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Social Class and Racial Prejudice: A Re-examination of  
the “Working-Class Authoritarianism” Hypothesis

THESIS

submitted in partial satisfaction of the requirements  
for the degree of

MASTER OF ARTS

in Social Ecology

by

Jake Philip Moskowitz

Thesis Committee:  
Assistant Professor Paul K. Piff, Chair  
Professor Peter H. Ditto  
Assistant Professor Azim Shariff

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## **ABSTRACT OF THE THESIS**

Social Class and Racial Prejudice: A Re-examination of  
the “Working-Class Authoritarianism” Hypothesis

By

Jake Philip Moskowitz

Master of Arts in Social Ecology

University of California, Irvine, 2018

Professor Paul K. Piff, Chair

Social class, a multifaceted construct implicated in the formation of social values and interpersonal behavior, has long been debated as either a driver or inhibitor of racial prejudice. Here, I test the relationship between various components of social class and racial prejudice, predicting that prejudice will be positively correlated with social class when operationalized as income or subjective rank, and negatively correlated with social class when operationalized as educational attainment. An internal meta-analysis of 6 studies ( $N = 77,574$ ) provided support for the first hypothesis, but not the second: income and subjective rank were found to be positively associated with racial prejudice, operationalized through a variety of survey measures of prejudice and the IAT. Educational attainment, in contrast, was not significantly associated with prejudice. Three hypothesized mechanism variables (power, SDO, and intergroup contact) provided inconsistent evidence of mediation of the relationship between income/subjective rank and racial prejudice. These findings contribute to the existing literature on social class and prejudice, suggesting that in certain social contexts, greater material wealth and subjective rank are associated with increased prejudice against racial minorities. These findings also illuminate

the importance of studying the ways in which the various components of social class denote subtle differences in their downstream psychological effects. Implications of these findings for societies characterized by increasing racial socioeconomic stratification are discussed.



## Introduction

Racial prejudice remains a fundamental issue in our society, negatively impacting the well-being and mental health of minority members (e.g., Williams & Williams-Morris, 2000), and heavily disadvantaging minority members in contexts including job hiring, workplace evaluations, and the criminal justice system (e.g., Riach & Rich, 2004; Stolzenberg, D'Alessio, & Eitle, 2013). Therefore, understanding the social factors that give rise to racial prejudice has long been of societal and academic interest. In the empirical literature, however, there is a relative lack of understanding surrounding the relationship between social class, a multifactorial construct consisting of material resources and social rank, and prejudiced responding. According to one line of research (e.g., Lipset, 1959), the relative lack of information and increased tension of lower-class individuals give rise to a “working-class authoritarianism”, which manifests through reduced tolerance of difference and generalized negative attitudes toward racial minorities. Others, however, have questioned this research on the basis of its use of education as a proxy for social class (Houtman, 2003), as well as the relative inconsistency of findings (e.g., Grabb, 1979; Dekker & Ester, 1987). While this debate has taken place within the sociological literature, there has, to date, been little to no integration of this debate with the psychological literature, which offers a unique perspective on the formation and measurement of prejudice. Building off this prior literature, I present six studies that examine the relationship between the various components of social class and racial prejudice, incorporating a modern conceptual model of social class and psychological assessments of prejudice that are distinct from the sociological literature (e.g., Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012). I then perform mediation analysis to determine the indirect effect of social class via three hypothesized mediators (contact, power, and social dominance orientation). I conclude by

discussing the implications of my findings and highlighting ways that this research could be extended in the future.

### **A Conceptual Overview of Social Class**

Social class (i.e., socioeconomic status; SES) is a construct defined by two interrelated constructs: the ownership of objective material resources and other prestigious forms of capital (e.g., monetary wealth, educational attainment, occupational prestige), as well as the subjective construal of one's own rank as compared to others on the social hierarchy (Kraus et al., 2012; Kraus, Piff, & Keltner, 2011; Adler, Epel, Castellazzo, & Ickovics, 2000). Individuals with higher social class possess increased levels of objective resources and subjective rank, leading to increased feelings of freedom, control, and power over their environments, and relatively fewer external threats and demands (Kraus, Piff, & Keltner, 2009; Stephens, Markus, & Townsend, 2007). These circumstances, in turn, lead to increased *solipsistic social cognitive tendencies*, or “self-orientation”, among individuals of higher social class, including reduced generosity toward others (Piff, Kraus, Côté, Cheng, & Keltner, 2010), reduced empathic accuracy (Kraus, Côté, & Keltner, 2010), and reduced interdependence with others (Na et al., 2010).

Conversely, the daily lives of those with lower social class are characterized by limited resources, greater threats and environmental unpredictability, and reduced control over their own environments (Gallo & Matthews, 2003). As a response to these conditions, lower-class individuals are more likely to exhibit *contextualist social cognitive tendencies*, or “other-orientation”, responding with greater vigilance toward the social environment (Chen & Matthews, 2001; Kraus et al., 2009), as well as empathic and affiliative responding toward others (Stellar, Manzo, Kraus, & Keltner, 2012; Kraus & Keltner, 2009). These strategies may, in turn, facilitate cooperative networks of reciprocal aid among low-class communities (Lareau, 2002;

Argyle, 1994). These effects extend beyond the interpersonal realm to the area of ideology and social values: those with higher social class are more likely to identify as politically conservative, hold anti-egalitarian beliefs, and endorse meritocratic ideals (Brown-Iannuzzi, Lundberg, Kay, & Payne, 2014; Sidanius, Levin, Liu, & Pratto, 2000). Taken together, this research suggests that the divergent material and rank-based circumstances of high- and low-class individuals constitute distinct cultural contexts that shape identity, perceptions of the social environment, and relationships with others.

One aspect of social class that has not yet been fully explored is the degree to which individual components that comprise class (i.e., monetary wealth, education, occupational prestige, and subjective rank) predict different downstream psychological effects. A cursory review of the literature reveals a few intriguing indications of the nature of these divergences. In a study by researchers Dubois, Rucker, and Galinsky (2015), income – but not educational attainment – was found to correlate positively with willingness to engage in self-serving unethical behaviors (e.g., cheating on an exam). In a study by Kraus and colleagues, subjective rank was found to be positively correlated with sense of power, while educational attainment was found to be *negatively* correlated with sense of power. Income, on the other hand, was positively associated with power, but this correlation was not significant (Kraus et al., 2012). These subtle differences have yet to be explored fully in the psychological literature, but some early predictions might be formed. For example, it may be that educational attainment indicates a process of acculturation and the internalization of cosmopolitan values that is not represented to the same extent by income or subjective rank. Simultaneously, a subjective sense of high rank in society might denote specific psychological processes related to self-esteem or narcissism, and that these patterns might be associated exclusively with the rank-related processes of social class.

## The Intersection of Class and Prejudice

Whereas social class traditionally represents an individual's relationship to society as a whole, racial prejudice is, by definition, predicated on subgroup identification and evaluation. Intergroup bias, or the systematic tendency to evaluate one's own ingroup as superior to a relevant outgroup, is a frustratingly intractable element of human experience (Hewstone, Rubin, & Willis, 2002). This bias can emerge in the form of behavior (i.e., discrimination) and attitudes (prejudice), and can occur along any perceivable group line – even those artificially constructed within the confines of a controlled research environment (Tajfel, Billig, Bundy, & Flament, 1971). Racial prejudice refers to a negative (relative to the ingroup) attitude toward a specific racial group or members of said group (Stangor, 2009). Research has shown prejudiced attitudes to predict discriminatory behavior in numerous domains, including job hiring decisions (Deros, Nguyen, & Ryan, 2009) and capital-sentencing outcomes (Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006).

Like all other attitudes, racial attitudes may be held within conscious awareness, through an *explicit* and *controlled* process, as well as outside of conscious awareness, in an *implicit* and largely *automatic* process (Banaji & Greenwald, 1994). Explicit attitudes can be measured using simple items of self-report: affective rankings via “feeling thermometers” (University of Michigan, 1964), semantic differentials (i.e., intelligent/unintelligent; Sagar & Schofield, 1980), and multi-item scales (e.g., Modern Racism Scale; McConahay, 1986). Implicit prejudiced responding can be measured using reaction time-based tests of the accessibility and associations of specific concepts (Fazio, Jackson, Dunton, & Williams, 1995; Greenwald, McGhee, Schwartz, 1998).

Several extensive meta-analyses have confirmed the validity of both implicit and explicit prejudice measures in predicting racial discrimination (e.g., nonverbal behavior, job hiring preferences; Oswald, Mitchell, Blanton, Jaccard, & Tetlock, 2013; Greenwald, Poehlman, Uhlmann, & Banaji, 2009; Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005). Relatedly, recent empirical work has suggested that the intense focus in the racial prejudice literature surrounding self-reported prejudiced beliefs (e.g., “Black people are getting too demanding in their push for equal rights”; McConahay, 1986) may be misplaced. A recent meta-analysis comparing existing explicit measures of prejudice demonstrates that valence-based emotional ratings (e.g., feeling thermometers) are significantly better predictors of behavioral discrimination than more traditional, multi-item belief scales (Talaska, Fiske, & Chaiken, 2008). In addition, recent work has suggested that dispositional empathy, a factor not typically considered part of the prejudice construct, and usually relegated to the emotion literature, is directly predictive of prejudicial responding (Bäckström, & Björklund, 2007; Vescio, Sechrist, & Paolucci, 2003; Gutsell, & Inzlicht, 2010). Prejudice, therefore, may be rooted in causes more related to emotional and interpersonal cognitive processes, rather than strictly based in overt malicious beliefs.

Educational attainment, a prestigious commodity key to the social class construct, has long been thought to be a protective component against racial prejudice (Kraus et al, 2012; Harding, Proshansky, Kutner, & Chein, 1969; Maykovich, 1975; Wagner & Zick, 1995). Rooted in the theory of “working class authoritarianism” (Lipset, 1959), social theorists have suggested that education acts as a liberalizing force in society, promoting values of tolerance and bringing individuals into social contact with individuals of other racial groups (Samelson, 1945; Selznick & Steinberg, 1969; Weil, 1985). Others, however, have questioned this view, suggesting that this

inverse relationship is instead due to learned response biases among educated individuals, or even the selective sampling of datasets by researchers partial to the hypothesis that education promotes tolerance (Jackman, 1973; Schaefer, 1996). If indeed there are components of modern education that promote tolerance and reduce racial prejudice, then it stands to reason that higher-class individuals (who are frequently well-educated) are also less prejudiced.

Over the last 40 years, only a single comprehensive study of the relationship between social class and prejudice has been conducted. Carvacho and colleagues analyzed multi-year panel data from Western Europe (France, Germany, Great Britain, The Netherlands) and Chile and found that both education and income are inversely related to racial prejudice (2013). However, a closer examination of their results indicate that income was only a significant predictor of racism in 29% (4 of 14) of their calculated effect sizes, while education was only a significant predictor in 50% of them (7 of 14), raising doubts about the consistency of their findings. Their Chilean sample, for example, showed no significant relationship between income and prejudice against foreigners (“Peruvians/Argentinians”), nor did their panel data from Great Britain, Netherlands, or France show significant relationships between income and prejudice against Blacks. Only in Germany did this inverse trend emerge for income, and even so only occasionally (in some years but not all). Furthermore, their operationalization of prejudice as two items used in the German panel surveys (e.g., “German re-settlers should be better off than foreigners because they are of German origin”; “It is right that Whites are leading in the world”) show significant overlap between *prejudice* as previously defined and views about national identity and immigration, which are undoubtedly related to but theoretically distinct from questions of intergroup attitudes. Taken together, the results presented by Carvacho and colleagues provide evidence for an inconsistent relationship between higher educational

attainment and reduced racial prejudice, and an inconsistent, Germany-specific relationship between higher income and reduced prejudice.

Might these patterns be different in the United States, a country largely founded on – and still characterized by – racialized poverty? For much of its history, the United States, as opposed to most European countries, has contained a large population of slave laborers, forcibly relocated from Africa during the Atlantic slave trade of the 16<sup>th</sup> to 19<sup>th</sup> centuries (Northrup, 1994). Following the emancipation of slavery in 1863, severe social, political, and economic exploitation of Black Americans continued through formal and informal mechanisms (the framework of Jim Crow and forced racial segregation, the practice of “redlining” or denying services such as housing loans to Black applicants, and high levels of discrimination in job hiring, university admittance, and access to government benefits, to name just a few examples; e.g., Klarman, 2006; Herbold, 1994; Rothstein, 2017). Recent decades have not only *not* shown any reduction of this racial socioeconomic disparity, but by some measures, this disparity has been increasing over time. In 1983, the median Black family in the U.S. owned (in inflation-adjusted 2016 dollars) \$13,324 in total wealth, which represented about 13% of the wealth of the median white family in the U.S. at that time (\$105,369). In 2016, the median Black family wealth in the U.S. was barely changed at \$17,409, which represents about 10% of the wealth of the median white family in the U.S. in 2016 (\$171,000; Urban Institute, 2017).

Recent research into U.S. voting patterns and partisan affiliation reveals that localities with greater racial diversity are characterized by a strong relationship between income and voting *against* the party favoring redistribution (i.e., the Democratic Party; Hersh & Nall, 2016). This pattern is especially strong in areas characterized by a history of racialized poverty (e.g., the Black Belt, the Rio Grande Valley). In contrast, areas in the U.S. with homogeneously non-Black

populations show little to no correlation between income and partisan preferences. The authors suggest that, at least in the U.S., the relationship between income and partisanship is “bound up” with race. Though this research does not touch on racial prejudice explicitly, it indicates that Americans with higher income are more likely to vote in opposition to redistribution when their immediate geographic area is characterized by Black poverty.

### **Hypothesized Mechanisms of a Social Class – Prejudice Association**

To the extent that social class is associated with differing levels of racial prejudice, understanding the psychological mechanisms underlying this effect would both inform our theoretical understanding of the issue and elucidate a potential intervention strategy. Several commonalities exist linking the processes moderated by social class and those implicated in racial prejudice. Power, or an individual’s relative ability to influence others through reward and punishment, has long been studied as an antecedent of prejudice and other dominant group-based attitudes (Keltner, Gruenfeld, & Anderson, 2003; Allport, 1954; Fiske, 1993). Additionally, power is a key component of elevated social class (Keltner et al., 2003), with higher-class individuals consistently self-reporting greater feelings of power and authority (Kraus et al., 2012; Dubois, Rucker, & Galinsky, 2015). Empirical work suggests that individuals with situational or dispositional power are more likely to stereotype perceived low-power groups (e.g., women, racial minorities; Vescio et al., 2003; Vescio, Gervais, Heidenreich, & Snyder, 2006), as well as respond with greater implicit and explicit prejudice toward Blacks (Richeson & Ambady, 2003; Giles & Evans, 1986). It may be that the increased power resulting from high levels of material resources and subjective rank lead, in turn, to increases in prejudiced and stereotyping attitudes toward lower-power groups.



Social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994) is an individual difference that measures preferences for group-based hierarchies (e.g., “An ideal society requires some groups to be on top and others to be on the bottom.”) and anti-egalitarian values (e.g., “Group equality should not be our primary goal.”). This measure has been shown to predict prejudiced views toward racial minorities, women, and sexual minorities (Sibley, Robertson, & Wilson, 2006; Whitley, 1999; Ekehammar, Akrami, Gylje, & Zakrisson, 2004). In addition, higher SDO is related to having more conservative political views as well as increased narcissism, and inversely related to “other-oriented” processes such as empathy and altruism (Pratto et al., 1994; Zitek & Jordan, 2016; Ho et al., 2015). The theoretical model underlying SDO posits that those with social status and power are more likely to be motivated to preserve the status quo, and that these motivations manifest as tendencies toward social dominance (Sidanius & Pratto, 1993). While previous research (Carvacho et al., 2013; Sidanius, Pratto, & Bobo, 1994) has asserted that SDO is higher in those with lower social class, this trend would seem to run counter to the related findings that lower-class people are more likely to display empathetic responding toward others as well as egalitarian social values (Stellar et al., 2011; Kraus & Keltner, 2009; Brown-Iannuzzi et al., 2014). For example, in one study of adults in the Los Angeles area, higher social class was associated with greater SDO (Sidanius & Liu, 1992). It may be that in certain contexts, higher social class is associated with increased SDO, and that this increase is associated with greater prejudicial attitudes against minorities.

Lastly, intergroup contact has long been described as a protective factor against racial prejudice (Allport, 1954). An extensive meta-analysis of 515 studies supports this view, yielding evidence that heightened contact between members of the racial ingroup and outgroup result in reduced prejudice among the racial ingroup toward the minority outgroup (Pettigrew & Tropp,

2006). While no comprehensive examination of the relationship between intergroup contact and individual social class has yet been conducted, it is not unreasonable to draw tentative predictions based on demographic data. In 2011, the median non-Hispanic white household in the U.S. had \$111,146 in wealth holdings, compared to just \$7,113 for the median Black household and \$8,348 for the median Latino/Hispanic household (Demos, 2015). It may be that those with higher social class (in the U.S., a disproportionately white population) have fewer meaningful relationships with members of minority groups simply as a function of living in and navigating different communities. In addition, those with higher social class have been shown to spend relatively less time socializing with others, and tend to prioritize their relationships with self-selected friends as opposed to neighbors (Bianchi & Vohs, 2016). These behavioral tendencies could compound any existing structural barriers between individuals of higher social class and minority communities. This theorized reduction of intergroup contact may, in turn, lead to heightened prejudiced attitudes among upper-class individuals.

### **The Present Research and Hypotheses**

I tested the relationship between racial prejudice and social class across six independent studies. In order to better understand the subtle differences in this relationship across facets of social class (e.g., Carvacho et al., 2013), I calculated separate effects for separate components of social class (e.g., income, education, subjective social class). I also employed a variety of measures of racial prejudice across studies to obtain a more valid measure of the underlying construct. Due to the limitations of evaluating independent studies through traditional hypothesis testing, I used meta-analytic procedures to obtain a cumulative effect across all studies. Meta-analysis has been shown to reduce the impact of random sampling error, and thus reduces the likelihood of Type I and Type II errors in interpretation (Borenstein, Hedges, Higgins, &

Rothstein, 2009; Braver, Thoemmes, & Rosenthal, 2014; Goh, Hall, & Rosenthal, 2016).

Furthermore, I included measures of the previously discussed potential mechanisms involved in the class-prejudice relationship (contact, power, and SDO), and conducted within-study mediation analyses to determine the indirect effect of class on prejudice through these mediating variables.

Overall, based on the reasoning outlined in the prior section, I predict that social class will be positively associated with racial prejudice, and that this effect will be mediated by the three mechanism variables (power, SDO, contact) outlined above. However, there are also valid reasons to predict the opposite trend, namely the existing literature (e.g., Carvacho et al., 2013; Lipset, 1959) that ties higher social class, particularly in terms of educational attainment, to reduced prejudice. The process of education, as opposed to the other aspects of social class (financial wealth, occupational prestige, and subjective rank) may be unique in terms of instilling certain cultural values (e.g., tolerance, acceptance; Samelson, 1945; Selznick & Steinberg, 1969; Weil, 1985), or as alternatively suggested by Wager and Zick (1995), that education promotes the learning of a set of socially desirable responses to topics that might affect a person's social reputation. Therefore, I predict that educational attainment will negatively relate to racial prejudice, diverging from the overall predicted trend for the other components of social class.

## **Method**

### **Overview and Participants**

The relationship between racial prejudice and social class was measured in six separate studies, containing a total of 77,574 participants (due to missing data, the sample sizes for each separate meta-analysis are slightly lower). Sample across studies ranged from  $N = 93$  (Study 1) to  $N = 74,456$  (Study 4). When measuring racial prejudice, I chose to focus specifically on racial

prejudice *against Black people*, for two reasons: firstly that the majority of the psychological literature and commonly used measures of racial prejudice are geared toward assessing anti-Blackness specifically (e.g., the Symbolic Racism Scale), and secondly that the topic of anti-Blackness in the United States has recently risen to prominence in political and cultural discussions, involving debates over police shootings of Black individuals, mass incarceration, and the Black Lives Matter movement. In all studies except Study 3, participants who identified as Black/African-American were removed from analysis, which is the standard practice in research on anti-Black prejudice (e.g., Lai et al., 2014; Inzlicht, Gutsell, & Legault, 2012; Richeson & Ambady, 2003). Participants who failed to report their race/ethnicity in these studies were also excluded from analysis. In Study 3, due to the non-availability of data on participant race/ethnicity, all participants were retained for analysis. Sample sizes and descriptive statistics for each study are shown in Table 1.

Table 1  
*Descriptive Statistics for Individual Primary Samples*

Variable	Study 1	Study 2	Study 3*	Study 4	Study 5	Study 6
Total sample size	93	302	1,998	74,453	367	361
Gender						
Female	39 (42%)	243 (80%)	693 (35%)	44,893 (60%)	292 (80%)	184 (51%)
Male	54 (58%)	58 (19%)	1,305 (65%)	29,563 (40%)	75 (20%)	172 (48%)
Other/Unreported gender	0	1 (0%)	0	0	0	5 (1%)
Race/Ethnicity						
Asian	46 (49%)	130 (43%)	n/a	4,962 (7%)	182 (50%)	25 (7%)
Hispanic/Latino	16 (17%)	98 (32%)	n/a	5,774 (8%)	103 (28%)	14 (4%)
White non-Hispanic	25 (27%)	36 (12%)	n/a	59,681 (80%)	38 (10%)	300 (83%)
“Other” / More than one race	6 (6%)	38 (13%)	n/a	4,036 (5%)	44 (12%)	22 (6%)
Age						
<i>M</i>	22.8	21.2	38.5	29.9	20.7	36.5
<i>SD</i>	7.39	3.89	15.41	12.41	2.83	11.60

\* Race/ethnicity data was unavailable for Study 3.

## Procedures

**Study 1.** Undergraduates and staff at the University of California, Berkeley ( $n = 93$ ) completed a variety of measures related to racial prejudice and cultural attitudes, in addition to providing measures of social class and demographic variables. Given the exploratory nature of the study, only the measures relevant to the study hypothesis are discussed below. Participants were then debriefed and rewarded with course credit for their participation in the study.

**Study 2.** Undergraduates at the University of California, Irvine ( $n = 283$ ) completed measures on racial prejudice, social class, and hypothesized mediator variables (i.e., measures that could statistically account for an observed relationship). Participants were first randomly assigned to complete an IAT either before or after completing measures of explicit prejudice. After completing these measures, participants concluded by completing measures of demographics, political orientation, and social class.

**Study 3.** Participants at YourMorals.org ( $n = 1,263$ ), a website where people can register to complete various psychological tests, were included for analysis if they had completed both measures of social class (educational attainment and subjective rank), both measures of racial prejudice (Race IAT preceded with a 1-item explicit measure of prejudice), and the hypothesized mediating variable. Upon registration, new users were requested to provide measures of social class as well as demographics. Participants were then free to complete any survey currently available on the site, which included both the Race IAT and the Schwartz Value Scale. Participants were excluded from analysis if their overall error rate across all combined response blocks on the IAT was over 30% (Nosek et al., 2007). After completing a survey on YourMorals, participants are debriefed and shown their results for that particular measure. Participants could take either or both of the relevant measures at any point after registering.

**Study 4.** Participants at ProjectImplicit.net ( $n = 78,206$ ) were included for analysis if they had completed the Race IAT, both measures of explicit racial prejudice, both measures of social class, as well as the hypothesized mediating variable. Project Implicit, founded in 1998 by the creators of the IAT (Greenwald, Banaji, & Nosek), is an internal collaborative research platform designed to study implicit social cognition. Participants were first asked to provide demographic information, including measures on social class. Next, participants were randomly assigned to complete an IAT either before or after completing a series of self-report measures. The majority of the administered survey measures varied across participants, as Project Implicit randomly assigns various measures to participants in order to obtain samples on a wide variety of measures. Participants were excluded from analyses if their IAT showed more than 10% of the critical response trials were faster than 300 ms, the error rate on any critical block was higher than 40%, or the overall error rate across all combined response blocks was over 30% (Nosek et al., 2007).

**Study 5.** Undergraduates at the University of California, Irvine ( $n = 355$ ) completed measures on racial prejudice, social class, and hypothesized mediator variables (i.e., measures that could statistically account for an observed relationship). Participants first completed measures on demographics, political orientation, and social class. They then completed a series of measures of explicit prejudice, followed by a virtual “shooter task” (Correll, Park, Judd, & Wittenbrink, 2002). Participants were then then debriefed and rewarded with course credit.

**Study 6.** Participants on Amazon MTurk ( $n = 351$ ) were asked to rank job candidates for a hypothetical position, a measure designed to evaluate discriminatory judgments in a realistic scenario. After completing this task, participants completed two measures of explicit prejudice, followed by measures of demographics and social class.

## Measures of Social Class

In order to account for its multimodal nature, social class was operationalized using several different approaches across studies: household income/wealth (Study 4 & 6), parental income (Studies 2 & 5), educational attainment (Studies 3, 4, & 6), and a subjective social class ranking (Studies 1, 2, 3, 5, & 6). For the studies in which I analyzed secondary data (Studies 1, 3, and 4), I was limited to the measures employed by the original researchers. In addition, the studies involving student samples (Studies 1, 2, and 5) feature low variability of educational attainment, and thus limit the ability to draw meaningful conclusions regarding this component of social class. The measures used across studies are shown in Table 2.

Table 2  
*Measures of Social Class Used Across Studies*

	Household income	Parental income	Educational attainment	Subjective SES (MacArthur Scale)
Study 1				✓
Study 2		✓		✓
Study 3			✓	✓
Study 4	✓		✓	
Study 5		✓		✓
Study 6	✓		✓	✓

In the studies containing student samples (Studies 1, 2, & 5), subjective rankings of social class and self-reported parental income were used in lieu of personal household income or educational attainment. Since university students usually have little to no income, and are (by definition) still in the process of attaining their education, the standard conceptions of social class as personal income and educational attainment do not easily apply. In these cases, it is standard to instead rely on parental characteristics and subjective socioeconomic self-assessments as indicators of generalized social class (Kraus & Keltner, 2009; Matthews & Gallo, 2011; Stephens et al., 2011).

**Study 1.** Participants completed the MacArthur Scale of subjective social class (Adler, Epel, Castellazzo, & Ickovics, 2000). Participants were presented with a picture of a ladder with 10 rungs, said to represent U.S. society as a whole: people at the top of the ladder are said to be those with the most money, education, and occupational prestige, and those at the bottom of the ladder are said to have the least of these things. Participants were then asked to select the rung that best represents where they think they stand on the ladder. Higher numbers indicate higher placement on the ladder ( $M = 6.09$ ,  $SD = 1.73$ ).

**Studies 2 & 5.** Participants were asked to report their parent's annual household income on an 8-point scale: (1) less than \$15,000, (2) \$15,000 to \$25,000, (3) \$25,000 to \$35,000, (4) \$35,000 to \$50,000, (5) \$50,000 to \$75,000, (6) \$75,000 to \$100,000, (7) \$100,000 to \$150,000, and (8) greater than \$150,000. I assigned the midpoint income amount corresponding to the selected category, and assigned \$150,000 to participants who chose the highest category (Study 2  $M = \$66,616$ ,  $SD = \$43,745$ , 5 unreported; Study 5  $M = \$66,634$ ,  $SD = \$43,790$ ). To aid interpretation of findings, I divided income values by 10,000. Participants then completed the MacArthur Scale of subjective social class, described above (Study 2  $M = 5.67$ ,  $SD = 1.55$ ; Study 5  $M = 5.58$ ,  $SD = 1.47$ ). Income and subjective social class were strongly correlated (Study 2  $r = .52$ ,  $p < .001$ ; Study 5  $r = .56$ ,  $p < .001$ ). To simplify analysis, these measures were standardized and averaged to create a single composite of social class.

**Study 3.** Upon registering for an account at YourMorals.org, visitors were asked to report their highest educational level on a 6-point scale: (1) some high school / currently in high school, (2) completed high school, (3) some college or university / currently in college or university, (4) completed college or university, (5) some graduate/professional school / currently in graduate/professional school, and (6) completed graduate or professional degree ( $M = 4.07$ ,  $SD =$



1.58). New registrants also completed the MacArthur Scale of subjective social class ( $M = 6.03$ ,  $SD = 1.99$ ). Education and subjective social class were moderately correlated ( $r = .33$ ,  $p < .001$ ). To simplify analysis, these measures were standardized and averaged to create a single composite of social class.

**Study 4.** Participants were asked to report their personal income (or if supported by their parents or partner, the income of “the person who is most responsible for your support”). Income was reported on a 21-point scale, beginning at (1) up to \$10,000 a year, and continuing in \$10,000 increments through the maximum response of (21) more than \$200,000 a year. I assigned the midpoint income amount corresponding to the selected category, and assigned \$200,000 to participants who chose the highest category ( $M = \$76,475$ ,  $SD = \$57,179$ ). To aid interpretation of findings, I divided income values by 10,000. Participants also rated their educational attainment on a 6-point scale: (1) some high school, (2) high school graduate, (3) some college, (4) bachelor’s degree, (5) some graduate school, and (6) advanced degree (e.g., J.D., M.D., Ph.D.). The mean response was 3.89 ( $SD = 1.33$ ). Unexpectedly, education and income were only slightly correlated ( $r = .07$ ,  $p < .001$ ). To simplify analysis, these measures were standardized and averaged to create a single composite of social class.

**Study 6.** Participants were asked to provide their highest educational attainment on a 4-point scale: (1) did not finish high school, (2) high school graduate, GED or some college, (3) college graduate, and (4) postgraduate degree (e.g., Masters, PhD, M.D.). The mean response was 2.83 ( $SD = 0.72$ ). Participants were also asked to provide their total household income on an 8-point scale, with the response options being identical to those in Studies 2 and 5. Income responses were converted into dollar amounts using the same procedures described in Study 2 ( $M = \$60,859$ ,  $SD = \$35,958$ ). To aid interpretation of findings, income values were divided by

10,000. Participants then completed the MacArthur Scale of subjective social class ( $M = 5.16$ ,  $SD = 1.66$ ). These three measures of social class were combined ( $\alpha = .69$ ) to form a single composite of social class.

### **Measures of Racial Prejudice**

**Study 1.** Racial prejudice was assessed using the Race (Black/White) version of the implicit association test (hereafter referred to as the “Race IAT”; Greenwald et al., 1998). In this test, participants are asked to sort words and faces, as quickly as possible, along two semantic axes. Words that appear the screen (e.g., wonderful, pleasant, horrible) are categorized by their valence (positive vs. negative), while faces are categorized according to their racial appearance (Black vs. White). These two sorting processes are combined, such that individuals use the same key to sort both ‘Good’ and ‘White’, and use another key to sort both ‘Bad’ and ‘Black’. These processes are then reversed, such that individuals use the same key to sort both ‘Good’ and ‘Black’, and use another key to sort both ‘Bad’ and ‘White’. Implicit racial preference is operationalized as responding more quickly and more accurately to trials in which the target racial group is paired with ‘Good’, suggesting that an implicit association is present between the two concepts. This implicit association is measured in terms of a  $D$ -score: a positive  $D$  indicates preference for White, a negative  $D$  indicates preference for Black, and a  $D$  of zero indicates no implicit preference.

**Study 2.** Racial prejudice was assessed through a combination of five survey measures of prejudice and the Race IAT, described above. These five survey measures of prejudice were chosen to best capture the various theoretical aspects of racial prejudice. Participants completed a set of “*feeling thermometers*” in which they were asked to rate their feelings of warmth/coolness toward various racial groups on a scale from 0 (“very cold or unfavorable feeling”) to 100 (“very

warm or favorable feeling”). First employed in the 1964 American National Election Study (ANES; University of Michigan, 2015), feeling thermometers and other valence-based emotion ratings have been demonstrated to be highly predictive of discriminatory behavior (e.g., Talaska et al., 2008). A feeling thermometer differential score was calculated by subtracting the mean thermometer rating towards Blacks from the mean thermometer rating towards Whites. Thus, positive scores indicated greater feelings of warmth toward Whites compared to Blacks. Participants also completed the *General Evaluation Scale* (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997), in which participants rate how they feel toward Black people on six semantic differentials (e.g., “friendly vs. hostile”, “admiration vs. disgust”), with each term anchored on a 7-point scale. I also constructed a measure of *negative stereotypes toward Black people* using three semantic differentials taken from the General Social Survey (Smith, Marsden, Hout, and Kim, 2015): “hard-working vs. lazy”, “intelligent vs. unintelligent”, and “violent vs. not violent”. These items were combined ( $\alpha = .77$ ), with higher values indicating more negative stereotypes. Participants also completed the *Affective Prejudice Scale* (Wright et al., 1997), which measures felt “sympathy” and “admiration” for Black people in two separate items. These items were combined ( $\alpha = .78$ ), with higher values indicating greater positive affect toward Black people. Lastly, participants completed the *Symbolic Racism Scale* (Henry & Sears, 2002), which asks participants to respond to 8 statements that express subtly racist views (e.g., “It’s really a matter of some people not trying hard enough; if blacks would only try harder, they could be just as well off as whites.”).

These six measures of racial prejudice (the IAT and all five survey measures) were standardized and subjected to a factor analysis. This yielded a single eigenvalue above 1.0 (*eigenvalue* = 3.02), suggesting that these measures represent a single, unified construct.

Therefore, to simplify analysis, these six measures were combined ( $\alpha = .80$ ) to form a single *composite of racial prejudice*.

**Study 3.** Participants first responded to a single question designed to measure explicit racial prejudice (“Would you say that you have a preference for either of the following racial groups?”) on a 7-point scale, anchored at the endpoints with “Strongly prefer African Americans” and “Strongly prefer European Americans”. Higher values indicate stronger preference for European Americans. Lastly, participants completed the Race IAT, described above. These two measures were standardized and combined to form a single composite of racial prejudice.

**Study 4.** After requesting to take a Race IAT, visitors to ProjectImplicit.net were randomly assigned to take the Race IAT either before or after completing a set of survey measures of racial prejudice. Of the survey measures, only a handful were presented consistently across participants. All participants were asked to complete a set of *feeling thermometers* for both ‘Black’ and ‘White’ racial groups, and a differential score was created from these responses (as in Study 2). All participants were additionally asked to respond to a single item question of explicit racial prejudice (“Which statement best describes you?”) on a 7-point scale, with options ranging from (1) “I strongly prefer African Americans to European Americans” to (7) “I strongly prefer European Americans to African Americans”. Other relevant measures of racial prejudice (e.g., Symbolic Racism Scale) were asked only to a random subset of participants (approximately 9-11% of all participants). Due to the restriction in sample size, these measures were dropped from analysis. The three remaining measures of prejudice (Race IAT, feeling thermometers, single item question) were standardized and subjected to a factor analysis. This yielded a single eigenvalue above 1.0 (*eigenvalue* = 1.66) suggesting that these measures represent a single,

unified construct. To simplify analysis, these three measures were combined ( $\alpha = .58$ ) to form a single *composite of racial prejudice*.

**Study 5.** Participants were presented with a series of six survey measures of racial prejudice, followed by a virtual interactive shooter task. First, participants responded to a *measure of racial stereotyping* (Rudman, Ashmore, & Gary, 2001) in which they rated various racial groups on a series of seven negative (e.g., “lazy”) and eight positive (e.g., “intelligent”) descriptors. Difference scores were constructed for each descriptor, with higher scores representing more favorable ratings toward Whites compared to Blacks. These difference scores were combined ( $\alpha = .86$ ) to form an index of negative stereotyping toward Black people. Participants were then presented with the *Affective Prejudice Scale*, a set of *feeling thermometers*, the *Symbolic Racism Scale*, and the *General Evaluation Scale*, all described in Study 2. Participants also completed a measure of “*old-fashioned*” *racism* (McConahay, Hardee, & Batts, 1981), a series of six statements representing explicitly racist views that were once commonly held, but have become less overtly expressed in society (e.g., “It was wrong for the United States Supreme Court to outlaw segregation in its 1954 decision.”). These six items were found to be not internally consistent ( $\alpha = .58$ ), therefore this measure was dropped from analysis. Lastly, participants completed a *virtual “shooter task”* used in prior research (e.g., Correll et al., 2002; Correll et al., 2007) to mimic a police officer’s decision to shoot/not shoot various targets. Targets varied as a function of race (Black/White) and whether they were armed or unarmed. Participants attempted to maximize their score on the task by choosing to shoot armed targets and choosing to *not* shoot unarmed targets. Targets were only visible for a fraction of a second (between 500ms and 800ms), and players were penalized for nonresponses. Data was processed and analyzed using the recommended method to generate a signal-detection criterion (see Correll

et al., 2007) for each target race, representing an individual's threshold for choosing a 'shoot' response compared to a 'don't shoot' response. A difference score was calculated by subtracting for each participant the criterion to shoot Black targets from the criterion to shoot White targets. A lower criterion for shooting Black targets indicates a more lenient threshold for choosing to shoot Black targets compared to White targets.

These six measures (five survey measures of prejudice, plus the criterion difference score from the shooter task) were standardized and subjected to a factor analysis. This yielded two eigenvalues above 1.0, with the five survey measures strongly mapping to a single factor, and the shooter task criterion difference mapping strongly to a second factor. This is not altogether surprising, given that previous research finds little to no association between bias displayed on the shooter task and other psychological measures of racial prejudice (e.g., Correll et al., 2007). After dropping the shooter task indicator from the factor analysis, only one eigenvalue above 1.0 remained (*eigenvalue* = 2.69). These remaining five survey measures were combined ( $\alpha = .78$ ) to form a reliable composite variable of racial prejudice.

**Study 6.** As a measure of racial prejudice, participants completed a short task involving choosing between job candidates for a hypothetical position (adapted from Norton et al, 2004). Participants were instructed to select the best job candidate for a hypothetical engineering position requiring "both experience in the engineering industry and a strong engineering background." Participants were asked to rank four given job candidates based on their name, age, education, and job experience. Of the four candidates, two were meant to be obviously superior: one had the highest education with a medium amount of experience, and the other had the most experience with a medium amount of education. The names of these two candidates were randomized across trials, such that one was paired with an African American-sounding name

(“Jamal Washington”) while the alternative best candidate was paired with a White-sounding name (“Greg Williams”). It was expected that this task would elicit a pattern of *casuistry* among participants, such that participants in the *White high-education* condition would pick the candidate with the highest education, but reverse this preference in the *White high-experience* condition, then picking the candidate with the most experience. However, this pattern did not emerge: an equal number of participants picked “Washington” and “Williams” for the position, regardless of condition ( $\chi^2 = 0.38, p = .54$ ). Therefore, this task was dropped from further analysis.

Following this task, participants completed two survey measures of prejudice: feeling thermometers (from Study 2) and a single item measuring explicit racial preference toward African Americans or European Americans (from Study 3). The feeling thermometer differential score (detailed in Study 2) and the single item of prejudice were highly correlated, and were standardized and combined ( $\alpha = .70$ ) to form a single composite of racial prejudice.

### **Measures of Hypothesized Mediators**

**Study 1.** Social dominance orientation (SDO) was assessed using a 16-item scale (Pratto, Sidanius, Stallworth, & Mall, 1994). Participants responded to statements using a 7-point scale ranging from “Strongly favor” to “Strongly oppose” (e.g., “It’s probably a good thing that certain groups are at the top and other groups are at the bottom.”). These items were combined ( $\alpha = .92$ ) to form a reliable indicator of SDO.

**Study 2.** Psychological power was measured using two items adapted from previous research (Dubois, Rucker, & Galinsky, 2015): “Thinking about yourself in general, how powerful do you feel?” (responses anchored at (1), “Powerless” and (7), “Powerful”), and “Thinking about yourself in general, how in control do you feel?” (anchored at (1), “Lacking

control” and (7), “In control”). These two items were combined ( $\alpha = .71$ ) to form an indicator of psychological power.

**Study 3.** Psychological power was measured using the Power subscale of the Schwartz Value Survey (SVS; Schwartz, 1992/2012), a 57-item survey measuring the degree to which people prioritize 10 motivationally distinct and universal human values: Power, Achievement, Hedonism, Stimulation, Self-Direction, Universalism, Benevolence, Tradition, Conformity, and Security. We were primarily interested in the power subscale of the SVS, which captures an individual’s prioritization of the pursuit of social status or prestige, as well as control or dominance over people and resources (Schwartz, 2012). For each item, participants are presented with a value statement (e.g., “AUTHORITY (the right to lead or command)”), and asked to complete the statement, “As a guiding principle in my life, this value is...” Responses were listed on a 9-point scale, with anchor descriptions at -1 (*Opposed to my values*), 0 (*Not important*), 3 (*Important*), 6 (*Very important*), and 7 (*Of supreme importance*). The power subscale of the SVS consisted 5 items, each with the same format as the above item: (1) *SOCIAL POWER (control over others, dominance)*, (2) *AUTHORITY (the right to lead or command)*, (3) *WEALTH (material possessions, money)*, (4) *PRESERVING MY PUBLIC IMAGE (protecting my “face”)*, and (5) *SOCIAL RECOGNITION (respect, approval by others)*. Following the analysis recommendations of Schwartz (2009), participants that left more than 15 items blank, used a particular scale anchor 35 or more times, or left 30% or more items blank of any particular subscale were dropped from analysis. In addition, scale responses were ipsatized in order to eliminate individual differences in use of the response scale by centering each participant’s responses on their mean response value (Schwartz, 1996). The procedure produced a *relative prioritization of power* score, such that positive scores indicate a greater prioritization of power



compared to other value motivations, while a negative score indicates a lesser prioritization of power compared to other value motivations.

**Study 4.** Intergroup contact was assessed through seven dichotomous (yes/no) items provided by Project Implicit. Participants were asked to respond to a series of statements asking whether they had ever had a strong relationship with someone who is Black (e.g., “I had a strong childhood friendship with a person who is Black”). Other relationships included: “close family member of my own generation”, “close family member younger than my generation”, “strong post-childhood friendship”, “highly admired preschool or elementary school teacher”, “highly admired middle or high school teacher”, or “romantic relationship.” Participants were coded as “1” if they had answered in the affirmative to any of the described relationships. These items were then summed to form a measure of contact with Black people, with values ranging from 0 to 7.

**Study 5.** Psychological power was assessed through the Sense of Power Scale (Anderson & Galinsky, 2006). Participants responded to eight items representing a tendency to act in ways that demonstrate a sense of power (e.g., “If I want to, I get to make the decisions.”). Participants responded on a seven-point scale, with options ranging from “strongly agree” to “strongly disagree”. These items were combined ( $\alpha = .82$ ) to form a reliable indicator of psychological power. Next, SDO was assessed through the revised 16-item SDO<sub>7</sub> scale (Ho et al., 2015). These items were combined ( $\alpha = .90$ ) to form a reliable indicator of SDO. Next, participants responded to two items (adapted from Barlow et al., 2012) in which they were asked to rate their frequency of “positive/good” and “negative/bad” contact with Black people. Participants responded to both items on a 7-point scale, anchored on endpoints with “Never” and “Extremely frequently”. As

these items were only moderately correlated ( $r = -.20, p < .001$ ), they were kept as separate indicators of positive and negative contact with Black people.

### **Analysis**

To test my hypothesis across these six studies, I conducted a series of meta-analyses. I first meta-analyzed the zero-order relationship between social class and racial prejudice (1), then examined the same relationship when adjusting for race (2), and finally when adjusting for both race and political orientation (3). At each step I conducted four separate meta-analyses: first I operationalized social class as a composite, combining all social class measures within studies into a single variable, then I separately operationalized social class as educational attainment, income (self or parental), and subjective social class ranking. This procedure resulted in a total of 12 meta-analyzed effect sizes (3 models  $\times$  4 measures of social class). For each of Studies 2-6, racial prejudice was operationalized as the prejudice composite variable previously constructed. For Study 1, racial prejudice was operationalized as the Race IAT (due to it being the sole measure of racial prejudice in Study 1). Due to the measures of social class varying across studies (see Table 2), as well as the non-availability of certain control variables (i.e., race/ethnicity in Study 3), not all studies were included in each meta-analysis.

Specifically, I employed a basic random-effects meta-analysis procedure, which estimates an average effect size across studies, weighted by sample size and effect size variance (Schmidt & Hunter, 2014). Random-effects models are preferred when meta-analyzing studies that use similar but not identical measures and procedures (Borenstein, Hedges, Higgins, & Rothstein, 2010). In order to obtain a meta-analyzable effect size across studies, I performed a series of ordinary least squares regressions, each producing a semipartial correlation ( $r_{sp}$ ) between social class and racial prejudice. Notably, the semipartial correlation indicates the

association between a given predictor variable (in this case, social class) and an outcome variable (in this case, racial prejudice) after adjusting for the variance associated with other entered predictor variables. In regressions that contain only a single predictor (as when examining zero-order relationships), the semipartial correlation of the predictor is equivalent to its standard correlation (Pearson's  $r$ ) with the outcome variable (Aloe & Becker, 2011). For each meta-analysis, the  $r_{sp}$  between social class and racial prejudice served as the standard unit of analysis. Prior to conducting regression analyses, the following variables of each study were standardized: education, income, subjective social class, and political orientation. The composites of racial prejudice and social class were already standardized prior to aggregation. All mediator variables (i.e., contact, power, and SDO) were standardized. The variable indicating race (0 = white, 1 = nonwhite) was dichotomous, and was therefore left unaltered.

Following the meta-analyses, I conducted mediation analyses in all studies that contained a hypothesized mediating variable (i.e., contact, power, or SDO). In a given study, I calculated the indirect effects via each mediator separately for each component of social class. The indirect effect ( $a \times b$ ) represents the portion of the relationship between the IV (social class) and the DV (racial prejudice) that is associated with a change in the mediating variable. Confidence intervals and standard errors were calculated via bootstrapping (5,000 iterations).

## **Results**

### **Meta-Analysis**

**Social class and racial prejudice.** The results of the meta-analyses are presented in Table 3. The top row of Table 3 displays the results for the aggregate index of social class, while the other rows display the results for specific components of social class. After random effects meta-analysis across six studies, results indicate that the aggregate social class index was

associated with increased racial prejudice ( $r_m = .10, p = .003$ ). However, it was seen that this trend varied as a function of how social class was measured. As not all measures of social class were employed across studies, the meta-analyses of the specific components of social class featured smaller sets of studies. Educational attainment ( $k = 3$ ), contrary to the overall trend, was not significantly associated with racial prejudice ( $p = .36$ ). In contrast, income (either parental household income or self-household income) was associated with increased racial prejudice ( $r_m = .10, p < .001, k = 4$ ). Subjective social class, operationalized as the MacArthur Scale (Adler et al., 2000) across five studies, was also associated with increased racial prejudice ( $r_m = .16, p < .001$ ).

Table 4 displays the individual effect sizes included in the meta-analyses. Composite social class was significantly and positively associated with racial prejudice in 5/6 studies (83%). However, after separating out the individual components of social class, it can be seen that income (4 studies) and subjective social class (5 studies) were significantly and positively associated with racial prejudice in every study in which they were included (100%). Educational attainment, in contrast, showed relatively inconsistent results among the studies in which it was measured: though the relationship between education and prejudice was significant and negative in 2/3 studies (67%), Study 6 contained a significant effect in the opposite direction (education associated with *higher* prejudice). These summaries largely mirror the results found in the meta-analyses, which found significant effects for both income and subjective social class, but not for educational attainment.

Table 3  
*Meta-Analysis Results*

Index of social class	<i>k</i>	<i>N</i>	<i>r<sub>m</sub></i>	<i>SD<sub>r</sub></i>	95% CI	<i>p</i>
Aggregate class index	6	77,574	.10**	0.04	[.03, .17]	0.0034
Educational attainment	3	76,811	-.03	0.03	[-.09, .03]	0.3603
Income	4	75,048	.10***	0.02	[.05, .14]	0.0001
Subjective social class	5	3,121	.16***	0.04	[.07, .23]	0.0003

*Note.* These analyses were conducted with Fisher’s *z*-transformed *r* values. *k* = number of effect sizes; *N* = total sample size; *r<sub>m</sub>* = sample-size weighted Fisher’s *z*-transformed correlation; *SD<sub>r</sub>* = sample size weighted observed standard deviation of correlations; CI = confidence interval for observed correlation.

\* *p* < .05. \*\* *p* < .01. \*\*\* *p* < .001.

**Social class and racial prejudice, after adjusting for race and politics.** The results of the meta-analyses after adjusting for the effects of race and political orientation are displayed in Table 5. As Study 3 did not contain data on the race/ethnicity of the participant, this study was not included in the below meta-analyses. Overall, the observed effects held when adjusting for the relevant covariates of race and political orientation. All social class variables, with the exception of educational attainment, were positively associated with racial prejudice when adjusting for race and political orientation, with effect sizes ranging from .08 to .14. The effect size for educational attainment was positive but nonsignificant (*p* = .52).

Table 4  
*Effect Sizes Used in Meta-Analyses*

Index of social class	<i>r</i>	<i>p</i>	<i>n</i>
Aggregate class index			
Study 1	0.27**	.0081	93
Study 2	0.21***	.0002	302
Study 3	-0.01	.6593	1998
Study 4	0.01*	.0140	74,453
Study 5	0.15**	.0049	367
Study 6	0.17***	.0009	361
Educational attainment			
Study 3	-0.07**	.0013	1998
Study 4	-0.05***	< .0001	74453
Study 6	0.12*	.0275	360
Income			
Study 2	0.14*	.0139	297
Study 4	0.06***	< .0001	74044
Study 5	0.11*	.0337	355
Study 6	0.15**	.0058	352
Subjective social class			
Study 1	0.27**	.0081	93
Study 2	0.23***	< .0001	302
Study 3	0.06*	.0123	1998
Study 5	0.15**	.0037	367
Study 6	0.15**	.0037	361

*Note.* These effect sizes reflect zero-order correlations between social class variables and racial prejudice, and together constitute the meta-analyses described in Table 3.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 5  
*Meta-Analysis Results Controlling for Race and Political Orientation*

Index of social class	<i>k</i>	<i>N</i>	<i>r<sub>m</sub></i>	<i>SD<sub>r</sub></i>	95% CI	<i>p</i>
Controlling for race						
Aggregate class index	5	75,576	.14*	.06	[.02, .25]	.0208
Educational attainment	2	74,813	.02	.09	[-.15, .19]	.8273
Income	4	75,048	.09***	.02	[.04, .14]	.0003
Subjective SES	4	1,123	.17***	.03	[.11, .23]	< .0001
Controlling for race and political orientation						
Aggregate class index	5	75,575	.12**	.04	[.03, .20]	.0076
Educational attainment	2	74,813	.04	.06	[-.08, .17]	.5186
Income	4	75,047	.08**	.02	[.03, .12]	.0020
Subjective SES	4	1,122	.14***	.03	[.08, .20]	< .0001

*Note.* These analyses were conducted with Fisher’s *z*-transformed *r* values. *k* = number of effect sizes; *N* = total sample size; *r<sub>m</sub>* = sample-size weighted Fisher’s *z*-transformed correlation; *SD<sub>r</sub>* = sample size weighted observed standard deviation of correlations; CI = confidence interval for observed correlation.

\* *p* < .05. \*\* *p* < .01. \*\*\* *p* < .001.

### Mediation Analyses

Results from mediation analyses are shown in Table 6. The % *mediated* column displays, in the case of a significant indirect effect, the proportion (converted to a percentage) of the indirect effect to the calculated total effect, and represents the portion of the total effect that was successfully mediated. Negative values in this column represent *suppressor* variables, which represent the theoretical opposite of mediating variables in that they strengthen (rather than weaken) the overall relationship between X and Y by suppressing variance associated with both (MacKinnon, Krull, & Lockwood, 2000).

**Contact with Black people.** Contact was included in Studies 4-5. It was predicted that those with higher social class would have reduced contact with Black people, and that this trend might mediate the relationship between social class and prejudice. In Study 4, contact was a significant mediator for income, as well as a significant suppressor for education. In other words, adjusting for the effects of contact effectively *reduced* the relationship between income and

prejudice, and *increased* the relationship between education and prejudice. However, the significance of these tests are likely partially due to the extremely large sample size of Study 4 ( $n = 74,453$ ), considering that the percent of the total effect mediated in both cases was low (-11.2% for education, and 22.9% for income). In Study 4, contact with Black people was associated with reduced racial prejudice ( $r = -.27$ ), lower income ( $r = -.06$ ), and lower education ( $r = -.02$ ). All of these associations were highly significant ( $p < .001$ ).

In Study 5, contact was operationalized through two separate measures of positive and negative contact with Black people. Positive contact was associated with reduced prejudice ( $r = -.44, p < .001$ ), but was not significantly related to either income ( $p = .25$ ) or subjective social class ( $p = .58$ ). Likewise, negative contact was associated with increased prejudice ( $r = .37, p < .001$ ), but was not significantly associated with either income ( $p = .74$ ) or subjective social class ( $p = .65$ ). As a result, the tests of mediation through contact were not significant in Study 5.

**Power.** Power was operationalized in varying forms across Studies 2, 3, and 5. It was predicted that those with higher social class would have increased feelings of power, and that this might mediate the relationship between social class and prejudice. However, only in Study 3 (in the case of subjective social class) did power explain a significant portion (36.5%) of this relationship. In Study 3, power was associated with greater levels of prejudice ( $r = .12, p < .001$ ) and higher subjective social class ( $r = .19, p < .001$ ), but not significantly related to educational attainment ( $p = .53$ ). As a result, power significantly mediated the relationship of prejudice and subjective social class, but not between prejudice and education.

In Studies 2 and 5, contrary to predictions, power was not significantly associated with racial prejudice (Study 2  $r = .08, p = .14$ ; Study 5  $r = .04, p = .40$ ). As a result, the mediational tests for power yielded nonsignificant results in these studies.



**Social dominance orientation.** SDO was included in Studies 1 and 5. It was predicted that those with higher social class would have higher SDO, and that this would mediate the relationship between social class and prejudice. Indeed, in Study 5, SDO successfully mediated the relationships between prejudice and both income and subjective social class, in both cases explaining large portions of the total effect (82.7% for income, 55.2% for subjective social class). In Study 5, SDO was associated with greater prejudice ( $r = .51, p < .001$ ), higher income ( $r = .18, p = .001$ ), and higher subjective social class ranking ( $r = .17, p = .001$ ). SDO was a “complete” mediator for both income and subjective social class, such that controlling for SDO rendered the relationships between these social class components and racial prejudice nonsignificant ( $p = .68$  for income;  $p = .14$  for subjective social class).

In Study 1, however, this mediation was not observed. While SDO was positively associated with both subjective social class and racial prejudice (operationalized as the IAT), these associations were not significant ( $p = .35$  for subjective social class,  $p = .33$  for racial prejudice). As such, no significant mediation effect for SDO was observed in Study 1.

Table 6  
*Indirect Effects from Mediation Analyses*

Mediating variable	Index of social class	Indirect effect	95% CI	<i>p</i>	<i>n</i>	% mediated
<b>Contact with Black people</b>						
Study 4	Education	.0042***	[-.00, .01]	< .001	74,453	-11.2
Study 4	Income	.0108***	[-.01, .01]	< .001	74,044	22.9
Study 5	Income	.0138	[-.03, .06]	.549	346	
Study 5	Subjective social class	.0088	[-.03, .05]	.698	357	
<b>Power</b>						
Study 3	Education	-.0012	[-.01, .00]	.597	1,998	
Study 2	Income	-.0001	[-.01, .01]	.992	296	
Study 5	Income	.0025	[-.01, .02]	.683	355	
Study 2	Subjective social class	.0055	[-.01, .03]	.581	301	
Study 3	Subjective social class	.0153***	[-.01, .02]	< .001	1,998	36.5
Study 5	Subjective social class	.0023	[-.01, .02]	.782	367	
<b>Social dominance orientation</b>						
Study 5	Income	.0683**	[-.03, .11]	.001	355	82.7
Study 1	Subjective social class	.0019	[-.01, .02]	.743	93	
Study 5	Subjective social class	.0612**	[-.02, .10]	.004	367	55.2

*Note.* These effect sizes reflect the total indirect effect of social class on racial prejudice via the specified mediating variable. In the case of Study 5, the effect size for contact reflects the total indirect effect from a multiple mediation model, in which both positive and negative contact were treated as simultaneous mediators. % mediated reflects the proportion of the significant indirect effect to the total effect.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## Discussion

In this investigation, I tested the relationship between social class and racial prejudice across six independent studies. The results from internal meta-analyses indicated that, when measured as an aggregate, higher social class was related to increased racial prejudice. However, these results varied across the specific components of social class that were measured. Income and subjective social class were related to greater expression of racial prejudice. Educational attainment, on the other hand, a facet of social class that was positively correlated with the other

indices, was unrelated to prejudice. These results held when adjusting for confounding variables such as racial ingroup status and political orientation.

What, if anything, can we make of these divergent trends? One possibility is that these various components of social class – subjective rank, financial wealth, and educational status – denote subtle differences in downstream social cognitive processes. Though educational attainment is typically considered part of the social class construct (Kraus et al., 2012; Snibbe & Markus, 2005), educational attainment in particular may work to promote certain values of tolerance and multiculturalism, or at the very least, promote their outward expression (Selznick & Steinberg, 1969; Jackman, 1973). Subjective rank and financial wealth, conversely, may be relatively immune from these values, capturing a more solipsistic-oriented than prestige-oriented index of social class. Indeed, empirical work suggests that individuals with greater financial wealth and subjective rank are more self-oriented, responding with greater entitlement, narcissism, and power (Piff, 2014; Kraus et al., 2012; Dubois et al., 2015). Educational attainment, however, either has no relationship with or is *negatively* linked to feelings of power (Kraus et al., 2012), a finding replicated by our results from Studies 2 & 3. This points to a clear divergence in the processes involved in the construction of social class, and suggests that in certain contexts, the various components of social class will not align to predict similar outcomes.

These findings are notable in that they diverge from a recent investigation regarding social class and prejudice (Carvacho et al., 2013), as well as research from the mid-20<sup>th</sup> century regarding “working class authoritarianism” and the protective effects of education against racial prejudice (Lipset, 1959; Samelson, 1945; Selznick & Steinberg, 1969). Whereas Carvacho and colleagues found evidence for an inconsistent relationship between higher social class

(operationalized as education or income) and reduced prejudice, here I present evidence demonstrating the opposite trend. What might explain the divergence of these results from previous investigations? Firstly, it is important to emphasize that social psychological findings are inherently connected to their temporal and geographic contexts (e.g., Gergen, 1973). The historical circumstances and existing reality of the United States contains an aspect of racialized poverty, the presence of which has been demonstrated to exacerbate income-based ideological trends (e.g., Hersh & Nall, 2016). This data largely consists of U.S. adults, which sets it apart from the data analyzed by Carvacho and colleagues. These findings of increased racial prejudice among those of higher social class (when measured subjectively or via income) may indicate a heightened disdain for those of lower classes *in general*, which in an environment of marked economic divergences among racial groups, may spill over into the formation of prejudiced attitudes toward racial minorities that are associated with lower classes. This dynamic is notably different in Western European countries such as Germany, which has historically had a working-class population largely of the same ethnic makeup of the upper-classes. As these dynamics shift with the recent influx of refugees into Europe from the Middle East and North Africa, it is possibly worth examining whether the relationship between social class and prejudice changes alongside the increasing racialization of poverty in these regions.

Regarding potential mechanisms for the relationship between social class and racial prejudice, these results are fairly inconclusive. Mediating variables were inconsistently associated with either racial prejudice or social class across studies. Despite this, each of the hypothesized mechanisms were found to be successful mediators at least once. In particular, SDO was found to be a successful mediator in 2 of 3 mediation analyses in which it was tested. While more research is needed to determine whether SDO is associated with social class, and in

which contexts, the heightened SDO of higher-class participants in Study 5 aligns with findings suggesting higher-class individuals are less likely to hold egalitarian social values (e.g., Brown-Iannuzzi et al., 2014).

Certain caveats should be taken with regard to interpretation of these results. In the meta-analysis of educational attainment and its relation to prejudice, only three effect sizes were available, and these effects showed a large amount of heterogeneity. While two large datasets (Studies 3 and 4) produced effects for education in agreement with the literature surrounding the protective effects of education against prejudice, Study 6 produced a significant result in the opposite direction (see Table 4). It may be that this result was simply an outlier, and this resulted in an overall nonsignificant effect size for the meta-analysis of education. In addition, three of the presented six studies come from student samples located at universities characterized by a high amount of racial diversity and situated within communities (East Bay, CA and Orange County, CA) characterized by entrenched racialized poverty. These dynamics may in turn give rise to heightened associations based on income, similarly to the findings on local racialized poverty and partisan preference previously discussed (Hersh & Nall, 2016). On the other hand, similar effects were also found through data collected through a variety of online samples. More research is needed to determine the extent to which these effects are contingent on local economic and social dynamics.

In summary, our data suggest that social class – a multifaceted construct rooted in subjective rank as well as the objective components of wealth, education, and occupation – are not uniform with respect to racial prejudice. Instead, these results show that wealth and subjective rank predict overall increased racial prejudice, while education displays an inconsistent association with regard to racial prejudice. These findings carry important

implications for the study of social class, suggesting the various components of social class may function with subtle differences with respect to certain psychological outcomes. In addition, our findings extend recent research suggesting that aspects of social class give rise to enhanced solipsistic social cognitive tendencies, resulting in reduced empathic and prosocial responses toward others (Kraus et al., 2012; Kraus et al., 2010; Piff et al., 2010). In the case of racial prejudice, the self-oriented tendencies of high-class individuals may manifest as an orientation toward internalized prejudices and away from external signals that would challenge these prejudices, perpetuating and legitimizing entrenched racial biases.

These findings also have implications in areas, such as the United States, with rising economic inequality (Piketty & Saez, 2014) and rapidly diversifying working-class populations. Researchers estimate that racial minorities will comprise a majority of the U.S. working class by 2032 – 11 years sooner than the projection for the U.S. population as a whole (Economic Policy Institute, 2016). As the working class becomes increasingly non-white, individuals in the upper-class may react by forming racialized views about poverty (i.e., that certain groups are naturally predisposed toward being lower-class), cementing existing prejudices toward racial groups and justifying the increasing stratification of wealth along racial lines. According to this reasoning, classist and racist beliefs may interact with and reinforce each other as lower-class and upper-class individuals become further separated over time. Overcoming these prejudiced beliefs will require a greater intersectional understanding of how class inequality and racial inequality are intertwined, and how this connection affects the formation of prejudice. As this research did not touch on prejudice toward class groups as a whole, further research is necessary to elucidate the relationship between class-based prejudice and racial prejudice, and whether these forces serve to reproduce each other across society.

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