.07, p = .289$	$r = -.03, p = .638$	$r = -.03, p = .627$
Study 1b	$r = .00, p = .971$	$r = -.06, p = .358$	$r = .00, p = .995$	$r = .04, p = .531$
Study 1c	$r = -.01, p = .890$	$r = -.01, p = .908$	$r = .11, p = .111$	$r = -.08, p = .273$
Study 1d	$r = -.05, p = .417$	$r = -.05, p = .433$	$r = .04, p = .551$	$r = -.14, p = .034$
Study 2	$r = -.03, p = .623$	$r = -.02, p = .821$	$r = .12, p = .077$	$r = -.04, p = .555$
Study 3	$r = -.10, p = .172$	$r = -.03, p = .674$	$r = -.01, p = .870$	$r = -.06, p = .413$
Study 4-EE	$r = .03, p = .563$	$r = .02, p = .709$	$r = .01, p = .840$	$r = -.08, p = .159$
Study 4-DE	$r = .05, p = .356$	$r = .01, p = .911$	$r = .01, p = .931$	$r = .05, p = .368$
Study 5a	$r = -.02, p = .818$	$r = -.07, p = .287$	$r = .13, p = .056$	$r = .10, p = .166$
Study 5b	$r = -.07, p = .302$	$r = -.05, p = .419$	$r = -.03, p = .693$	$r = -.08, p = .260$
Study 6	$r = -.10, p = .049$	$r = -.06, p = .251$	$r = .03, p = .619$	$r = .01, p = .873$
Study 7	$r = -.10, p = .050$	$r = -.02, p = .651$	$r = .03, p = .566$	$r = -.15, p = .004$
Study 8	$r = -.04, p = .396$	$r = -.04, p = .429$	$r = .04, p = .418$	$r = -.03, p = .523$
Study 9	$r = .04, p = .370$	$r = .06, p = .207$	$r = .05, p = .266$	$r = .07, p = .151$
Study 11	$r = .10, p = .359$	$r = .03, p = .787$	$r = .07, p = .499$	
Study 12	$r = .13, p = .440$	$r = -.19, p = .264$	$r = -.38, p = .020$	
Study 14-EE		$r = -.20, p < .001$		$r = -.19, p < .001$
Study 14-DE		$r = -.14, p < .001$		$r = -.12, p = .001$

Note. Bold indicates significance at $p < .05$. EE = equally expected for low-SES and high-SES individuals. DE = differentially expected (more expected for low-SES individuals).

Table S4: Interactions between Participant SES and SES Conditions Across Studies

Study	SES Variable			
	Personal Income	Household Income	Subjective Status	Education
Study 1a	$b = .41, p = .505$	$b = -.63, p = .322$	$b = -.07, p = .554$	$b = .38, p = .369$
Study 1b	$b = -1.00, p = .154$	$b = -.66, p = .370$	$b = -.04, p = .730$	$b = -.46, p = .300$
Study 1c	$b = .26, p = .710$	$b = -.47, p = .487$	$b = -.13, p = .280$	$b = -.38, p = .400$
Study 1d	$b = .17, p = .779$	$b = .10, p = .894$	$b = -.14, p = .240$	$b = -.21, p = .598$
Study 2	$b = .40, p = .583$	$b = -.76, p = .298$	$b = -.04, p = .742$	$b = .38, p = .419$
Study 3	$b = -.05, p = .933$	$b = -.51, p = .380$	$b = -.02, p = .820$	$b = -.75, p = .041$
Study 4-EE	$b = -.14, p = .793$	$b = -.38, p = .443$	$b = -.01, p = .921$	$b = -.21, p = .570$
Study 4-DE	$b = .16, p = .774$	$b = .05, p = .926$	$b = .02, p = .836$	$b = -.10, p = .787$
Study 5a-Past	$b = -.64, p = .432$	$b = -.28, p = .746$	$b = .04, p = .785$	$b = -.74, p = .144$
Study 5a-Present	$b = -.06, p = .943$	$b = -.75, p = .368$	$b = -.06, p = .699$	$b = .27, p = .606$
Study 5b-Past	$b = -.68, p = .425$	$b = -.60, p = .455$	$b = -.11, p = .517$	$b = -.44, p = .435$
Study 5b-Present	$b = -.39, p = .619$	$b = -1.34, p = .062$	$b = -.12, p = .418$	$b = -.60, p = .238$
Study 6	$b = .02, p = .963$	$b = -.73, p = .155$	$b = -.22, p = .018$	$b = .07, p = .818$
Study 7	$b = -.24, p = .535$	$b = -.32, p = .462$	$b = .04, p = .620$	$b = -.03, p = .900$
Study 8	$b = .73, p = .175$	$b = 1.17, p = .051$	$b = .11, p = .288$	$b = .43, p = .219$
Study 9	$b = -.31, p = .468$	$b = .35, p = .419$	$b = -.02, p = .795$	$b = .04, p = .886$
Study 10	$b = -.58, p = .823$	$b = -1.92, p = .426$	$b = -.32, p = .397$	$b = 1.49, p = .141$
Study 11	$b = -.32, p = .711$	$b = -1.10, p = .145$	$b = -.13, p = .592$	
Study 12	$b = 2.33, p = .136$	$b = .02, p = .990$	$b = -.65, p = .163$	
Study 14-EE		$b = -.06, p = .878$		$b = .06, p = .845$
Study 14-DE		$b = .58, p = .089$		$b = .49, p = .061$

Note. Condition was coded as 0 = low-SES condition, 1 = high-SES condition. Personal income and household income were log-transformed. Income and status were mean-centered. Bold indicates significance at $p < .05$. EE = equally expected for low-SES and high-SES individuals. DE = differentially expected (more expected for low-SES individuals).

Table S5: Negative Events from Study 1a

Event	Response Rating
Jordan orders takeout and is given an overcooked, badly seasoned entrée.	How disgusting?
Jordan's faucet is leaky and constantly makes a dripping sound.	How annoyed?
Jordan goes to his local bank and the teller forgets his name, even though he has been going there for years.	How hurt?
Jordan's neighborhood has a litter problem, with inconsistent efforts on behalf of the city to keep it clean.	How unfair?
Jordan is kept awake by noise outside his bedroom and only gets a few hours of sleep.	How intolerable?
Jordan is mocked and insulted by his boss.	How embarrassed?
A police officer mistakenly believes he sees Jordan shoplifting and doesn't believe him when he says he didn't do it.	How upsetting?
Jordan is stranded without a ride and has to walk a mile in a rain storm.	How intolerable?
Jordan's heating system breaks, leaving him without any heat in the middle of winter.	How intolerable?
Jordan's apartment is flooded.	How bad?
Jordan's tap water needs to be filtered before he can safely drink it.	How inconvenient?

Table S6: Positive Events from Study 3

Event	Response Rating
Jordan's boss compliments his recent work.	How proud?
Jordan's friend is throwing a party this weekend.	How excited?
Jordan hears a funny joke.	How amused?
Jordan gets some help from a friend on a household project.	How grateful?
Jordan is going on a vacation to the beach with his family.	How excited?
Jordan eats a tasty meal.	How satisfied?
Jordan wakes up very early and realizes he has time to sleep some more.	How relieved?
Jordan puts on warm clothes straight out of the dryer.	How pleased?
Jordan drives somewhere and hits only green lights at intersections.	How lucky?
Jordan gets to leave work an hour early on a Friday.	How happy?
Jordan receives a surprise gift from a friend.	How grateful?
Jordan receives several thoughtful cards on his birthday from family and friends.	How loved?

Table S7: Equally and Unequally Unexpected Events from Study 4

Event	Response Rating
More Expected by Low-SES Individuals	
Jordan's neighborhood has a litter problem, with inconsistent efforts on behalf of the city to keep it clean.	How unfair?
Jordan is unexpectedly stranded without a ride and has to walk a mile in a rain storm.	How intolerable?
Because of a city-wide contamination problem, Jordan's tap water needs to be filtered before he can safely drink it.	How bad?
Despite living in a generally quiet neighborhood, Jordan is kept awake by noise outside his bedroom and only gets a few hours of sleep.	How intolerable?
Jordan attends a city council meeting for the first time and is not given a chance to speak.	How offensive?
Equally Expected Events	
Jordan orders takeout and is given an overcooked, badly seasoned entrée.	How disgusting?
Jordan enters a raffle at a city fair for a chance to meet a local celebrity but does not end up winning.	How disappointing?
Jordan meets his friend's new partner and they treat him rather rudely.	How offensive?
Jordan is crossing the street in the main part of the city and is almost clipped by a speeding car.	How upsetting?
Jordan calls an Uber and it takes 10 minutes longer than the app initially says to arrive.	How annoying?

Table S8: Negative Events from Study 6

Event	Response Rating
Jordan is served an overcooked, badly seasoned meal.	How disgusting?
Jordan's bathroom faucet is leaky and constantly makes a dripping sound.	How annoying?
Jordan goes to his local library and the librarian forgets his name, even though he has been going there for years.	How hurt?
Jordan's neighborhood has a litter problem, with inconsistent efforts on behalf of the city to keep it clean.	How unfair?
Jordan is kept awake by noise outside his bedroom and only gets a few hours of sleep.	How intolerable?
Jordan is mocked and insulted by his classmates.	How embarrassing?
A police officer mistakenly believes he sees Jordan shoplifting and doesn't believe Jordan when he tells him that he didn't do it.	How upsetting?
Jordan is stranded without a ride and has to walk a mile in a rain storm.	How intolerable?
Jordan's home's heating system breaks, leaving his family without any heat in the middle of winter.	How intolerable?
Jordan's apartment is flooded.	How bad?
Jordan's tap water needs to be filtered before he can safely drink it.	How inconvenient?

Table S9: Positive Events from Study 7

Event	Response Rating
Jordan's teacher compliments his recent classwork.	How proud?
Jordan's friend is throwing a party this weekend.	How excited?
Jordan hears a funny joke.	How amused?
Jordan gets some help from a friend on a craft project.	How grateful?
Jordan is going on vacation to the beach with his family.	How excited?
Jordan eats a tasty meal.	How satisfied?
Jordan wakes up very early and realizes he has time to sleep some more.	How relieved?
Jordan puts on warm clothes straight out of the dryer.	How pleased?
Jordan gets to help with a classroom activity he's been looking forward to.	How lucky?
Jordan gets to leave school an hour early on a Friday.	How happy?
Jordan receives a surprise gift from a friend.	How grateful?
Jordan receives several thoughtful cards on his birthday from family and friends.	How loved?

Table S10: Negative Events from Study 8

Event	Response Rating
After growing up in a quiet neighborhood with little disruption, Jordan is kept awake at night by loud noises outside his window and only gets a few hours of sleep.	How intolerable?
Jordan is served an overcooked, poorly prepared lunch.	How gross?
Jordan's teacher pays more attention to a classmate than to him.	How annoying?
Jordan's family vacation is postponed.	How disappointing?
Jordan tries to say hi to a classmate but is ignored.	How offensive?

Table S11: Positive Events from Study 9

Event	Response Rating
Jordan's friend is having a party this weekend.	How exciting?
Jordan gets to leave school early one day.	How delighted?
Jordan's family goes on vacation.	How fun?
Jordan is complimented by his teacher.	How proud?
Jordan eats a tasty meal.	How satisfied?

Table S12: Negative Events from Study 10

Event	Response Rating
Jordan orders takeout and is given an overcooked, badly seasoned entrée.	How disgusting?
Jordan's food takes an unexpectedly long time to be served after he orders it.	How frustrating?
Jordan's waiter makes a mistake when taking his order and brings him a wrongly prepared dish.	How disappointing?
Jordan goes to a restaurant and is seated at a table very near the bathrooms.	How annoying?

Table S13: Negative Events from Study 13

Event	Response Rating
Jordan is stranded without a ride and has to walk a mile in a rain storm.	How intolerable?
Jordan is kept awake by a noise outside his bedroom and only gets a few hours of sleep.	How intolerable?
Jordan is mocked by a classmate.*	How embarrassing?
Jordan is served an overcooked, badly prepared lunch.	How disgusting?
Jordan is scolded by his teacher for something he did at school	How upsetting?

*In the second sample of Study 13, “mocked” was replaced with “teased.”

Table S14: Negative Events from Study 14

Event	Response Rating
More Expected by Low-SES Individuals	
Jordan's neighborhood has a litter problem, with inconsistent efforts on behalf of the city to keep it clean.	How unfair?
Jordan's apartment is flooded.	How bad?
Because of a city-wide contamination problem, Jordan's tap water needs to be filtered before he can safely drink it.	How bad?
Despite living in a generally quiet neighborhood, Jordan is kept awake by noise outside his bedroom and only gets a few hours of sleep.	How intolerable?
Jordan attends a city council meeting for the first time and is not given a chance to speak.	How offensive?
Equally Expected Events	
Jordan orders takeout and is given an overcooked, badly seasoned entrée.	How disgusting?
Jordan enters a raffle at a city fair for a chance to meet a local celebrity but does not end up winning.	How disappointing?
Jordan meets his friend's new partner and they treat him rather rudely.	How offensive?
Jordan is crossing the street in the main part of the city and is almost clipped by a speeding car.	How upsetting?
Jordan calls an Uber and it takes 10 minutes longer than the app initially says to arrive.	How annoying?

Table S15: Descriptive Statistics for Supplemental Study 1

Event	Low-SES Target	High-SES Target	t-test
Jordan orders takeout and is given an overcooked, badly seasoned entrée.	5.32 (2.51)	5.47 (2.49)	$t = .49$
Jordan's neighborhood has a litter problem, with inconsistent efforts on behalf of the city to keep it clean.	3.31 (2.33)	6.29 (2.45)	$t = 9.62^{***}$
Jordan is unexpectedly stranded without a ride and has to walk a mile in a rain storm.	5.06 (2.80)	7.31 (2.51)	$t = 6.54^{***}$
Because of a city-wide contamination problem, Jordan's tap water needs to be filtered before he can safely drink it.	4.73 (2.97)	6.93 (2.53)	$t = 6.17^{***}$
Despite living in a generally quiet neighborhood, Jordan is kept awake by noise outside his bedroom and only gets a few hours of sleep.	5.09 (2.69)	6.88 (2.44)	$t = 5.38^{***}$
Jordan enters a raffle at a city fair for a chance to meet a local celebrity but does not end up winning.	2.39 (2.49)	2.92 (2.67)	$t = 1.57$
Jordan meets his friend's new partner and they treat him rather rudely.	5.94 (2.49)	6.30 (2.34)	$t = 1.13$
Jordan is crossing the street in the main part of the city and is almost clipped by a speeding car.	5.88 (2.73)	6.25 (2.75)	$t = 1.04$
Jordan calls an Uber and it takes 10 minutes longer than the app initially says to arrive.	4.98 (2.57)	5.26 (2.53)	$t = .87$
Jordan attends a city council meeting for the first time and is not given a chance to speak.	4.10 (2.47)	5.06 (2.71)	$t = 2.85^{**}$

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. Bolded items are equally expected for low-SES and high-SES individuals.

Appendix B: Supplementary Material for Chapter 2

Participants Demographics

Study 1

There were 169 women, 100 men, and 4 who did not identify within this binary. 68.2% of participants were White, 9.5% were Black, 7.8% were Asian, 8.5% were Latinx, 1.1% were Native American, 4.6% were multiracial, .4% did not identify with these groups. The average age of participants was 37.42 ($SD = 12.82$).

Study 2

There were 334 women, 230 men, and 4 who did not identify within this binary. 71.3% of participants were White, 8.5% were Black, 10.7% were Asian, 4.6% were Latinx, .7% were Native American, 3.3% were multiracial, and .9% did not identify with these groups. The average age of participants 35.25 ($SD = 11.39$).

Study 3a

There were 150 women, 182 men, and 8 who did not identify within this binary. 56.8% of participants were White, 10.0% were Black, 17.1% were Asian, 8.8% were Latinx, .3% were Native American, 5.9% were multiracial, and 1.2% did not identify with any of these groups. The average age of participants was 29.83 ($SD = 11.68$). 53.8% of participants did not have a four-year college degree, whereas 46.2% held at least a B.A. 37.4% of participants reported an annual personal income of less than \$10,000, 75.9% reported an annual personal income of less than \$50,000, and 95.6% reported an annual personal income of less than \$100,000. 4.4% of participants reported an annual household income of less than \$10,000, 38.5% reported an annual household income of less than \$50,000, and 75.3% reported an annual household income of less

than \$100,000. On a scale from 1-10, the average subjective social status of participants was 5.41 ($SD = 1.64$). On a scale from 0 (completely conservative) to 100 (completely liberal), participants' average political orientation was 67.87 ($SD = 25.39$). 93.2% of participants were born in the U.S. and 95.4% were native English speakers.

Study 3b

There were 310 women, 416 men, and 8 who did not identify within this binary. 66.6% of participants were White, 8.3% were Black, 12.8% were Asian, 5.7% were Latinx, 1.2% were Native American, 3.7% were multiracial, and 1.6% did not identify with these groups. There average age of participants was 33.34 ($SD = 13.08$). 44% of participants did not have a four-year college degree, whereas 56% held at least a B.A. 25.4% of participants reported an annual personal income of less than \$100,000, 63.0% reported an annual personal income of less than \$50,000, and 89.9% reported an annual personal income of less than \$100,000. 4.5% of participants reported an annual household income of less than \$10,000, 35.6% reported an annual household income of less than \$50,000, and 71.1% reported an annual household income less than \$100,000. The average subjective social status of participants was 5.61 ($SD = 1.61$). Participants' average political orientation was 65.81 ($SD = 26.53$). 94.4% of participants were born in the U.S. and 97.0% were native English speakers.

Study 3c

There were 274 women, 268 men, and 15 who did not identify within this binary. 64.3% of participants were White, 6.5% were Black, 15.4% were Asian, 5.6% were Latinx, .5% were Native American, 6.3% were multiracial, and 1.4% did not identify with these groups. There average age of participants was 30.32 ($SD = 11.59$).

Study 3d

There were 429 women, 400 men, and 11 who did not identify within this binary. 62.7% of participants were White, 9.8% were Black, 14.3% were Asian, 7.4% were Latinx, .5% were Native American, 4.9% were multiracial, and .5% did not identify with these groups. The average age of participants was 32.88 ($SD = 11.99$).

Robustness Checks

To address the skew in the intuitions about psychophysical adaptation and hardship adaptation, we first subtracted each from 7 (an easily interpretable constant), after which we applied square root, cube root, and log transformations.

Study 1

Endorsement of psychophysical adaptation and hardship adaptation intuitions remained correlated with square root, $r = .22$, 95% CI [.11, .33], $p < .001$, cube root, $r = .23$, 95% CI [.11, .33], $p < .001$, and log, $r = .23$, 95% CI [.12, .34], $p < .001$, transformations.

Study 2

Note that, because transformations began by subtracting psychophysical adaptation intuition scores from a constant, correlations are now predicted to be negative (i.e., the opposite sign). Endorsement of psychophysical adaptation intuitions and participants' thick skin bias remained correlated with square root, $r = -.22$, 95% CI [-.30, -.14], $p < .001$, cube root, $r = -.22$, 95% CI [-.29, -.14], $p < .001$, and log, $r = -.22$, 95% CI [-.29, -.14], $p < .001$, transformations. Stronger adaptation intuitions were related to perceived harm for the low-SES target with square root, $r = .09$, 95% CI [.01, .18], $p = .025$, cube root, $r = .09$, 95% CI [.01, .17], $p = .025$, and log, $r = .09$, 95% CI [.01, .17], $p = .026$, transformations. Stronger adaptation intuitions were related to perceived harm for the high-SES target with square root, $r = -.22$, 95% CI [-.30, -.14], $p < .001$,

cube root, $r = -.22$, 95% CI $[-.29, -.14]$, $p < .001$, and log, $r = -.21$, 95% CI $[-.29, -.13]$, $p < .001$, transformations.

Appendix C: Supplementary Material for Chapter 3

Participant Demographics

Study 1

There were 309 women, 237 men, and 1 participant who did not identify within this binary. The average age of participants was 36.57 ($SD = 11.95$) and ranged from 18 to 82. 74.8% of participants were White, 6.6% were Black, 9.0% were Asian, 6.6% were Latinx, .5% were Native American, 2.0% were multiracial, and .5 did not identify with any of these groups. 20.7% of participants reported an annual personal income of less than \$10,000, 64.2% reported an annual personal income of less than \$50,000, and 92.7% reported an annual personal income of less than \$100,000. 3.1% of participants reported an annual household income of less than \$10,000, 32.2% reported an annual household income of less than \$50,000, and 73.1% reported an annual household income of less than \$100,000. On a scale from 1-10, the average subjective social status of participants was 5.64 ($SD = 1.61$). On a scale from 0 (completely liberal) to 100 (completely conservative), participants' average political orientation was 41.34 ($SD = 28.50$).

Study 2

There were 508 women and 300 men, and 17 participants who did not identify within this binary. The average age of participants was 36.69 ($SD = 12.11$) and ranged from 18 to 77. 74.2% of participants were White, 8.5% were Black, 6.4% were Asian, 4.6 were Latinx, 1.0% were Native American, 3.9% were multiracial, 1.3% did not identify with any of these groups, and .1% did not report any ethnicity. 18.8% of participants reported an annual personal income of less than \$10,000, 64.6% reported an annual personal income of less than \$50,000, and 93.1% reported an annual personal income of less than \$100,000. 4.3% of participants reported an

annual household income of less than \$10,000, 36.8% reported an annual household income of less than \$50,000, and 92.3% reported an annual household income of less than \$100,000. On a scale from 1-10, the average subjective social status of participants was 5.32 ($SD = 1.63$). On a scale from 0 (completely liberal) to 100 (completely conservative), participants' average political orientation was 41.02 ($SD = 28.22$).

Study 3

There were 516 women, 312 men, and 16 participants who did not identify within this binary. The average age of participants was 35.55 ($SD = 11.61$) and ranged from 18 to 76. 72.5% of participants were White, 9.4% were Black, 7.2% were Asian, 5.5% were Latinx, .7% were Native American, 3.9% were multiracial, and .9% did not identify with any of these groups. 19.2% of participants reported an annual personal income of less than \$10,000, 66.9% reported an annual personal income of less than \$50,000, and 93.7% reported an annual personal income of less than \$100,000. 3.3% of participants reported an annual household income of less than \$10,000, 36.7% reported an annual household income of less than \$50,000, and 77.7% reported an annual household income of less than \$100,000. On a scale from 1-10, the average subjective social status of participants was 5.26 ($SD = 1.63$). On a scale from 0 (completely liberal) to 100 (completely conservative), participants' average political orientation was 39.75 ($SD = 27.91$).

Analyses of Perceptions of Physically Painful Events

Study 1

Participants thought that the events would be less painful for the low-SES woman ($M = 8.16$, $SD = 1.59$) than for the high-SES woman ($M = 8.57$, $SD = 1.44$), $t(537.43) = 3.11$, $p = .002$, $d = .27$, 95% CI [.10, .44].

Study 2

Participants thought that events would be less painful for the low-SES woman ($M = 7.69$, $SD = 1.76$) than for the high-SES woman ($M = 8.12$, $SD = 1.52$), $t(794.66) = 3.77$, $p < .001$, $d = .26$, 95% CI [.13, .40]. They also thought that the low-SES woman would need a lower level of pain treatment ($M = 3.26$, $SD = 1.59$) than the high-SES woman would ($M = 4.04$, $SD = 1.77$), $t(820.14) = 6.66$, $p < .001$, $d = .46$, 95% CI [.32, .60].

Study 3

Participants thought that the events would be less painful for the low-SES woman ($M = 7.94$, $SD = 1.56$) than for the high-SES woman ($M = 8.30$, $SD = 1.63$), $t(851) = 3.29$, $p = .001$, $d = .23$, 95% CI [.09, .36]. They also thought that the low-SES woman would need less comforting ($M = 4.77$, $SD = 2.74$) than the high-SES woman would ($M = 5.76$, $SD = 2.68$), $t(851) = 5.33$, $p < .001$, $d = .37$, 95% CI [.23, .50].

Analyses of Self-Ratings versus Target Ratings

Study 1

Participants thought the sexual harassment events would be less harmful to themselves than to both the low-SES target ($M_{self} = 6.02$, $SD_{self} = 2.78$, $M_{low-SES} = 7.92$, $SD_{low-SES} = 1.94$), $t(270) = -11.45$, $p < .001$, and the high-SES target ($M_{self} = 6.52$, $SD_{self} = 2.76$, $M_{high-SES} = 8.41$, $SD_{high-SES} = 1.63$), $t(275) = -12.51$, $p < .001$. This self-other difference did not differ between SES conditions, $F(1, 545) = .00$, $p = .964$.

Participants similarly thought that the domestic violence events would be less harmful to themselves than to both the low-SES target ($M_{self} = 7.68$, $SD_{self} = 2.03$, $M_{low-SES} = 8.35$, $SD_{low-SES} = 1.64$), $t(270) = -5.77$, $p < .001$, and the high-SES target ($M_{self} = 7.97$, $SD_{self} = 1.96$, $M_{high-SES} = 8.83$, $SD_{high-SES} = 1.40$), $t(275) = -9.20$, $p < .001$. This self-other difference did not differ between SES conditions, $F(1, 545) = 1.45$, $p = .230$.

For physically painful events, participants thought that the low-SES target would experience similar levels of pain as they ($M_{self} = 8.16$, $SD_{self} = 1.29$, $M_{low-SES} = 8.16$, $SD_{low-SES} = 1.59$), $t(270) = -.04$, $p = .970$, whereas they thought that they would feel less pain than the high-SES target ($M_{self} = 8.19$, $SD_{self} = 1.49$, $M_{high-SES} = 8.57$, $SD_{high-SES} = 1.44$), $t(275) = -6.56$, $p < .001$. This self-other difference was significantly difference between the two SES conditions, $F(1, 545) = 19.01$, $p < .001$.

For the positive events, participants thought that they would find the events less pleasurable than the low-SES target ($M_{self} = 8.52$, $SD_{self} = 1.32$, $M_{low-SES} = 8.95$, $SD_{low-SES} = 1.36$), $t(270) = -6.22$, $p < .001$, but more pleasurable than the high-SES target ($M_{self} = 8.61$, $SD_{self} = 1.29$, $M_{high-SES} = 8.36$, $SD_{high-SES} = 1.40$), $t(275) = 3.19$, $p = .002$. This self-other difference was significantly different between the two SES conditions, $F(1, 545) = 42.72$, $p < .001$.

Study 2

Participants thought that the sexual harassment events would be less harmful to themselves than to both the low-SES target ($M_{self} = 6.58$, $SD_{self} = 2.69$, $M_{low-SES} = 7.99$, $SD_{low-SES} = 1.89$), $t(402) = -12.28$, $p < .001$ and the high-SES target ($M_{self} = 6.72$, $SD_{self} = 2.64$, $M_{high-SES} = 8.38$, $SD_{high-SES} = 1.56$), $t(421) = -15.48$, $p < .001$. This self-other difference did not differ between SES conditions, $F(1, 823) = 2.60$, $p = .107$. Similarly, participants thought that their own coworker should be punished less severely than the coworker of both the low-SES target ($M_{self} = 3.34$, $SD_{self} = 1.90$, $M_{low-SES} = 3.84$, $SD_{low-SES} = 2.05$), $t(402) = -8.68$, $p < .001$, and the high-SES target ($M_{self} = 3.17$, $SD_{self} = 1.68$, $M_{high-SES} = 4.04$, $SD_{high-SES} = 1.98$), $t(421) = -12.66$, $p < .001$. This self-other difference differed significantly between SES conditions, $F(1, 823) = 16.40$, $p < .001$.

Participants thought that the domestic abuse events would be less harmful to themselves than to both the low-SES target ($M_{self} = 7.37$, $SD_{self} = 2.14$, $M_{low-SES} = 8.03$, $SD_{low-SES} = 1.78$), $t(402) = -7.29$, $p < .001$, and the high-SES target ($M_{self} = 7.50$, $SD_{self} = 2.01$, $M_{high-SES} = 8.44$, $SD_{high-SES} = 1.47$), $t(421) = -12.31$, $p < .001$. This self-other difference differed significantly between SES conditions, $F(1, 823) = 5.91$, $p = .015$. Similarly, participants thought that a lower level of intervention for domestic abuse events was appropriate for themselves than for both the low-SES target ($M_{self} = 3.90$, $SD_{self} = 1.68$, $M_{low-SES} = 4.38$, $SD_{low-SES} = 1.70$), $t(402) = -7.24$, $p < .001$, and the high-SES target ($M_{self} = 4.05$, $SD_{self} = 1.69$, $M_{high-SES} = 4.68$, $SD_{high-SES} = 1.60$), $t(421) = -9.64$, $p < .001$. This self-other difference did not differ between SES conditions, $F(1, 823) = 2.38$, $p = .124$.

For physically painful events, participants thought that the low-SES target would experience similar levels of pain as they ($M_{self} = 7.69$, $SD_{self} = 1.59$, $M_{low-SES} = 7.69$, $SD_{low-SES} = 1.76$), $t(402) = .17$, $p = .868$, whereas they thought that they would feel less pain than the high-SES target ($M_{self} = 7.73$, $SD_{self} = 1.44$, $M_{high-SES} = 8.12$, $SD_{high-SES} = 1.52$), $t(421) = -8.37$, $p < .001$. This self-other difference was significantly different between the two SES conditions, $F(1, 823) = 34.15$, $p < .001$. Participants thought they would need a lower level of pain treatment than would both the low-SES target ($M_{self} = 3.06$, $SD_{self} = 1.53$, $M_{low-SES} = 3.26$, $SD_{low-SES} = 1.59$), $t(402) = -4.49$, $p < .001$, and the high-SES target ($M_{self} = 3.16$, $SD_{self} = 1.44$, $M_{high-SES} = 4.04$, $SD_{high-SES} = 1.77$), $t(421) = -12.87$, $p < .001$. This self-other difference differed significantly between SES conditions, $F(1, 823) = 67.54$, $p < .001$.

For the positive events, participants thought that they would find the events less pleasurable than the low-SES target ($M_{self} = 8.58$, $SD_{self} = 1.27$, $M_{low-SES} = 9.06$, $SD_{low-SES} = 1.14$), $t(402) = -10.43$, $p < .001$, but more pleasurable than the high-SES target ($M_{self} = 8.59$, $SD_{self} =$

1.22, $M_{high-SES} = 8.43$, $SD_{high-SES} = 1.39$), $t(421) = 2.70$, $p = .007$. This self-other difference was differed significantly between SES conditions, $F(1, 823) = 70.84$, $p < .001$.

Study 3

Participants thought that the sexual harassment events would be less harmful to themselves than to both the low-SES target ($M_{self} = 6.39$, $SD_{self} = 2.65$, $M_{low-SES} = 8.07$, $SD_{low-SES} = 1.71$), $t(427) = -13.88$, $p < .001$, and the high-SES target ($M_{self} = 6.26$, $SD_{self} = 2.65$, $M_{high-SES} = 8.49$, $SD_{high-SES} = 1.62$), $t(424) = -18.39$, $p < .001$. This self-other difference differed significantly between SES conditions, $F(1, 851) = 10.65$, $p = .001$. Similarly, participants thought that they would need less comfort than both the low-SES target ($M_{self} = 3.18$, $SD_{self} = 2.62$, $M_{low-SES} = 5.78$, $SD_{low-SES} = 2.57$), $t(27) = -19.15$, $p < .001$, and the high-SES target ($M_{self} = 3.14$, $SD_{self} = 2.64$, $M_{high-SES} = 6.75$, $SD_{high-SES} = 2.42$), $t(424) = -26.34$, $p < .001$. This self-other difference differed significantly between SES conditions, $F(1, 851) = 27.89$, $p < .001$. Participants thought that their own coworker should be punished less severely than the coworker of both the low-SES target ($M_{self} = 6.22$, $SD_{self} = 2.50$, $M_{low-SES} = 7.73$, $SD_{low-SES} = 1.96$), $t(427) = -15.19$, $p < .001$, and the high-SES target ($M_{self} = 6.17$, $SD_{self} = 2.60$, $M_{high-SES} = 7.84$, $SD_{high-SES} = 2.06$), $t(424) = -16.41$, $p < .001$. This self-other difference did not differ between SES conditions, $F(1, 851) = 1.34$, $p = .248$.

Participants thought that the domestic abuse events would be less harmful to themselves than to both the low-SES target ($M_{self} = 7.78$, $SD_{self} = 1.96$, $M_{low-SES} = 8.49$, $SD_{low-SES} = 1.52$), $t(427) = -8.15$, $p < .001$, and the high-SES target ($M_{self} = 7.88$, $SD_{self} = 1.80$, $M_{high-SES} = 8.82$, $SD_{high-SES} = 1.32$), $t(424) = -12.37$, $p < .001$. This self-other difference did not differ between SES conditions, $F(1, 851) = 3.74$, $p = .054$. Similarly, participants thought that they would need less comfort than both the low-SES target ($M_{self} = 5.73$, $SD_{self} = 2.73$, $M_{low-SES} = 6.78$, $SD_{low-SES} =$

2.49), $t(427) = -7.55, p < .001$, and the high-SES target ($M_{self} = 5.74, SD_{self} = 2.70, M_{high-SES} = 7.71, SD_{high-SES} = 2.06$), $t(424) = -16.41, p < .001$. This self-other difference differed significantly between SES conditions, $F(1, 851) = 25.21, p < .001$.

For physically painful events, participants thought that the low-SES target would experience similar levels of pain as they ($M_{self} = 7.85, SD_{self} = 1.44, M_{low-SES} = 7.94, SD_{low-SES} = 1.56$), $t(427) = -1.72, p = .086$, whereas they thought that they would feel less pain than the high-SES target ($M_{self} = 7.95, SD_{self} = 1.51, M_{high-SES} = 8.30, SD_{high-SES} = 1.63$), $t(424) = -7.09, p < .001$. This self-other difference was significantly different between the two SES conditions, $F(1, 851) = 12.61, p < .001$. Participants thought they would need a lower level of pain treatment than would both the low-SES target ($M_{self} = 3.55, SD_{self} = 2.46, M_{low-SES} = 4.77, SD_{low-SES} = 2.74$), $t(427) = -11.45, p < .001$, and the high-SES target ($M_{self} = 3.45, SD_{self} = 2.54, M_{high-SES} = 5.76, SD_{high-SES} = 2.68$), $t(424) = -19.85, p < .001$. This self-other difference differed significantly between SES conditions, $F(1, 851) = 47.22, p < .001$.

For the positive events, participants thought that they would find the events less pleasurable than the low-SES target ($M_{self} = 8.59, SD_{self} = 1.23, M_{low-SES} = 9.09, SD_{low-SES} = 1.21$), $t(427) = -10.05, p < .001$, but more pleasurable than the high-SES target ($M_{self} = 8.67, SD_{self} = 1.16, M_{high-SES} = 8.39, SD_{high-SES} = 1.44$), $t(421) = t(424) = 4.54, p < .001$. This self-other difference was significantly different between the two SES conditions, $F(1, 851) = 97.32, p < .001$.

Appendix D: Supplementary Material for Chapter 4

Additional Details on Participants Demographics

In addition to reporting their age and gender, participants in all studies also reported their race/ethnicity, their annual personal income, their political orientation, and whether they were born in the USA (yes/no). For race/ethnicity, participants selected one of the following options:

(1) African-American, Black, African, Caribbean; (2) Asian-American, Asian, Pacific Islander; (3) European-American, White, Anglo, Caucasian; (4) Hispanic-American, Latino(a), Chicano(a); (5) Native-American, American Indian; (6) Bi-racial, Multi-racial; (7) Other.

Participants reported their personal income by selecting one of 12 income buckets: (1) Less than \$10,000; (2) \$10,000-\$19,999; (3) \$20,000-\$29,999; (4) \$30,000-\$39,999; (5) \$40,000-\$49,999; (6) \$50,000-\$59,999; (7) \$60,000-\$69,999; (8) \$70,000-\$79,999; (9) \$80,000-\$89,999; (10) \$90,000-\$99,999; (11) \$100,000-\$149,999; (12) More than \$150,000. Participants rated their political orientation on a sliding scale from 0 (completely conservative) to 100 (completely liberal). A summary of these additional participant demographics is presented in Table S1.

Participants in Study 1 additionally completed measures of subjective social status (Adler et al., 2000), household income (reported using the same income buckets used for personal income), and household size. Participants' average social status was 5.47, 95% CI [5.22, 5.72], and participants' average household income (using the midpoint of each bucket) was \$68,408.07, 95% CI [\$63,119.99, \$73,696.16].

Additional Details and Analyses from Individual Studies

Study 2

All of the effects from the 2 (target SES: low vs. high) $\times$ 2 (target gender: man vs. woman) $\times$ 2 (target race: White vs. Black) ANOVA partially reported in the main text are presented in Table S3. As shown in Table S4, though there was a significant three-way interaction, the thick skin bias emerged in each of the four gender $\times$ race cells.

Because participants rated how harmful the negative events in Study 2 would be for themselves as well as for a target individual, we can examine how the thick skin bias shapes judgments of others relative to the self. A 2 (target: self vs. other) $\times$ 2 (SES condition: low vs. high) mixed ANOVA yielded a significant interaction, $F(1, 619) = 84.60, p < .001, \eta_p^2 = .12$, 90% CI [.08, .16]. Participants thought that they would be less harmed than the target in both the low-SES condition ($M_{\text{self}} = 5.39$, 95% CI [5.13, 5.65] vs. $M_{\text{target}} = 5.86$, 95% CI [5.60, 6.12]), $t(300) = 3.85, p < .001, d = .22$, 95% CI [.06, .38], and the high-SES condition ($M_{\text{self}} = 5.29$, 95% CI [5.06, 5.52] vs. $M_{\text{target}} = 7.36$, 95% CI [7.17, 7.55]), $t(319) = 16.88, p < .001, d = .94$, 95% CI [.78, 1.11]. This self-other difference was larger in the latter condition, however.

Study 3

All of the effects from the 2 (target SES: low vs. high) $\times$ 2 (target gender: man vs. woman) $\times$ 2 (target race: White vs. Black) ANOVAs partially reported in the main text are presented in Table S5.

As in Study 2, participants rated how harmful the negative events would be and how much comfort they would need for themselves as well as for a target individual to allow us to examine how the thick skin bias shapes judgments of others relative to the self. A 2 (target: self vs. other) $\times$ 2 (SES condition: low vs. high) mixed ANOVA on perceived harm yielded a significant interaction, $F(1, 601) = 38.60, p < .001, \eta_p^2 = .06$, 90% CI [.03, .09]. Participants thought that they would be less harmed than the target in both the low-SES condition ($M_{\text{self}} =$

5.11, 95% CI [4.87, 5.35] vs. $M_{\text{target}} = 5.95$, 95% CI [5.74, 6.17]), $t(297) = 6.78$, $p < .001$, $d = .39$, 95% CI [.23, .55], and the high-SES condition ($M_{\text{self}} = 5.14$, 95% CI [4.90, 5.39] vs. $M_{\text{target}} = 7.14$, 95% CI [6.93, 7.35]), $t(304) = 14.52$, $p < .001$, $d = .83$, 95% CI [.67, 1.00]. This self-other difference was larger in the latter condition, however.

A 2 (target: self vs. other) $\times$ 2 (SES condition: low vs. high) mixed ANOVA on perceived comfort needed similarly yielded an interaction, $F(1, 601) = 26.12$, $p < .001$, $\eta_p^2 = .04$, 90% CI [.02, .07]. Participants thought that they would need less comfort than the target in both the low-SES condition ($M_{\text{self}} = 2.94$, 95% CI [2.69, 3.19] vs. $M_{\text{target}} = 4.20$, 95% CI [3.94, 4.45]), $t(297) = 11.53$, $p < .001$, $d = .67$, 95% CI [.50, .83], and the high-SES condition, ($M_{\text{self}} = 2.85$, 95% CI [2.59, 3.11] vs. $M_{\text{target}} = 5.21$, 95% CI [4.94, 5.48]), $t(304) = 16.46$, $p < .001$, $d = .94$, 95% CI [.78, 1.11]. This self-other difference was larger in the latter condition, however.

Study 4a

All of the effects from the 2 (target SES: low vs. high) $\times$ 2 (target gender: man vs. woman) $\times$ 2 (target race: White vs. Black) $\times$ 2 (article condition: debiasing vs. control) mixed ANOVA partially reported in the main text are presented in Table S6.

As an exploratory analysis, we excluded participants who wrote nonsensical or irrelevant summaries of the article they read. In total, this excluded 11 participants. Reconducting the same 2 $\times$ 2 $\times$ 2 $\times$ 2 ANOVA yielded a very similar pattern of results to the main analysis (see Table S7).

Study 4b

All of the effects from the 2 (target SES: low vs. high) $\times$ 2 (target gender: man vs. woman) $\times$ 2 (target race: White vs. Black) $\times$ 2 (article: debiasing vs. control) mixed ANOVA partially reported in the main text are presented in Table S6.

As an exploratory analysis, we excluded participants who wrote nonsensical or irrelevant summaries of the article they read. In total, this excluded 14 participants, including one participant who summarized the article they were not assigned to (and may thus have taken the study again after having been assigned to that article the first time). Reconducting the same $2 \times 2 \times 2 \times 2$ ANOVA yielded a very similar pattern of results to the main analysis (see Table S7).

Study 5

All of the effects from the 2 (target SES: low vs. high) $\times$ 2 (target gender: man vs. woman) $\times$ 2 (article: debiasing vs. control) mixed ANOVA are presented in Table S8. As an exploratory analysis, we excluded participants who wrote nonsensical or irrelevant summaries of the article they read. In total, this excluded 23 participants. Reconducting the same $2 \times 2 \times 2$ ANOVA yielded a very similar pattern of results to the main analysis (see Table S9).

Table S1: Additional Participant Demographics

Study	Ethnicity	Personal Income	Political Orientation	Born in USA
Study 1	Black: 33	<10K: 28	$M = 57.16$	Yes: 212
	Asian: 15	10K-19,999: 20	$SD = 30.50$	No: 11
	White: 143	20K-29,999: 35		
	Latinx: 20	30K-30,999: 25		
	Native American: 8	40K-49,999: 32		
	Multiracial: 4	50K-50,999: 28		
	Other: 0	60K-69,999: 20		
		70K-79,999: 15		
		80K-89,999: 8		
		90K-99,999: 3		
Study 2		100K-149,999: 8		
		>150K: 1		
	Black: 64	<10K: 102	$M = 58.16$	Yes: 588
	Asian: 46	10K-19,999: 48	$SD = 28.54$	No: 33
	White: 444	20K-29,999: 71		
	Latinx: 39	30K-30,999: 63		
	Native American: 4	40K-49,999: 59		
	Multiracial: 19	50K-50,999: 72		
	Other: 5	60K-69,999: 46		
		70K-79,999: 56		
Study 3		80K-89,999: 19		
		90K-99,999: 28		
		100K-149,999: 46		
		>150K: 11		
	Black: 55	<10K: 92	$M = 58.41$	Yes: 552
	Asian: 59	10K-19,999: 51	$SD = 29.21$	No: 51
	White: 410	20K-29,999: 58		
	Latinx: 44	30K-30,999: 84		

Study 4a	Native American: 9 Multiracial: 23 Other: 3	40K-49,999: 62 50K-50,999: 74 60K-69,999: 31 70K-79,999: 37 80K-89,999: 38 90K-99,999: 26 100K-149,999: 27 >150K: 23		
	Black: 25 Asian: 56 White: 249 Latinx: 20 Native American: 1 Multiracial: 12 Other: 1	<10K: 89 10K-19,999: 40 20K-29,999: 35 30K-30,999: 35 40K-49,999: 35 50K-50,999: 34 60K-69,999: 24 70K-79,999: 23 80K-89,999: 9 90K-99,999: 9 100K-149,999: 20 >150K: 11	$M = 68.17$ $SD = 27.65$	Yes: 341 No: 23
Study 4b	Black: 23 Asian: 50 White: 205 Latinx: 25 Native American: 0 Multiracial: 14 Other: 8	<10K: 85 10K-19,999: 31 20K-29,999: 22 30K-30,999: 41 40K-49,999: 31 50K-50,999: 22 60K-69,999: 18 70K-79,999: 26 80K-89,999: 20 90K-99,999: 8 100K-149,999: 18 >150K: 3	$M = 67.18$ $SD = 29.22$	Yes: 303 No: 22
Study 5	Black: 26	<10K: 81	$M = 69.74$	Yes: 287

Asian: 41	10K-19,999: 41	$SD = 26.43$	No: 14
White: 195	20K-29,999: 22		
Latinx: 26	30K-39,999: 30		
Native American: 1	40K-49,999: 18		
Multiracial: 10	50K-59,999: 26		
Other: 2	60K-69,999: 10		
	70K-79,999: 20		
	80K-89,999: 3		
	90K-99,999: 12		
	100K-149,999: 34		
	>150K: 4		

Table S2: All Events from Studies 1-3; 4a-4b

Event	Response Rating
1. Thomas [Jordan] must cancel an upcoming party because of new “social distancing” measures.	How disappointing?
2. Because of “social distancing” measures, Thomas [Jordan] will not be able to see many close friends in person for several weeks.	How sad?
3. Thomas [Jordan] cannot get a haircut for several weeks and begins to feel unattractive.	How upsetting?
4. The café Thomas [Jordan] typically grabs coffee from in the morning must close for at least four weeks.	How disappointing?
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.	How frustrating?
6. Thomas [Jordan] must cancel an upcoming vacation because of newly implemented travel restrictions.	How disappointing?

Table S3: All Effects from Study 2 ANOVA

Effects	<i>F</i> -test
Main effect of SES	$F = 89.09, p < .001, \eta_p^2 = .13, 90\% \text{ CI } [.09, .18]$
Main effect of gender	$F = .081, p = .776, \eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$
Main effect of race	$F = .670, p = .413, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ gender	$F = 1.48, p = .224, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ race	$F = 5.07, p = .025, \eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$
Gender $\times$ race	$F = 4.75, p = .030, \eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$
SES $\times$ gender $\times$ race	$F = 4.45, p = .035, \eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$

Table S4: The Effect of Target SES in All Study 2 Gender $\times$ Race Cells

Target Gender	White Target	Black Target
Male	$t = 6.54, p < .001, d = 1.04, [.71, 1.37]$	$t = 2.03, p = .045, d = .32 [.01, .63]$
Female	$t = 5.14, p < .001, d = .83 [.50, 1.15]$	$t = 4.91, p < .001, d = .83 [.49, 1.17]$

Note. 95% CI given in brackets.

Table S5: All Effects from Study 3 ANOVAs

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

Table S6: All Effects from ANOVAs in Studies 4a and 4b

Effects	F-test
Study 4a	
Main effect of SES	$F = 28.50, p < .001, \eta_p^2 = .07, 90\% \text{ CI } [.03, .12]$
Main effect of article	$F = .42, p = .516, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Main effect of gender	$F = 4.42, p = .004, \eta_p^2 = .01, 90\% \text{ CI } [.00, .04]$
Main effect of race	$F = .77, p = .381, \eta_p^2 = .00, 90\% \text{ CI } [.00, .05]$
SES $\times$ article	$F = 26.84, p < .001, \eta_p^2 = .07, 90\% \text{ CI } [.03, .12]$
SES $\times$ gender	$F = .66, p = .419, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
SES $\times$ race	$F = 3.67, p = .056, \eta_p^2 = .01, 90\% \text{ CI } [.00, .03]$
Article $\times$ gender	$F = .310, p = .578, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Article $\times$ race	$F = .42, p = .515, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Gender $\times$ race	$F = 1.54, p = .215, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ article $\times$ gender	$F = .01, p = .906, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
SES $\times$ article $\times$ race	$F = .393, p = .531, \eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$
SES $\times$ gender $\times$ race	$F = 1.85, p = .175, \eta_p^2 = .01, 90\% \text{ CI } [.00, .01]$
Article $\times$ gender $\times$ race	$F = 1.04, p = .309, \eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$
SES $\times$ article $\times$ gender $\times$ race	$F = .577, p = .448, \eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$
Study 4b	
Main effect of SES	$F = 32.17, p < .001, \eta_p^2 = .09, 90\% \text{ CI } [.05, .14]$
Main effect of article	$F = .15, p = .697, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Main effect of gender	$F = .00, p = 1.00, \eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$
Main effect of race	$F = .00, p = .974, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ article	$F = 20.06, p < .001, \eta_p^2 = .06, 90\% \text{ CI } [.02, .11]$
SES $\times$ gender	$F = .11, p = .738, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ race	$F = 3.99, p = .047, \eta_p^2 = .01, 90\% \text{ CI } [.00, .04]$
Article $\times$ gender	$F = .00, p = .992, \eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$
Article $\times$ race	$F = .46, p = .498, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
Gender $\times$ race	$F = .596, p = .441, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
SES $\times$ article $\times$ gender	$F = 2.54, p = .112, \eta_p^2 = .01, 90\% \text{ CI } [.00, .03]$
SES $\times$ article $\times$ race	$F = .18, p = .670, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ gender $\times$ race	$F = .53, p = .468, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
Article $\times$ gender $\times$ race	$F = 1.84, p = .176, \eta_p^2 = .01, 90\% \text{ CI } [.00, .03]$
SES $\times$ article $\times$ gender $\times$ race	$F = .21, p = .650, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$

Table S7: ANOVAs from Studies 4a and 4b With Exploratory Exclusions

Effects	F-test
Study 4a	
Main effect of SES	$F = 28.35, p < .001, \eta_p^2 = .08, 90\% \text{ CI } [.04, .12]$
Main effect of article	$F = .42, p = .515, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Main effect of gender	$F = 3.30, p = .070, \eta_p^2 = .01, 90\% \text{ CI } [.00, .03]$
Main effect of race	$F = .64, p = .423, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
SES $\times$ article	$F = 29.78, p < .001, \eta_p^2 = .08, 90\% \text{ CI } [.04, .13]$
SES $\times$ gender	$F = .34, p = .562, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ race	$F = 4.19, p = .063, \eta_p^2 = .00, 90\% \text{ CI } [.00, .04]$
Article $\times$ gender	$F = .53, p = .468, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
Article $\times$ race	$F = .19, p = .041, \eta_p^2 = .01, 90\% \text{ CI } [.00, .01]$
Gender $\times$ race	$F = 1.11, p = .293, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
SES $\times$ article $\times$ gender	$F = .37, p = .545, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ article $\times$ race	$F = 1.03, p = .311, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
SES $\times$ gender $\times$ race	$F = 2.53, p = .113, \eta_p^2 = .01, 90\% \text{ CI } [.00, .03]$
Article $\times$ gender $\times$ race	$F = 1.79, p = .182, \eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$
SES $\times$ article $\times$ gender $\times$ race	$F = .455, p = .500, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
Study 4b	
Main effect of SES	$F = 30.14, p < .001, \eta_p^2 = .09, 90\% \text{ CI } [.05, .14]$
Main effect of article	$F = .16, p = .69, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Main effect of gender	$F = .05, p = .822, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Main effect of race	$F = .00, p = .967, \eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$
SES $\times$ article	$F = 19.12, p < .001, \eta_p^2 = .06, 90\% \text{ CI } [.02, .11]$
SES $\times$ gender	$F = .28, p = .600, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ race	$F = 3.46, p = .064, \eta_p^2 = .01, 90\% \text{ CI } [.00, .04]$
Article $\times$ gender	$F = .00, p = .981, \eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$
Article $\times$ race	$F = .72, p = .397, \eta_p^2 = .01, 90\% \text{ CI } [.00, .02]$
Gender $\times$ race	$F = 1.09, p = .296, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
SES $\times$ article $\times$ gender	$F = 1.96, p = .162, \eta_p^2 = .01, 90\% \text{ CI } [.00, .03]$
SES $\times$ article $\times$ race	$F = .08, p = .779, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ gender $\times$ race	$F = .767, p = .382, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
Article $\times$ gender $\times$ race	$F = 1.31, p = .254, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
SES $\times$ article $\times$ gender $\times$ race	$F = .31, p = .575, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$

Table S8: All Effects from Study 5 ANOVA with Target Gender

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

Table S9: ANOVA from Study 5 With Exploratory Exclusions

Effects	<i>F</i> -test
Main effect of SES	$F = 98.33, p < .001, \eta_p^2 = .26, 90\% \text{ CI } [.19, .33]$
Main effect of article	$F = .45, p = .501, \eta_p^2 = .00, 90\% \text{ CI } [.00, .02]$
Main effect of gender	$F = .20, p = .659, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
SES $\times$ article	$F = 7.40, p = .007, \eta_p^2 = .03, 90\% \text{ CI } [.00, .06]$
SES $\times$ gender	$F = .09, p = .763, \eta_p^2 = .00, 90\% \text{ CI } [.00, .01]$
Article $\times$ gender	$F = 2.98, p = .085, \eta_p^2 = .01, 90\% \text{ CI } [.00, .04]$
SES $\times$ article $\times$ gender	$F = .01, p = .935, \eta_p^2 = .00, 90\% \text{ CI } [.00, .00]$

Table S10: All Events from Study 5

Event	Response Rating
Jordan orders takeout and is given an overcooked, badly seasoned entrée.	How disgusting?
Jordan's faucet is leaky and constantly makes a dripping sound.	How annoyed?
Jordan goes to his local bank and the teller forgets his name, even though he has been going there for years.	How hurt?
Jordan's neighborhood has a litter problem, with inconsistent efforts on behalf of the city to keep it clean.	How unfair?
Jordan is kept awake by noise outside his bedroom and only gets a few hours of sleep.	How intolerable?
Jordan is mocked and insulted by his boss.	How embarrassed?
A police officer mistakenly believes he sees Jordan shoplifting and doesn't believe him when he says he didn't do it.	How upsetting?
Jordan is stranded without a ride and has to walk a mile in a rain storm.	How intolerable?
Jordan's heating system breaks, leaving him without any heat in the middle of winter.	How intolerable?
Jordan's apartment is flooded.	How bad?
Jordan's tap water needs to be filtered before he can safely drink it.	How inconvenient?

Full Text of Articles from Studies 4a-5

Control Article in Studies 4a-5

Refresh My Memory

By Brandon Tensely [by Stanley Johnson in Study 5]

Forgetting the last digit of the number you were dialing or what you were adding to your grocery list represents a lapse in “working memory,” or the short-term recall needed to complete tasks. Working memory falters more often as people age. In a new study, researchers temporarily reversed this deficit, boosting the working memory of people ages 60 to 76 so that it rivaled that of those in their 20s.

The researchers used low-level electricity—a method called transcranial alternating-current stimulation (tACS)—to synchronize activity in participants’ prefrontal and temporal lobes, areas of the brain involved in working memory. Afterward, participants played a game in which an image flashed on a screen, then disappeared briefly before another appeared; by holding the first in their working memory, they determined whether the images differed. Older participants scored as high as those in their 20s serving as controls, at least up to 50 minutes after stimulation.

While the improvements are likely only temporary, they could lead to treatments that guard against cognitive decline, says study author Robert Reinhart, a psychologist at Boston University. It’s possible that doctors could one day, for example, prescribe multiple doses of stimulation to prevent or reverse mild memory loss. “I can imagine a future in which medical practitioners have things like this in their daily tool belt,” he says.

The Pandemic is Worse When You Have Less

by Brandon Tensely

By now the myth of the coronavirus pandemic as the “great equalizer” has been disproven: more and more news reports are converging to show that the poor are hit more intensely than the rich by nearly all of the pandemic’s effects.

Take many of the lifestyle changes that have been emerging. The poor have a harder time being apart from loved ones because it’s not always easy to have access to a way to stay in contact with them (whereas the rich can just hop onto their high-speed Internet on well-functioning computers). The poor have a worse time sheltering at home, because they often live in smaller quarters shared with several others (whereas the rich often have much more personal space, privacy, and nicer accommodations). Even things like canceling big upcoming plans are worse for the poor, who may be facing greater financial uncertainty and be unsure if they will be able to reschedule when social distancing measures and travel restrictions ease up.

It’s early days yet. But it isn’t too soon to say that the pandemic isn’t the “great equalizer” but rather the precise opposite. Indeed, recent research on how poverty increases the harm caused by the pandemic can be summarized by one simple phrase: “Everything about coronavirus is worse when you have less.”

Debiasing Article in Study 5

Everything Is Worse When You Have Less

By Stanley Coren, Ph.D.

How do our income and resources shape our lives? In so many ways.

Most people realize that people who live in poverty live harder lives. They have less money to spend, live in harder conditions, and tend to work more grueling jobs. In contrast, the wealthy have money to spare and can live more comfortable and stable lives.

What many people don't realize, however, is that the poor don't just tend to live harder lives. Rather, having less money makes almost *everything* harder. When you have less money, having something break in your home is more of a burden. When you live in worse conditions, having yet another disturbance or problem occur takes an extra strong psychological toll.

Inconveniences and problems can be solved with money when you're rich. It's too hot to walk somewhere? Simply call a cab. You don't like something you bought? Simply buy something else. You're treated rudely at a store? Simply go to a different store next time, even if it's more expensive. When you have money to spare, problems ranging from trivial to serious are less of an issue than when you're strapped for cash. So the poor are not only worse off when it comes to money, but worse off when it comes to life's daily problems as well.

Recent research on how poverty increases the harm caused by life's problems can be summarized by one simple phrase: "Everything is worse when you have less."