


# Investigating the Health Consequences for White Americans Who Believe White Americans Are Wealthy

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Erin Cooley<sup>1</sup> , Jazmin L. Brown-Iannuzzi<sup>2</sup>, Ryan F. Lei<sup>3</sup>,  
Lauren E. Philbrook<sup>1</sup>, William Cipolli III<sup>1</sup>, and Stephanie E. McKee<sup>2</sup>

## Abstract

Poor White Americans report feeling “worse off” than poor Black Americans despite the persistent negative effects of racism on Black Americans. Additionally, some health issues are rising among White but not Black Americans. Across two representative samples, we test whether White = wealthy stereotypes lead White Americans to feel relatively worse off than their racial group and whether these perceptions have health consequences. Across both samples, White Americans perceived their own status to be significantly *lower* than the status of the majority of White Americans. In contrast, Black Americans perceived their own status to be significantly *higher* than the majority of Black Americans. Critically, status comparisons between the self and one’s racial group predicted the experience of fewer positive emotions among White, but not Black, Americans, which mediated reduced mental and physical health. We conclude that race/class stereotypes may shape how poverty subjectively feels.

## Keywords

race, economic inequality, health, social cognition

Despite harsher economic realities for poor Black Americans, poor White Americans perceive themselves as having lower social class, and are less optimistic for their financial future, than poor Black Americans (Cohen et al., 2017; Graham, 2017). Mirroring these trends, so-called deaths of despair—deaths from drugs, alcohol, and suicide—are rising among poor White Americans while decreasing among Black Americans (Case & Deaton, 2015; Geronimus et al., 2019; Monnat, 2017; Shiels et al., 2017). These findings present a particular puzzle because the median wealth of White families is increasing and the median wealth of Black families is decreasing (Collins et al., 2019). Why then would White Americans feel worse off?

We propose that White = wealthy stereotypes may lead many White Americans to feel as if they do not fit the assumed social class of their racial group. This incompatibility between their own social class and the presumed social class of other White people may be associated with fewer positive emotions, more negative emotions, and poorer mental and physical health. Such findings would suggest the ironic possibility that White Americans find poverty more painful than Black Americans because of presumed, and actual, economic advantages experienced by White Americans.

For example, racially ambiguous individuals are more likely to be categorized as White (vs. Black) when dressed in stereotypically upper-class clothing (Freeman et al., 2011). Likewise, people explicitly and implicitly associate both Black people and Black spaces, with being poor (Bonam et al., 2016; Brown-Iannuzzi et al., 2019; Cox & Devine, 2015; Lei & Bodenhausen, 2017). Together, these findings suggest that race may automatically activate social class judgments. And these expectations about who is poor and who is wealthy have important societal consequences.

The majority of work examining the effects of race/class stereotypes has focused on the negative impacts of assuming that Black = poor (e.g., Brown-Iannuzzi et al., 2019; Cooley et al., 2019). For example, people tend to imagine Black people when they imagine welfare recipients, and these visualizations predict reduced support for wealth redistribution (Brown-Iannuzzi et al., 2017, 2019). Likewise, assumptions that Black spaces are impoverished predict more support for building a

<sup>1</sup> Colgate University, Hamilton, NY, USA

<sup>2</sup> University of Virginia, Charlottesville, VA, USA

<sup>3</sup> Haverford College, PA, USA

## Race/Social Class Stereotypes

Persistent racial wealth disparities (Collins et al., 2019) may inform stereotypical associations between race and social class.

## Corresponding Authors:

Erin Cooley, Colgate University, 111C Olin Hall, Hamilton, NY 13346, USA;  
Jazmin Brown-Iannuzzi, University of Virginia, Charlottesville, VA 22904, USA.  
Emails: ecooley@colgate.edu; jib3jd@virginia.edu

potentially harmful chemical plant in those areas (Bonam et al., 2016).

Although seemingly benign, there is reason to believe that White = wealthy stereotypes, too, may have negative consequences. For example, experimental data indicate that White people derogate, and try to physically distance themselves, from poor Whites (Kunstman et al., 2016; Marques et al., 1988). Likewise, interventions that highlight that White people are privileged can lead people to blame poor White people more for their plight (Cooley et al., 2019). Thus, poor White Americans may experience pernicious consequences for violating class stereotypes of their racial group.

### **Socioeconomic Comparisons (Within Racial Groups) and Emotional Consequences**

Given that race/class stereotypes are automatically activated and widely known, what are the consequences of White = wealthy stereotypes for how White people evaluate their own socioeconomic standing? Because it is difficult to know the exact amount of socioeconomic resources one has, or that racial groups have (Kraus et al., 2017), people often determine their socioeconomic status (and the socioeconomic status of others) based on subjective judgments. And because socioeconomic social comparisons tell us how we are doing compared to others (Johnson, 2012; Zell & Alicke, 2010), they can have emotional and health consequences. In fact, *relative* income predicts subjective well-being, and mortality, above and beyond *absolute* income (Adler et al., 2000; Clark et al., 2008; Clark & Oswald, 1996; Knight et al., 2009; Pham-Kanter, 2009; Singh-Manoux et al., 2003). Moreover, shifted emotional experiences partially mediate the link between perceived relative status and health (Kraus et al., 2013).

But when we compare, who do we tend to compare to? We reason that socioeconomic social comparisons may be biased toward comparing the self to *similar* others (Festinger, 1954). Although “similarity” can be determined in a variety of ways, we suggest that people commonly compare themselves to others in their racial group (see also Aboud, 2003). As a result, relative socioeconomic standing with respect to one’s racial group may be a common yardstick by which Americans judge their economic well-being. If so, then White Americans may be more likely to make upward comparisons between themselves and their racial group than Black Americans because of widespread race/class stereotypes that portray White people as wealthy. Such a possibility is important because upward comparisons can elicit threat (Mendes et al., 2001) and riskier decision-making (Payne et al., 2017). Moreover, these race/class stereotypes may lead poor White people to feel stigmatized as poorly performing members of their racial group.

### **Stigma and Health**

Social stigma is thought to result from a combination of identity and context (Crocker et al., 1998; Leyens et al., 2000). Thus, even identities that do not have a history of being

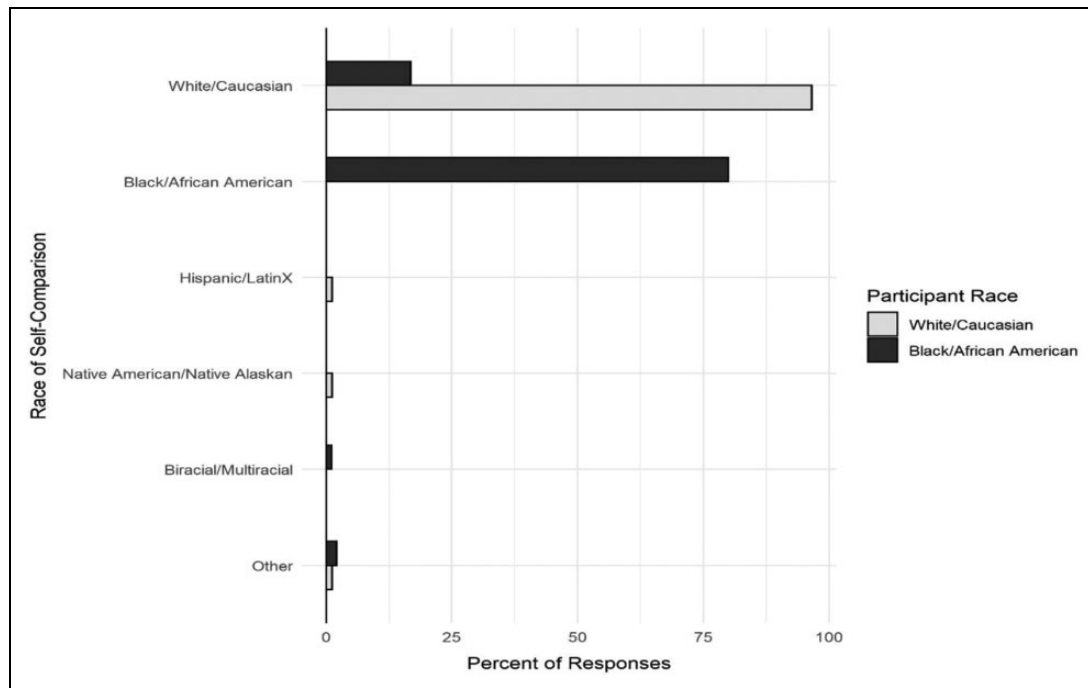
devalued (i.e., White people in America) can experience social stigma. Previous work has found that middle-class White people who attended an elite college felt relatively low status compared to the average student at their institution. And perceiving this status discrepancy undermined academic achievement (Johnson et al., 2011). Likewise, research indicates that White people physically distance themselves from poor White people (Kunstman et al., 2016). Thus, White people who feel poor compared to their racial group may feel stigmatized.

Stigma can have a variety of deleterious effects on the body and mind (e.g., Pascoe & Smart Richman, 2009; Trawalter et al., 2009). For example, research finds that self-reported experiences of stigma undermine mental and physical health by contributing to emotion dysregulation and impeding social connections (Hatzenbuehler, 2009, 2016; Hatzenbuehler et al., 2013). And the disrupting effect of stigma on social connectedness may have compounding negative consequences because social connections have been causally linked to well-being through their effects on people’s experiences of positive emotions (Chida & Steptoe, 2008; Fredrickson, 2001; Howell et al., 2007; Kok & Fredrickson, 2010; Kok et al., 2013). For example, participants randomly assigned to an intervention aimed at increasing social connection demonstrated better heart health over time—an effect that was mediated by experiencing more positive emotions (Kok et al., 2013). Similarly, participants who were asked to self-generate positive emotions subsequently reported less chest pain and weakness than those in a control group (Fredrickson et al., 2008). More generally, positive emotions, through increased parasympathetic activity (e.g., Kok et al., 2013), can buffer against poor health, while negative emotions, through links to heightened sympathetic activity and cortisol (Buchanan et al., 1999), can undermine health. It follows that the combination of fewer positive, and more negative, emotions that result from stigma should increase the likelihood of experiencing depression (e.g., Carl et al., 2018; Frasure-Smith et al., 1995; Gallo & Matthews, 2003; Gruber et al., 2011) and worse physical health (e.g., Danner et al., 2001; Fredrickson & Levenson, 1998; Kubzansky & Kawachi, 2000).

### **Overview of the Present Research**

Building from this work, we propose that White = wealthy stereotypes in the United States will lead White people to feel relatively worse off than their racial group—an experience that has been linked to feeling stigmatized (Johnson et al., 2011). If so, these perceived ingroup-self status discrepancies may predict fewer positive, and more negative, emotions. Finally, these emotional outcomes may mediate corresponding shifts in mental and physical health.

We test these hypotheses in a pretest and two studies. In a pretest, we investigated our basic premise: that White and Black participants tend to compare their socioeconomic status to others from their racial group. In Study 1, we collected large representative samples of Black and White Americans to test the potential consequences of these within-group status



**Figure 1.** Americans disproportionately compare their status to people from their own racial group.

comparisons. Finally, Study 2 sought to replicate the pattern of results found in Study 1. To enhance generalizability of our results, both Studies 1 and 2 utilized a survey recruitment platform (TurkPrime) to recruit samples of Black and White individuals representative of the United States on the following dimensions: age, gender, political party affiliation, income, region of the country, and education.

For all studies, we conducted an a priori power analysis using G\*Power 3.1.9.4 software to ensure we collected a large enough sample to detect a small effect size with adequate power (Faul et al., 2007). For Study 1, we anticipated investigating an analysis of covariance including main effects and interactions. The power analyses indicated we would need approximately 400 participants to detect a small effect ( $f = .14$ ) with adequate power ( $1 - \beta = .80$ ). However, because we anticipated an interaction of attenuation, we recruited 500 Black participants and 500 White participants. In Study 2, we recruited 400 White participants. Further, for Studies 1 and 2, we conducted sensitivity power analyses to determine the effect size we could detect given the collected sample sizes (see Supplemental Materials). We report all measures, conditions, and data exclusions below.<sup>1</sup>

### Pretest

In a pretest, we recruited 100 White and 100 Black Americans to respond to the following prompt: “the type of person I most often compare to has the following race.” As can be seen in Figure 1, people disproportionately compared to others from their own racial group (see Supplemental Materials for full pretest details). Thus, in our following studies, we examined

the effects of these common ingroup comparisons for both White and Black Americans.

## Study 1 Method

### Participants

We recruited 500 White participants and 500 Black participants through TurkPrime Panels. We excluded participants who indicated a race other than “White” in the White sample or a race other than “Black” in the Black sample. We also excluded one participant who did not complete key outcome measures. The final sample was comprised of 490 White participants (239 men; 250 women; 1 gender nonbinary;  $M_{age} = 54.51$ ,  $SD_{age} = 16.07$ ; median income = US\$25,001–US\$50,000; median education = some college, no degree) and 519 Black participants (254 men; 264 women; 1 “other”;  $M_{age} = 39.76$ ,  $SD_{age} = 15.16$ ; median income = US\$25,001–US\$50,000; median education = some college, no degree).

### Procedure

After providing informed consent, participants completed two MacArthur ladders (Adler & Ostrove, 1999). First, participants completed the original MacArthur ladder in which they saw an image of a ladder with 10 rungs and were told the following:

Think of the ladder as representing where people stand in the United States. At the top of the ladder are the people who are the best off—those who have the most money, the most education, and the most respected jobs. At the bottom are the people who are the

**Table 1.** Descriptive Statistics and Correlations for Variables of Interest

	1	2	3	4	5	6	7	8	9
	Ladder Self	Ladder Group	InGroup-Self Ladder Difference	Income	Education	Negative Emotions	Positive Emotions	Depressive Symptoms	Physical Health
1	—								
2	<b>.34</b>	—							
3	<b>-.54</b>	<b>.61</b>	—						
4	<b>.37</b>	<b>.09</b>	<b>-.23</b>	—					
5	<b>.24</b>	<b>.11</b>	<b>-.11</b>	<b>.39</b>	—				
6	<b>-.12</b>	<b>-.18</b>	<b>-.06</b>	<b>-.12</b>	<b>-.10</b>	—			
7	<b>.36</b>	<b>.15</b>	<b>-.17</b>	<b>.12</b>	<b>-.01</b>	<b>-.11</b>	—		
8	<b>-.23</b>	<b>-.16</b>	<b>.05</b>	<b>-.12</b>	<b>-.07</b>	<b>.65</b>	<b>-.30</b>	—	
9	<b>.25</b>	<b>.04</b>	<b>-.17</b>	<b>.13</b>	<b>.09</b>	<b>-.28</b>	<b>.21</b>	<b>-.41</b>	—
Mean	5.23	5.57	0.34	2.64	3.65	1.75	2.96	2.12	0.00
SD	2.03	2.17	2.42	1.76	1.39	0.80	1.07	1.08	0.77

Note. Bolded correlations indicate a  $p$  value < .05.

worst off—who have the least money, least education, and the least respected jobs or no job.

Participants were then asked to select which ladder rung best represented their own status as compared to others living in the United States. Second, participants saw a modified version of the MacArthur ladder where they were asked to determine where the majority of their racial group stood in the United States (i.e., “White people” in the White sample or “Black people” in the Black sample). Because we were interested in participants’ perception of their own social status as it compared to their perception of the status of their racial group, we subtracted participants’ status from their group’s status. We refer to this variable as “ingroup-self ladder difference” in our analyses. High values indicate perceiving the ingroup as higher status than the self; negative values indicate perceiving the ingroup as lower status than the self.

After completing the ladders, participants were asked to report the extent to which they felt a variety of positive and negative emotions (1 = *not at all*, 5 = *extremely*) when thinking about their social status in society (order of emotions was randomized). Emotions were taken from the Modified Differential Emotions Scale (mDES; Fredrickson et al., 2003) and Harder and Zalma’s (1990) guilt and shame scales (see Supplemental Materials for all items). Responses to positive emotions ( $M = 2.96$ ,  $SD = 1.07$ ;  $\alpha = .95$ ) and negative emotions (mDES, guilt and shame items;  $M = 1.75$ ,  $SD = 0.80$ ;  $\alpha = .96$ ) were combined into separate indices.

Next, participants completed measures assessing their mental and physical health. To measure mental health, we included the Patient-Reported Outcomes Measurement Information System (PROMIS) Scale (Schalet et al., 2016). This scale asks participants the degree to which they have experienced the following feelings over the past 7 days (1 = *never*, 5 = *always*): “I felt worthless,” “I felt that I had nothing to look forward to,” “I felt helpless,” “I felt sad,” “I felt like a failure,” “I felt depressed,” “I felt unhappy,” “I felt hopeless” ( $M = 2.12$ ,  $SD = 1.08$ ;  $\alpha = .96$ ). To measure physical health, we included 4 items: (1) “In general, would you say your physical health is

poor or good?” (0 = *very poor*, 100 = *very good*); (2) “To what extent are you able to carry out your everyday physical activities?” (1 = *not at all*, 5 = *completely*); (3) “How would you rate your fatigue on average?” (1 = *none*, 5 = *severe*); and (4) “How would you rate your pain on average?” (1 = *none*, 5 = *severe*). Because these items were evaluated on different scales, we standardized each item before averaging them together to index greater physical health ( $\alpha = .78$ ).

Because of the cost associated with collecting this large, diverse sample, we included several additional measures that allowed us to test different hypotheses as a part of other research lines (see Supplemental Materials). None of these measures, aside from those discussed above, were relevant to the present hypotheses.

## Results

Descriptive statistics and correlations between variables appear in Table 1.

### Effects of Sample Race on Ladder Self, Ladder Group, and Ladder Difference Scores

First, we compared average values on each of our status ladder variables (i.e., ladder self, ladder group, and ingroup-self ladder difference) separately among Black and White samples (see Table 2). Black and White Americans tended to see their own status (i.e., ladder self) as relatively similar on average. As anticipated, White Americans perceived the majority of White Americans to be significantly higher status than Black Americans perceived the majority of Black American to be (i.e., ladder group). Critically, White Americans reported significantly larger ingroup-self ladder difference scores as compared to Black Americans. In fact, White Americans’ average ladder difference score was significantly *above* 0, reflecting a tendency to rate the majority of their racial group as having higher status than the self,  $t(489) = 13.06$ ,  $p < .001$ , 95% CI [1.08, 1.46],  $d = .59$ . In contrast, Black Americans’ average ladder

**Table 2.** Analysis of Covariances Predicting Subjective Status by Sample Race, Controlling for Objective Indicators of Status (Education and Income), Study 1.

	White Mean (SE)	Black Mean (SE)	Comparison Between White and Black Samples
Ladder self	5.16 (.09)	5.30 (.08)	$F(1, 1005) = 1.29, p = .256, \eta_p^2 = .001$
Ladder group	6.46 (.09)	4.73 (.09)	$F(1, 1005) = 190.59, p < .001, \eta_p^2 = .16$
Ingroup-self ladder difference	1.29 (.10)	-0.57 (.10)	$F(1, 1005) = 184.45, p < .001, \eta_p^2 = .16$

Note. Ladder self indicates where participants ranked themselves on the MacArthur ladder. Ladder group indicates where participants ranked the majority of their racial ingroup on the MacArthur Ladder. Ingroup-self ladder difference is ladder self subtracted from ladder group. Means represent marginal means.

**Table 3.** Regression Results When Predicting Positive and Negative Emotions, Study 1.

	Positive Emotions			Negative Emotions		
	<i>b</i>	<i>p</i> Value	95% CI	<i>b</i>	<i>p</i> Value	95% CI
Intercept	-.18	.002	[-.29, -.06]	-.13	.025	[-.24, -.02]
Male	.13	.033	[.01, .25]	.15	.011	[.04, .27]
Income	.11	.001	[.05, .18]	-.12	< .001	[-.18, -.05]
Education	-.07	.043	[-.13, -.002]	-.03	.384	[-.09, .04]
Age	.08	.026	[.01, .14]	-.31	< .001	[-.38, -.25]
Race (0 = White, 1 = Black)	.28	<.001	[.14, .43]	.10	.137	[-.03, .24]
LadderDif (group – self)	-.20	<.001	[-.30, -.10]	-.002	.970	[-.10, .10]
Race × LadderDif	.17	.014	[.03, .30]	-.005	.941	[-.13, .12]

Note. LadderDif refers to ingroup-self ladder differences.

difference score was significantly *below* 0, reflecting a tendency to rate the majority of their racial group as having lower status than the self,  $t(518) = -5.28, p < .001, 95\% \text{ CI} [-0.74, -0.34], d = .23$ .

### Positive and Negative Emotions

To examine the effect of ingroup-self ladder difference scores on emotions, we ran two regression analyses: one predicting positive emotions and one predicting negative emotions. For each regression model, we included ingroup-self ladder difference, sample race (1 = *Black*, 0 = *White*), and their interaction as predictors. We also included the following control variables in all subsequent analyses: age, income, education, and gender (1 = *male*, 0 = *else*).<sup>2</sup> Continuous variables were standardized before analyses.

When predicting positive emotions, results revealed a significant interaction of ladder difference and sample race,  $b = .17, p = .014$  (see Table 3). Thus, we probed this interaction by examining the effect of ladder difference separately among the Black and White samples. As predicted, this interaction was driven by a significant negative effect of ladder difference on positive emotions among White participants,  $b = -.20, t = -3.91, p = .0001, 95\% \text{ CI} [-.30, -.10]$ . In contrast, there was no significant effect of ladder difference on positive emotions among Black participants,  $b = -.04, t = -.79, p = .431, 95\% \text{ CI} [-.12, .05]$  (see Figure 2).

Next, we ran the same model predicting negative emotions.<sup>3</sup> There was no significant interaction of sample race and ladder difference on the experience of negative emotions,  $b = -.005, t = -.07, p = .941$  (see Table 3).

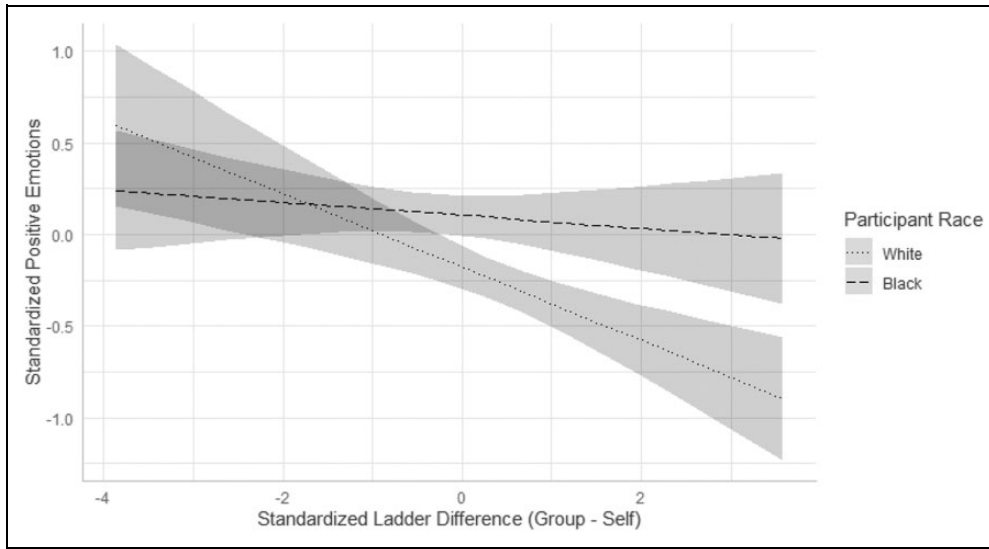
### Moderated Mediation Models Predicting Health Outcomes

Finally, we tested whether the distinct association between higher ingroup-self ladder difference and fewer positive emotions among the White (but not Black) sample mediated downstream health outcomes. To test this hypothesis, we fit a moderated mediation model using the PROCESS macro in SPSS with 10,000 bootstrapped resamples (Model 7; see Figure 3; Hayes, 2013). First, we fit this model predicting depressive symptoms (i.e., mental health). We also fit the same model predicting physical health. In both models, we controlled for gender, income, education, and age. All continuous variables were standardized prior to analyses.

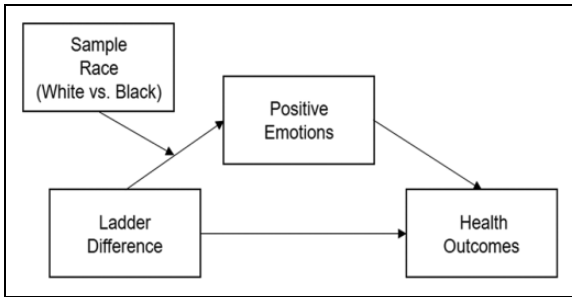
The moderated mediation model predicting mental health revealed a significant index of moderated mediation (i.e., the difference between conditional indirect effects for the White vs. Black sample) when predicting depressive symptoms,  $b = -.05, 95\% \text{ CI} [-.09, -.01]$  (see Figure 4). Critically, this was driven by a significant indirect effect among White Americans, but not among Black Americans. There was also a significant index of moderated mediation when predicting physical health,  $b = .02, 95\% \text{ CI} [.004, .05]$  (see Figure 5). And again, this was driven by a significant indirect effect among White Americans, but not among Black Americans.

### Discussion

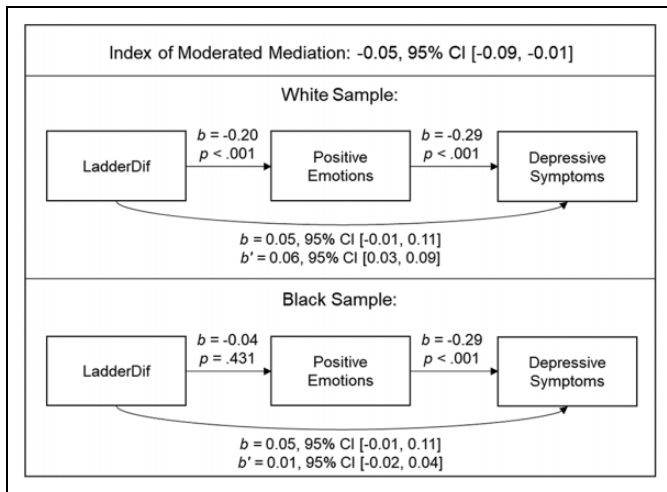
Study 1 results revealed that, on average, White Americans make upward socioeconomic comparisons to their racial group. In contrast, Black Americans make downward socioeconomic



**Figure 2.** Plotting the relation between ingroup-self ladder difference and positive emotions separately for White and Black participants. Gray bands reflect 95% confidence intervals.

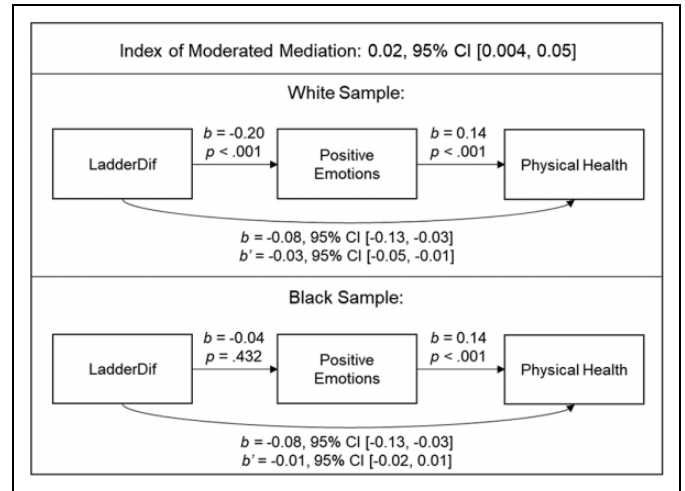


**Figure 3.** Moderated mediation model.



**Figure 4.** Significant indirect effect of ingroup-self ladder difference on mental health through the experience of fewer positive emotions for White (top panel) but not Black (bottom panel) Americans.

comparisons to their racial group. Critically, White and Black people did not differ in the status they attributed to the self, so diverging ingroup-self disparities were driven by differences in the perceived status of one’s own racial group. And, it was only



**Figure 5.** Significant indirect effect of ladder difference on physical health through the experience of fewer positive emotions for White (top panel) but not Black (bottom panel) Americans.

among White participants that perceived ingroup-self discrepancies predicted the experience of fewer positive emotions which mediated worse health. The lack of comparable effects among Black Americans suggests that these findings are not driven by a general effect of feeling like a low-status ingroup member but instead are specific to White Americans who feel they are falling short of the White = wealthy stereotype. Thus, in our next study, we collected a second representative sample of White Americans to replicate these effects.

## Study 2 Method

### Participants

We recruited 400 White participants through TurkPrime Panels. Again, the sample was recruited with representative

**Table 4.** Correlations Among Key Variables, Study 2.

	1	2	3	4	5	6	7	8	9
	Ladder Self	Ladder Group	InGroup-Self Ladder Difference	Income	Education	Negative Emotions	Positive Emotions	Depressive Symptoms	Physical Health
1	—								
2	<b>.24</b>	—							
3	<b>-.63</b>	<b>.60</b>	—						
4	<b>.40</b>	-.003	<b>-.33</b>	—					
5	<b>.22</b>	-.003	<b>-.19</b>	<b>.37</b>	—				
6	<b>-.25</b>	.01	<b>.21</b>	<b>-.20</b>	<b>-.13</b>	—			
7	<b>.43</b>	<b>.17</b>	<b>-.23</b>	<b>.16</b>	-.03	<b>-.19</b>	—		
8	<b>-.34</b>	.01	<b>.29</b>	<b>-.22</b>	<b>-.12</b>	<b>.75</b>	<b>-.31</b>	—	
9	<b>.24</b>	<b>.09</b>	<b>-.13</b>	<b>.17</b>	<b>.12</b>	<b>-.31</b>	<b>.17</b>	<b>-.44</b>	—
Mean	4.86	6.59	1.73	2.38	3.17	1.80	2.76	2.34	0.00
SD	1.93	1.86	2.33	1.71	1.49	0.87	1.04	1.17	0.78

Note. Bolded correlations indicate a  $p$  value < .05.

stratification based on age, gender, political party affiliation, income, region, and education. Sixteen participants who reported a race other than “White” within our study were not included in our final sample. This resulted in a final sample of 498 White participants<sup>4</sup> who confirmed identifying as “White” (240 men; 257 women; 1 gender nonbinary;  $M_{age} = 49.14$ ,  $SD_{age} = 16.97$ ; median income = US\$25,001–US\$50,000; median education = some college, no degree).

## Procedure

The procedure for Study 2 was similar to Study 1 with two exceptions. First, we dropped the non-analyzed measures that were included in Study 1. Second, we included three exploratory measures at the end of the study: a measure of entitlement, a measure of relative deprivation, and a measure of attitudes toward reparations. The final measure was to address a separate research question and will not be discussed. Entitlement and relative deprivation were exploratory moderators. As described more fully in Supplemental Materials, entitlement moderated the relation between perceived status disparities and negative (but not positive) emotions. In particular, it was specifically among those low (but not high) in entitlement beliefs for whom ingroup-self status disparities predicted more negative emotions. In contrast, relative deprivation was not a significant moderator (see Supplemental Materials for full details on these exploratory analyses).

## Results

Descriptive statistics and correlations between variables appear in Table 4.

### Positive and Negative Emotions

As in Study 1, we ran separate regression analyses predicting positive emotions and negative emotions. Again, we included the ingroup-self ladder difference as our key predictor and

**Table 5.** Regression Results Predicting Positive and Negative Emotions, Study 2.

	Positive Emotions			Negative Emotions		
	$b$	$p$ Value	95% CI	$b$	$p$ Value	95% CI
Intercept	-.021	.719	[-.14, .10]	-.017	.772	[-.13, .10]
Male	.045	.606	[-.13, .21]	.035	.677	[-.13, .20]
Income	.139	.004	[.04, .23]	-.147	.002	[-.24, -.06]
Education	-.127	.007	[-.22, -.04]	-.027	.550	[-.12, .06]
Age	.146	.001	[.06, .23]	-.286	<.001	[-.37, -.20]
LadderDif	-.180	<.001	[-.27, -.09]	.118	.009	[.03, .21]

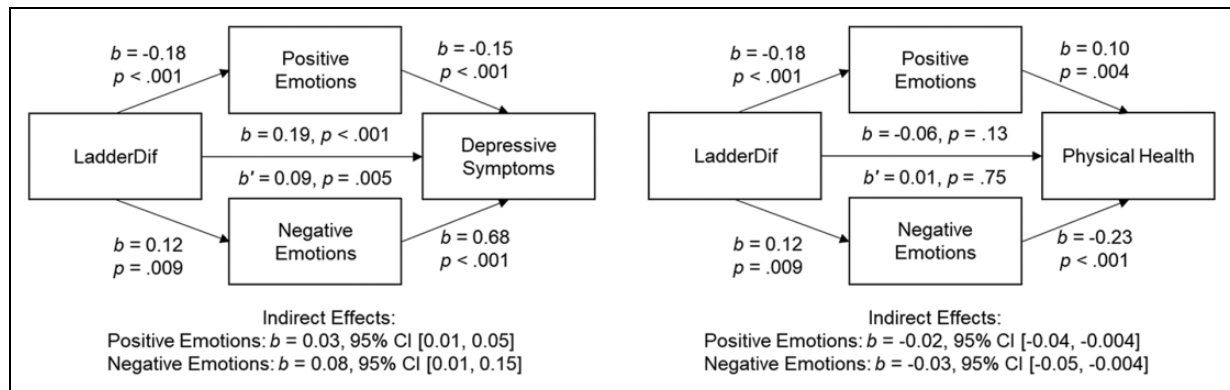
Note. LadderDif refers to ingroup-self ladder differences.

controlled for gender, income, education, and age. Continuous variables were standardized before analyses.

Replicating patterns among the White sample in Study 1, greater perceived status discrepancies between the self and the majority of White people were associated with experiencing fewer positive emotions (see Table 5). In addition, greater perceived status discrepancies between the self and the majority of White people were associated with experiencing more negative emotions.

### Mediation Analyses Predicting Health Outcomes

Next, we examined whether the positive and negative emotions simultaneously mediated the association between ingroup-self ladder difference and health outcomes. To do this, we conducted two mediation analyses, one predicting depressive symptoms and one predicting physical health, using the PROCESS macro and 10,000 bootstrapped resamples (Model 4; Hayes, 2013). We controlled for gender, income, education, and age. All continuous variables were standardized prior to analysis. Results revealed a significant indirect effect via both positive and negative emotions when predicting depressive symptoms and physical health (for specific path results, see Figure 6).



**Figure 6.** Significant indirect effect of ladder difference on depressive symptoms (left) and physical health (right) through positive and negative emotions.

## Discussion

A second representative sample of White Americans revealed that higher perceived discrepancies between one's own status and the perceived status of the majority of White Americans predicted fewer positive emotions, which then mediated worse mental and physical health. In fact, differences in positive emotions played a unique mediating role above and beyond differences in negative emotions (which also played a mediating role).

## General Discussion

Rising economic inequality is widening the gap between the wealth of Black and White families (Collins et al., 2019). Yet poor White Americans feel “worse off” than do poor Black Americans (Cohen et al., 2017; Graham, 2017). The present data suggest that one reason why poor White Americans feel disenfranchised could be due to White = wealthy stereotypes. Critically, when White and Black participants compared their socioeconomic standing to others in their racial ingroup, White participants tended to think that most White Americans were higher status than the self, while Black participants tended to think the majority of Black Americans were lower status than the self (Study 1). Further, perceived ingroup-self status discrepancies predicted fewer positive emotions, which were associated with poorer self-reported health, among White, but not Black, participants. Because both White and Black participants rated their own status as comparable, this suggests that the perceived difference between where one stands relative to their racial group may be central to these effects. Finally, we replicated the link between higher ingroup-self status discrepancies and emotional and health outcomes among White Americans in another representative sample (Study 2). Together, these data provide initial evidence that White = wealthy stereotypes may have emotional and health consequences for White Americans by leading them to feel poorer than their racial group.

Of note, in Study 1, the race of the sample (i.e., Black vs. White Americans) moderated the relationship between ingroup-self ladder discrepancies and positive emotions, but

not negative emotions. And in Study 2, decreases in positive emotions mediated the relationship between perceived ingroup-self status discrepancies and health above and beyond increases in negative emotions. Such a finding may reflect that positive emotions play a uniquely important role in the relation between ingroup-self status discrepancies and health. Consistent with this possibility, positive emotions have been causally linked to health in a variety of work (Fredrickson et al., 2008; Kok et al., 2013; Kok & Fredrickson, 2010). Future research should examine whether distinct positive emotions (vs. general positivity) or distinct negative emotions (vs. general negativity) may play a pivotal role in linking ingroup-self status discrepancies with health.

The current data may be applied to understand burgeoning public health data regarding trends which suggest premature deaths are rising among poor White Americans. In particular, rates of so-called deaths of despair—which are deaths from drugs, alcohol, and suicide—are rising among non-Hispanic White Americans, and particularly among poor White Americans, while decreasing among Black and Latinx Americans (Case & Deaton, 2015; Geronimus et al., 2019; Monnat, 2017; Shiels et al., 2017). Given White = wealthy stereotypes, poor White (vs. Black) Americans may *feel* even poorer (Cohen et al., 2017), perceive a bleaker future (Graham, 2017), and may suffer as a result of this worldview. Future research should directly investigate whether race/class stereotypes may be a mechanism underpinning these burgeoning public health trends.

It is important to note that there are many health disparities that continue to disproportionately harm minority groups (and particularly Black people) in the United States. For example, rates of heart disease and diabetes disproportionately afflict Black Americans (Pascoe & Smart Richman, 2009). Further, racial discrimination produces a heightened stress response and is associated with worse mental and physical health (Paradies et al., 2015; Pascoe & Smart Richman, 2009). In addition to these health disparities, there are disparities in the medical treatment Black and White people receive. For example, Black people are less likely to have their pain adequately treated than



White people (e.g., Burgess et al., 2008). And Black (vs. White) people in need of outpatient mental health care are less likely to receive it (U.S. Department of Health and Human Services, 2001). Thus, the intent of the present work is not to create a racial hierarchy of suffering nor to draw attention away from the troubling health disparities faced by racial minority groups in the United States. Instead, we hope to highlight that socially constructed ideas about how race connotes social class yield multifaceted forms of societal harm (Richeson & Sommers, 2016; Volpe et al., 2019).

Relatedly, because of the persistence of racism in the United States, when Black Americans think of their own status as it compares to other Black Americans, this may make racism, and the systemic disadvantages experienced by Black Americans, more salient. This is likely to elicit distinct psychological processes from when White people think about how their status compares to other White Americans. Thus, future research should more directly explore how the perceived status of the self and the perceived status of most Black Americans interact to influence emotional and health outcomes for Black Americans.

### Limitations

Although we propose ingroup-self ladder discrepancies lead White Americans to feel they are not “measuring up” because of White = wealthy stereotypes, this mechanism should not be considered exhaustive. That is, ingroup-self ladder discrepancies likely trigger perceived fairness concerns (Jackson et al., 2006), internal attributions for their own economic hardship, and group-belongingness concerns—all of which may culminate in feeling fewer positive and more negative emotions as well as worse health. Future research should expand upon current findings by exploring these additional mechanisms.

Additionally, these works are limited by the cross-sectional and correlational nature of the data. Lack of temporal precedence poses a particular restraint on our ability to interpret the mediation models. Future research should collect longitudinal data and test growth models which can help determine whether relative racial socioeconomic standing is associated with increasingly fewer positive emotions and poorer health over time. Likewise, our use of a difference score to quantify perceived ingroup-self status discrepancies, although aligned with the construct we hoped to capture, may have statistical limitations (e.g., Edwards, 2001). Future research could replicate these effects by directly asking about perceived ingroup-self status disparities.

Finally, the present work examines culturally specific stereotypes. As such, these findings and their implications should be limited to the U.S. context. Future work should explore whether assumptions about which groups hold high social class lead to similar effects for non-prototypical group members across different cultural contexts.

## Conclusion

Americans associate Black Americans with being poor (Brown-Iannuzzi et al., 2019; Skinner et al., 2019)—associations that have consequences for amplifying racial and economic divisions. However, the present work suggests that White = wealthy stereotypes, although seemingly benign, may also have pernicious psychological and physical consequences for White people who feel that they are not measuring up.

### Author Contribution

Erin Cooley and Jazmin Brown-Iannuzzi contributed equally.


### Declaration of Conflicting Interests

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### ORCID iD

Erin Cooley  <https://orcid.org/0000-0002-6212-1196>

### Supplemental Material

The supplemental material is available in the online version of the article.

### Notes

1. For study materials, see Supplemental Materials. For data/syntax for each study: [https://osf.io/nv8t3/?view\\_only=73df08ea01644a12955a03d8bc18df82](https://osf.io/nv8t3/?view_only=73df08ea01644a12955a03d8bc18df82)
2. For both Studies 1 and 2, substantive findings do not change without control variables, see Supplemental Materials.
3. Negative emotions were positively skewed. Log-transforming negative emotions resulted in a nonsignificant Sample Race  $\times$  Ladder Difference interaction,  $b = -.05$ ,  $t = -.74$ ,  $p = .522$ . We report results for the nontransformed variable for interpretability.
4. Deviations from the recruited sample size are a by-product of sampling method used by TurkPanels.

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### Author Biographies

**Erin Cooley** is an assistant professor in the Psychological and Brain Sciences department at Colgate University. Her research examines the cognitive, affective, and physiological processes that result from, and contribute to, social inequality.

**Jazmin L. Brown-Iannuzzi** is an assistant professor of psychology at the University of Virginia. Her research seeks to understand why disparities (racial and economic) may persist and in some cases grow.

**Ryan F. Lei** is an assistant professor of developmental psychology at Haverford College. His research takes an intersectional framework to investigate how children acquire and apply stereotypes and prejudices.

**Lauren E. Philbrook** is an assistant professor in the Psychological and Brain Sciences department at Colgate University. Her research focuses on children's adjustment in contexts of risk, including family, racial, and socioeconomic adversity.

**William Cipolli III** (<http://cipolli.com>) is an assistant professor at Colgate University. His research is focused on collaborative statistical research and Bayesian nonparametric inference via Polya trees.

**Stephanie E. McKee** is a graduate student at the University of Virginia. Her research examines the relation between group-based inequalities and political attitudes.

Handling Editor: Maïke Luhmann