Racial bias is associated with ingroup death rate for Blacks and Whites: Insights from Project Implicit

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ABSTRACT

Rationale: Research suggests that, among Whites, racial bias predicts negative ingroup health outcomes. However, little is known about whether racial bias predicts ingroup health outcomes among minority populations.
Objective: The aim of the current research was to understand whether racial bias predicts negative ingroup health outcomes for Blacks.
Method: We compiled racial bias responses from 250,665 Blacks and 1,391,632 Whites to generate county-level estimates of Blacks' and Whites' implicit and explicit biases towards each other. We then examined the degree to which these biases predicted ingroup death rate from circulatory-related diseases.
Results: In counties where Blacks harbored more implicit bias towards Whites, Blacks died at a higher rate. Additionally, consistent with previous research, in counties where Whites harbored more explicit bias towards Blacks, Whites died at a higher rate. These links between racial bias and ingroup death rate were independent of county-level socio-demographic characteristics, and racial biases from the outgroup in the same county.
Conclusion: Findings indicate that racial bias is related to negative ingroup health outcomes for both Blacks and Whites, though this relationship is driven by implicit bias for Blacks, and explicit bias for Whites.

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1. Racial bias is associated with ingroup death rate for Blacks and Whites: insights from Project Implicit

An emerging body of work suggests that, among Whites, greater racial bias towards an outgroup predicts negative ingroup health outcomes. For instance, research at the individual-level has found that Whites who harbor negative attitudes towards Blacks demonstrate greater physiological stress reactivity during interracial interactions (Mendes et al., 2007), and are more likely to die over a 6—15 year period (Lee et al., 2015). Furthermore, community-level research suggests that Whites show higher death rates in communities where Whites report more negative attitudes towards Blacks (Kennedy et al., 1997; Lee et al., 2015; Leitner et al., 2016). Thus, evidence suggests that it is a health risk for Whites to live to in a community where members of their ingroup harbor racial biases towards Blacks.

1.1. The link between bias and ingroup health for blacks

While previous research has established a negative association between racial bias and ingroup health among Whites, surprisingly little is known about whether such a relationship exists among minority populations. A deeper understanding of whether the magnitude of the relationship between racial bias and ingroup health differs for Whites and racial minorities would be important, as it would elucidate whether this relationship reflects a general phenomenon that is not only limited to the majority group.

On the one hand, some research suggests that links between racial bias and negative ingroup health might be absent or reversed among racial minorities. Specifically, psychological phenomena frequently differ across majority-minority group boundaries (e.g., Hehman et al., 2012), and for racial minorities, negative perceptions of the outgroup (e.g., perceived discrimination by the outgroup)

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have been shown to buffer against race-based stress (Crocker and Major, 1989; Sellers and Shelton, 2003). On the other hand, research has shown that Blacks who harbor negative attitudes towards Whites are more likely to appraise ambiguous events as discriminatory (Johnson and Lecci, 2003), and perceptions of discrimination are related to heightened anger (Meyer and Baker, 2010) – a strong risk factor for circulatory-related diseases (for a meta-analysis, see Chida and Steptoe, 2009). Moreover, discrimination from the outgroup has been linked to anxiety, cardiovascular threat response, hypertension, and mortality among minorities (Barnes et al., 2008; Mendoza-Denton et al., 2002; Pascoe and Richman, 2009; Sawyer et al., 2012; Smart Richman et al, 2010; Williams and Mohammed, 2009). Thus, previous research opens multiple possibilities regarding the relationship between racial bias and ingroup health among racial minorities. Though the weight of evidence may point to greater bias as a predictor of negative ingroup health outcomes for Whites and racial minorities alike, it is an open and important question to examine.

One way to gain insight into this issue is to test whether Blacks show poorer health in communities where they harbor more racial bias towards Whites. Racial bias can be measured directly through *explicit* measures (e.g., asking participants "How warmly or coldly do you feel towards White people?") or indirectly through so-called *implicit* measures, which infer bias from the speed with which a response is made (Fazio et al., 1995; Greenwald et al., 1998). While explicit biases are thought to reflect relatively deliberate and conscious mental processes, implicit biases are thought to reflect more automatic processes that operate outside of conscious awareness (Dovidio et al., 2002; Gawronski et al., 2008). As implicit and explicit biases are independent constructs among Blacks (Livingston, 2002), they may each contribute to pathways (e.g., perceived discrimination and anger) that have negative health consequences. However, no research, to our knowledge, has examined the relative contribution of Blacks' implicit and explicit biases in predicting ingroup health outcomes at a community level.

1.2. Current research

The aim of the current research was to determine whether the relationship between racial bias and negative ingroup health (previously observed among Whites) extends to Blacks. Accordingly, we compiled racial bias responses from 250,665 Blacks and 1,391,632 Whites to generate county-level estimates of Blacks' and Whites' implicit and explicit biases towards each other, and examined the degree to which these biases predicted ingroup death rate from circulatory-related diseases. We focused on circulatory-related death rate since it is the leading category of death in the U.S., and has shown Black-White disparities over time (National Center for Health Statistics, 2014). Additionally, racial bias towards an outgroup might contribute to increased stress during interracial interactions, and research shows that chronic stress degrades circulatory health (e.g., Black and Garbutt, 2002).

We adopted an analytic approach that could test whether Blacks' bias remained a predictor of Blacks' death rate when we controlled for a large set of socio-demographic characteristics and Whites' biases in the same county. Furthermore, we examined whether the magnitude of the relationship between bias and ingroup death rate differed for Blacks and Whites.

2. Method

2.1. Data sources

2.1.1. Circulatory death rate

County-level death rates for circulatory-related causes (e.g.,

heart disease; Internal Statistical Classification of Diseases and Related Health Problems codes I00-I99) for Blacks and Whites were obtained from the Centers for Disease Control and Prevention (CDC; http://wonder.cdc.gov/ucd-icd10.html). We compiled death rates from 2003 to 2013 to match racial bias data from this time period (see below). To account for potential age differences between counties and racial groups, we used age-adjusted death rates, as in previous work (Eichstaedt et al., 2015). Age-adjusted rates were calculated using the 2000 U.S. standard population, which is the default population provided by the National Center for Health Statistics. We compiled death rate data for Blacks from 1490 counties (death rate per 100,000: $M = 352.595$, $SD = 84.806$), and for Whites from 3110 counties (death rate per 100,000: $M = 270.477$, $SD = 54.204$). We obtained data that were aggregated across male and female deaths since gender-aggregated, as compared to gender-disaggregated, data were less likely to be suppressed by the CDC.

2.1.2. Racial bias

Blacks' county-level racial bias was assessed by compiling responses from Project Implicit (Xu et al., 2014), a research project that has collected measures of racial bias over the Internet. Within the Project Implicit dataset, we searched for Black respondents for whom county-level geographical information was available. This search yielded 250,665 Black responses from 1589 counties (# of responses per county: $M = 157.750$, $SD = 493.109$). We included data from 2003 to 2013. A map of the counties for which we obtained racial bias data for Blacks is shown in Fig. 1 (visit http://www.jordanbleitner.com/maps for an interactive version of this figure).

To determine whether Blacks' biases predicted Black death rate when controlling for Whites' biases in the same community, we incorporated data from White respondents in this dataset (1,391,632 White respondents from 1836 counties; # of responses per county: $M = 757.969$, $SD = 1766.098$). The relationships between White respondents' racial biases and death rate for Blacks and Whites are reported elsewhere (Leitner et al., 2016), though this previous study did not include data on bias from Black respondents.

Implicit bias

To measure implicit bias, respondents completed the Implicit Association Test (IAT; Greenwald et al., 1998), a speeded dual-categorization task in which respondents simultaneously categorized faces as "African American" or "European American," and words (e.g., "agony") as "Bad" or "Good" by timed computer-key press. Faster responses when Black and Bad (and White and Good) required the same key press, as compared to the reverse, reflect more anti-Black (or pro-White) implicit attitudes (Greenwald et al., 2009). Implicit bias was computed according to the D measure (Greenwald et al., 2003). For Black participants, implicit bias was operationalized by multiplying the D value by -1. For White participants, implicit bias was operationalized as the standard D measure. Thus, for all participants, greater implicit bias scores represented more negative associations with the outgroup (and positive associations with the ingroup), as compared to the reverse.

Explicit bias

To measure explicit bias, respondents rated how warm they felt towards European Americans and African Americans on separate 0 (*coldest feelings*) to 10 (*warmest feelings*) scales. Consistent with previous work (Karpinski and Hilton, 2001; Wittenbrink et al., 2001), we operationalized explicit bias as the difference between these responses. For all participants, greater explicit bias values represented greater warmth towards the ingroup vs. the outgroup.