

Geographic Distribution of Prejudice Toward African Americans: Applying the Two-Dimensional Model

Scott Freng

University of Wyoming

Kimberly Schweitzer

University of Wyoming

Victoria Estrada-Reynolds

Stockton University

Elizabeth Leki

Penn Schoen Berland Market Research

& Samuel Choi

University of Wyoming

Author Note

Scott Freng, Department of Psychology, University of Wyoming; Kimberly Schweitzer, Department of Criminal Justice, University of Wyoming; Victoria Estrada-Reynolds, Department of Psychology, Stockton University; Elizabeth Leki, Penn Schoen Berland Market Research, Denver, Colorado; Samuel Choi, Department of Psychology, University of Wyoming.

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Correspondence concerning this article should be addressed to Scott Freng, Department of Psychology, University of Wyoming, Laramie, WY 82071. Email: sfreng@uwyo.edu

### Abstract

Using the two-dimensional model (Son Hing et al., 2008) of prejudice as a guide, we sampled 10,522 people to examine the geographic distribution of prejudice toward African Americans in the United States. We found the East South Central, West South Central, and South Atlantic regions were associated with modern racism (MR), principled conservatism (PC) characterized the Mountain region, aversive racism (AR) was prevalent in the East North Central region, and finally, truly low in prejudice (TLP) was found in the Pacific, West North Central, Mid Atlantic, and New England regions. Consistent with the two-dimensional model, those high in MR and PC self-identified as more politically conservative than those high in AR or TLP. On social conservatism, MR scored higher than AR, and AR and PC were higher than TLP. In addition, MR scored lower in egalitarianism than AR, while PC and AR scored lower in egalitarianism than TLP. However, contrary to the two-dimensional model, MR and PC did not differ on egalitarianism or social conservatism. Therefore, results generally supported the distinctions made by the two-dimensional model, although further investigations are needed to determine whether there is sufficient theoretical justification for distinguishing MR and PC. This preliminary mapping of the different types of prejudice toward African Americans provides researchers with a tool to test theoretical differences between unique types of prejudice and examine multiple outcomes related to regional prejudice. Given that regional prejudice can be identified, prejudice reduction efforts may benefit from targeting both the individual and the community.

*Keywords: prejudice, geographical psychology, modern racism, aversive racism, political beliefs*

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“Half of Donald Trump’s supporters belong in a ‘basket of deplorables’ characterized by ‘racist, sexist, homophobic, xenophobic, Islamophobic’ views”—Hillary Clinton (Reilly, 2016, para. 1).

“I am the least racist person that you have ever met”—Donald Trump (Scott, 2016, para. 3).

Long before the 2016 U.S. Presidential election, political scientists and social psychologists debated the possible connection between political beliefs and prejudice. Almost 70 years ago, in his treatise on the authoritarian personality, Adorno and colleagues (1950) concluded that right-wing, or conservative, beliefs are more closely associated with prejudice than liberal, or left-wing, ideology. This idea was echoed in Allport’s (1954) seminal work, *The Nature of Prejudice*. More recently, Dovidio and Gaertner (1998) argued that individuals who hold politically conservative viewpoints can be characterized as *modern racists*<sup>1</sup>. Modern racists do not believe they are prejudiced because they do not endorse obviously prejudiced beliefs (i.e., supporting segregation or miscegenation laws; McConahay, Hardee, & Batts, 1981; McConahay, 1986). However, modern racists experience negative affect toward outgroups (Henry & Sears, 2002) and demonstrate prejudice if they can justify their behavior in a non-prejudicial manner. For example, a modern racist might rationalize opposition to affirmative action because this policy could lead to unequal treatment (i.e., reverse discrimination) and challenge traditional American values or work ethic (Henry & Sears, 2002; Nail, Harton, & Decker, 2003). In addition, those with modern racist beliefs display prejudice when they can attribute their judgments to character-based (i.e., laziness, failing to take personal responsibility) rather than

race-based factors (Harton & Nail, 2008; Henry & Sears, 2002). Although politically conservative beliefs are frequently connected to ingroup favoritism and prejudice (Altemeyer, 2004; Cunningham, Nezlek, & Banaji, 2004; Henry & Sears, 2002; Jost, Banaji, & Nosek, 2004), individuals with politically liberal beliefs are not immune to harboring prejudice.

*Aversive racism* is thought to characterize individuals with politically liberal views (Dovidio & Gaertner, 1998; Nail et al., 2003). Aversive racists endorse egalitarian beliefs but have developed implicit, or unconscious, negativity toward certain groups. For example, if African American men are chronically associated with crime in the media, implicit negative affect toward African Americans may develop, despite one's goals to treat groups fairly. Similar to modern racists, aversive racists will display prejudice if they can justify their judgments in non-racial ways. However, if race, or the possibility of prejudicial responding, is made salient, aversive racists will try to act upon their egalitarian goals (Pearson, Dovidio, & Gaertner, 2009). At times, those characterized by aversive racism may show more favorability toward members of the outgroup than the ingroup. This amplification effect, as it is known, is thought to occur because of overcompensation and the need to protect the view of self as unprejudiced (Harton & Nail, 2008; Nail et al., 2003). Relatedly, Nail et al. (2003) found that aversive racists experience more intrapsychic conflict when interacting with outgroup members. Specifically, when an aversive racist encounters an outgroup member, they may be confronted with the discrepancy between their explicit goals to be egalitarian and the implicit negativity they feel. On the other hand, those endorsing beliefs consistent with modern racism do not experience this conflict because they do not consider themselves to be prejudiced.

### **Two-Dimensional Model of Prejudice**

Although the distinction between modern and aversive racism contributes greatly to our understanding of prejudice, these constructs and their connection to political beliefs are not without criticism. For example, not all politically conservative individuals are modern racists and not all liberals are aversive racists. Specifically, the Modern Racism Scale (McConahay et al., 1981) has been criticized for confounding political conservatism with prejudice (Sniderman & Tetlock, 1986; although see Blatz & Ross, 2009; Henry & Sears, 2002). In other words, a politically conservative person may answer items on this scale the same way as a prejudiced individual, but presumably for different reasons. For example, a person with conservative beliefs and a person who is racially prejudiced might both agree with the statement “It is not fair that so many scholarships and awards are awarded to Asian students” (Son Hing, Chung-Yan, Hamilton, & Zanna., 2008, p. 987), but for different reasons (i.e., concern over reverse discrimination vs. prejudice). In addition, if aversive racists begin to internalize egalitarian goals or are intrinsically motivated to avoid prejudicial responding, perhaps with enough practice their motivations may counteract implicit outgroup negativity (Johns, Cullum, Smith, & Freng, 2008; Monteith, 1993; Plant & Devine, 2009). Therefore, it might be possible for liberals to overcome the implicit negativity and become truly low in prejudice. Finally, although modern and aversive racism are unique constructs, there is a dearth of research that simultaneously examines the two types of prejudice (but see Gawronski, Peters, Brochu, & Strack, 2008; Harton & Nail, 2008; Nail et al., 2003).

To solve these problems and capitalize on the utility of direct and indirect<sup>2</sup> measures of prejudice, Son Hing et al. (2008) developed the two-dimensional model of prejudice. In the two-dimensional model, individuals can be categorized as: (a) modern racists (MR), (b) principled conservatives (PC), (c) aversive racists (AR), or (d) truly low in prejudice (TLP). These four

quadrants build upon the modern and aversive racism dichotomy by acknowledging that some individuals with politically conservative beliefs will show low levels of outgroup negativity and prejudice, but likely score high on the Modern Racism Scale because of their political beliefs. In addition, the model recognizes that some individuals may have internalized egalitarian goals and overcome implicit negativity to become truly low in prejudice (Son Hing et al., 2008).

The two dimensions of the model come from different ways of measuring prejudice. First, an indirect measure of prejudice, the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998), is used to measure evaluative associations with group categories, like race. Despite controversy regarding the meaning of scores on the Implicit Association Test (Blanton & Jaccard, 2006; Blanton, Jaccard, Strauts, Mitchell, & Tetlock, 2015; De Houwer, Beckers, & Moors, 2007; Fiedler, Messner, & Bluemke, 2006), the IAT is a commonly used measure of indirect cognition. The two-dimensional model also uses a direct measure of prejudicial beliefs, the Modern Racism Scale (MRS). Both the original MRS (McConahay et al., 1981) and more recent versions (Symbolic Racism 2000 Scale; Henry & Sears, 2002), measure beliefs about outgroup members (i.e., African Americans need to work harder) as well as tap perceptions of the current social climate (i.e., racial discrimination is no longer a problem).

Using scores on the IAT and the MRS, Son Hing et al. (2008) categorized participants into four profiles (see Figure 1). Modern racists were those that scored high on both the indirect (IAT) and direct measures (MRS). Individuals were labeled principled conservatives if they scored high on the direct measure of prejudice (MRS), but low on the indirect measure (IAT). Aversive racists were characterized by the opposite pattern; they were low on the direct measure of prejudice, but high on the indirect measure. Finally, those scoring low on the IAT and MRS were deemed truly low in prejudice.

Consistent with the two-dimensional model, Son Hing et al. (2008) found that when attributional ambiguity was high, both modern racists (MR) and aversive racists (AR) evaluated an outgroup member more negatively than did principled conservatives (PC) or those truly low in prejudice (TLP). In other words, when AR and MR were given a non-racial justification for a negative evaluation, they discriminated. Specifically, if an Asian job applicant was described as somewhat unqualified (i.e., non-racial justification), MR and AR were less likely to recommend hiring this applicant compared to a White applicant with the same qualifications. But, PC and TLP did not demonstrate this discrimination. Furthermore, to demonstrate that MR, PC, AR, and TLP differed in terms of relevant beliefs, Son Hing et al. (2008) measured economic/political conservatism, social conservatism, and egalitarianism. Based on the two-dimensional model, MR and PC should be more economically/politically conservative than AR and TLP. In addition, MR should display the most prejudice and TLP the least. Therefore, MR should score higher on social conservatism, but lower on egalitarianism than PC and AR. Additionally, PC and AR should be higher on social conservatism, but lower on egalitarianism than TLP. The results of Son Hing et al. (2008) supported these predicted distinctions.

The two-dimensional model is important because it, (a) teases apart different types of prejudice, (b) acknowledges that prejudice occurs on both sides of the political spectrum, and (c) implies that if different types of prejudice exist, then interventions aimed at reducing prejudice should take these differences into account. For example, MR and AR will both discriminate, but reminding AR of the importance to act in an egalitarian manner or promoting a common ingroup identity with outgroup members might mitigate the effects of prejudice (Pearson et al., 2009; Sommers & Ellsworth, 2000; Sommers & Ellsworth, 2001). However, if MR view these

reminders as controlling (Legault, Gutsell, & Inzlicht, 2011) or threatening to their racial identity (Branscombe, Schmitt, & Schiffhauer, 2007), these strategies may exacerbate prejudice.

Although the two-dimensional model of prejudice is an important advancement in understanding individual-level prejudice, it may be useful to investigate regional differences in prejudice. In other areas of psychology, regional differences have been found in aggression, helping, personality, wellness, and trust (Levine, Martinez, Brase, & Sorenson, 1994; Nisbett & Cohen, 1996; Rentfrow, Gosling, & Potter, 2008; Rentfrow, Mellander, & Florida, 2009; Schmid, Ramiah, & Hewstone, 2014). In addition, these regional differences have predicted important behaviors and outcomes. Preliminary research exploring the geographic distribution of prejudice has similarly predicted differences in voting behavior (Stephens-Davidowitz, 2014), African American mortality (Chae et al., 2015; Lee, Meunnig, Kawachi, & Hatzenbuehler, 2015), police shootings (Hehman, Flake, & Calanchini, 2018; Mesic et al., 2018), and risk of circulatory disease in African Americans (Leitner, Hehman, Ayduk, & Mendoza-Denton, 2016). Thus, it is important to understand how different types of prejudice are distributed geographically.

### **Geographic Distribution of Prejudice**

Investigating the distribution of psychological phenomena in geographic space is a relatively new area of research called geographical psychology (Rentfrow & Jokela, 2016). Numerous reasons for clustering of psychological phenomena in geographical space exist, including both external (e.g., social and environmental influence) and internal (e.g., self-selection into environments) factors (Lavine & Latané, 1996; Motyl, Iyer, Oishi, Trawalter, & Nosek, 2014; Rentfrow & Jokela, 2016; Weisbuch & Pauker, 2011).

Although understanding the geographic distribution of individual differences has theoretical and practical importance, relatively few modern studies have examined the geographic distribution of prejudice toward African Americans (for a discussion of research conducted prior to 1975, see Middleton, 1976). For example, Stephens-Davidowitz (2014) used Google searches of the N-word<sup>3</sup> as a proxy for state-level prejudice toward African Americans. States with the highest rates of prejudice were West Virginia, Louisiana, Pennsylvania, Mississippi, and Kentucky. Using a similar measure of regional prejudice, Chae et al. (2015) found higher levels of prejudice predicted earlier regional African American mortality, even after accounting for relevant demographic (age, education, poverty) and regional variables (e.g., urbanicity, percentage of African Americans in population, White mortality rates). Chae et al. (2015) found that the areas with the highest levels of prejudice were the rural Northeast and Southern United States. In another study examining mortality, Lee et al. (2015) used a direct measure of prejudice taken from questions on the General Social Survey (e.g., “Do Blacks tend to be hard working or lazy?”). After adjusting for individual and community level covariates, they found that mortality rates for both Blacks and Whites were higher in communities with higher levels of prejudice. In addition, mortality was higher when individuals’ prejudice levels were mismatched with community-level prejudice (e.g., low individual prejudice with high community prejudice), possibly suggesting that the lack of normative support for their beliefs was especially harmful.

Measuring prejudice by tracking the frequency of racially charged words in Google searches represents an interesting methodological advance. In addition, using questions included in the long running General Social Survey paints a portrait of prejudice over time. However, both techniques treat prejudice as a unidimensional construct and thus miss important information.

For example, do Google searches of the N-word capture modern racism, aversive racism, or both? Further distinguishing the types of prejudice will help determine if all prejudice is equally associated with harmful effects or if certain types correlate more strongly with negative consequences. In addition, perhaps the relationship to prejudice depends upon the outcome examined (e.g., health, housing discrimination). To examine the different types of prejudice proposed by Son Hing et al. (2008) would require simultaneously examining direct and indirect prejudice, as well as their intersection.

Recently, Rae, Newheiser, and Olson (2015), Leitner et al. (2016), and Hehman et al. (2018) used data from Project Implicit (Xu, Nosek, & Greenwald, 2014), which measures both direct and indirect prejudice. Specifically, Project Implicit uses a feeling thermometer (e.g., How warm or cold do you feel towards African Americans?) as a direct measure of prejudice toward African Americans and the IAT as an indirect measure. After controlling for relevant demographic variables, Rae et al. (2015) found that the proportion of African Americans living in a state predicted that state's level of direct and indirect prejudice, with higher proportions of African Americans associated with more ingroup bias among both African Americans and Whites. In another study, Leitner et al. (2016) found that Whites' direct racial bias toward African Americans predicted death by circulatory disease among African Americans. In other words, African Americans living in communities characterized by higher direct White prejudice had a higher death rate from circulatory disease than those living in communities with less direct White prejudice. In contrast, Hehman et al. (2018) found that regional levels of indirect prejudice and stereotyping best predicted lethal police force toward African Americans. The results of Leitner et al. (2016) and Hehman et al. (2018) demonstrate that different measures of prejudice

(direct and indirect) predict unique outcomes and highlight the importance of measuring both direct and indirect prejudice.

However, because the goals of Rae et al. (2015), Leitner et al. (2016), and Hehman et al. (2018) were to determine if prejudice could be predicted by state level variables, or related to important outcomes, this research did not directly test the two-dimensional model of prejudice. Specifically, none of the studies (Leitner et al., 2016; Hehman et al., 2018; Rae et al., 2015) examined the potential intersection of direct and indirect prejudice. Investigating the combined levels of direct and indirect prejudice is necessary to differentiate the types of prejudice as specified in the two-dimensional model (Son Hing et al., 2008). In addition, because testing the two-dimensional model was not the goal of these studies, we do not know if Son Hing et al.'s (2008) model was supported, or how direct and indirect prejudice might be distributed geographically across the United States. We are left to wonder whether people with different prejudice profiles are distributed randomly across the United States or cluster together, creating unique regional patterns of prejudice. Finally, Rae et al. (2015), Leitner et al. (2016), and Hehman et al. (2018) relied on Project Implicit data, which uses feeling thermometers as the direct measures of prejudice. Using single-item measures to capture a complex construct like prejudice is potentially problematic (Flake, Pek, & Hehman, 2017). In addition, it is not clear whether this type of measure adequately captures the beliefs inherent in modern racism (McConahay et al., 1981; McConahay, 1986; Henry & Sears, 2002).

### **Present Research**

To more explicitly test the two-dimensional model (Son Hing et al., 2008) and build upon the work of Rae et al. (2015), Leitner et al. (2016), and Hehman et al. (2018), we measured both direct and indirect prejudice toward African Americans with the goal of creating a preliminary

map of the different types of prejudice in the United States. We see this research as important for several reasons. First, using a theory-driven approach, we measured direct (MRS) and indirect (IAT) prejudice toward African Americans so we could identify regions characterized by modern racism, aversive racism, principle conservatism, and truly low in prejudice. To our knowledge, this is the first mapping of the different types of prejudice toward African Americans in the United States.

Second, the two-dimensional model was previously used to explain prejudice toward Asian Americans (Son Hing et al., 2008). However, the two-dimensional model should explain prejudice targeting other groups as well. Given that, (a) African Americans are one of the largest racial/ethnic groups in the United States (United States Census Bureau, 2018), (b) social psychology has a long history of studying African American stereotypes and prejudice (Katz & Braly, 1933), and (c) an unfortunate spate of police shootings involving African American men has occurred in recent years (Hafner, 2018), we used the two-dimensional model to understand bias aimed at African Americans.

Third, few studies simultaneously examine modern and aversive racism. Using a large data set, we sought to replicate the proposed theoretical differences between MR and AR (Dovidio & Gaertner, 1998; Harton & Nail, 2008; Son Hing et al., 2008). In addition, we believe mapping prejudice will make it possible for future researchers to more readily test important theoretical and practical differences between MR and AR. For example, are MR and AR equally associated with negative outcomes? Having a map of regional differences would enable researchers to compare regions characterized by unique forms of prejudice on important outcomes.

Therefore, the goals of our research were first, to develop a map of the different types of prejudice as specified by the two-dimensional model (Son Hing et al., 2008). Second, we sought to test the predicted differences between MR, PC, AR, and TLP when the target group was African Americans. In line with Son Hing et al., we predicted that MR and PC would self-identify as more conservative than AR or TLP, but MR and PC would not differ on political conservatism, nor would AR and TLP. With regards to social conservatism, we predicted that MR would score higher than AR and PC. In addition, AR and PC would be higher in social conservatism than those classified as TLP. Finally, we predicted that MR would score lower on egalitarianism than PC and AR, who would both score lower on egalitarianism than TLP.

## **Method**

### **Participants**

Adults, 18 years of age and older, were recruited using Amazon's Mechanical Turk (MTurk), an online crowdsourcing service, where researchers can recruit MTurk workers to complete online tasks for compensation. MTurk has gained in popularity among psychology researchers due to its large participant pool and relative ease of use. Additionally, samples from MTurk have been found to be more diverse (e.g., race/ethnicity) compared to other online and college student samples (Buhrmester, Kwang, & Gosling, 2011; Gosling, Vazire, Srivastava, & John, 2004).

**Participant Screening Procedures.** Participants were excluded from analyses based on several criteria. First, as we were interested in prejudice toward African Americans, participants who identified as African American were excluded from participating in the study. Next, participants whose IP addresses indicated they were not physically located in the U.S. or had no location data were excluded from analyses. Additionally, several participants completed the

study multiple times. To address this, respondents with duplicate IP addresses (i.e., if an IP address appeared more than once) or MTurk identification numbers were excluded from analyses. Finally, participants were asked two attention check questions (i.e., “Select option one for this question.” and “Select option two for this question.”). Participants who failed to answer either of these questions correctly were excluded from analyses. In the final sample ( $N = 10,522$ ), 83.08% were White, 5.94% Hispanic, 5.90% Asian/Pacific Islander, 1.67% Native American/Alaska Native, and 3.40% marked Other/Multi-Racial, 59.84% female, and  $M_{age} = 35.97$  ( $SD_{age} = 11.97$ ).

**Representativeness of Sample.** To ensure our sample was representative of the U.S. population over the age of 18, we compared our data to voter registration data collected by the United States Census Bureau (2018). First, we compared the proportion of participants collected in each state to the proportion of U.S. citizens in each state and found that our sample did approximate that of the U.S. population by state ( $r = .97$ ). Further, we examined whether the sample’s age and racial/ethnic makeup was also representative of the U.S. population; however, the sample’s racial/ethnic proportions were impacted by our exclusion of African American participants. Table 1 presents these comparisons and indicates our sample tended to be younger and had a higher percentage of European Americans, Asian Americans, and American Indian/Alaskan Natives compared to census data. Considering our specific participant recruitment strategy, our sample approximated the U.S. population over the age of 18.

## Materials

**Implicit Association Test.** The IAT is a widely used indirect measure of prejudice (Greenwald et al., 1998). In the task, participants were asked to categorize African American and White faces, as well as positively- and negatively-valenced words, as quickly as possible.

Participants sorted positively- and negatively-valenced words and faces into good or bad categories, and if they categorized the picture or word incorrectly, a red “X” would appear on the screen until they corrected their response. The difference in reaction times between congruent (i.e., pairing African American faces with negative words and White faces with positive words) and incongruent trials (i.e., pairing African American faces with positive words and White faces with negative words) was divided by the pooled standard deviation to create a D-score (Greenwald, Nosek, & Banaji, 2003), which is similar to an effect size. Positive D-scores indicated stronger associations between African American with bad and White with good.

**Modern Racism Scale.** As a direct measure of prejudice, we used several items from the Symbolic Racism 2000 scale (Henry & Sears, 2002), as well as two items from Son Hing and colleagues’ (2008) study. Our version of the MRS consisted of six items on a 9-point Likert-type scale (-4 = *strongly disagree* to 4 = *strongly agree*): (a) “Irish, Italians, Jewish, and many other minorities overcame prejudice and worked their way up. Blacks should do the same without any special favors.”, (b) “Over the past few years, blacks have gotten less than they deserve.” (reverse coded), (c) “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.”, (d) “Generations of slavery and discrimination have created conditions that make it difficult for blacks to work their way out of the lower class.” (reverse coded), (e) “It is not fair that so many scholarships and awards are awarded to black students.”, and (f) “Discrimination against blacks is no longer a problem in the United States.”. Higher positive scores indicated more prejudice toward African Americans.

**Social Dominance Orientation Scale.** The Social Dominance Orientation scale (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994) is a measure of the degree to which one believes the current social hierarchy is legitimate and just. The SDO scale consisted of 16 items (e.g., “Some

groups of people are simply inferior to other groups.”) on a 9-point Likert-type scale (1 = *very negative* to 9 = *very positive*). Consistent with Son Hing and colleagues (2008), we reverse-scored the SDO to be our measure of egalitarianism. Therefore, higher scores indicated higher levels of egalitarianism.

**Right-Wing Authoritarianism Scale.** The Right-Wing Authoritarianism scale (RWA) assesses willingness to obey authority and support conventional social norms (Altemeyer, 1981, 1998). To replicate Son Hing et al. (2008), we used the 1990 version of the RWA to measure social conservatism (L. Son Hing, personal communication, 2013), with higher scores indicating more social conservatism (see Altemeyer & Hunsberger, 1992, for a similar scale). The RWA scale consisted of 30 items (e.g., “What this country really needs, instead of more civil rights, is a good stiff dose of law and order.”) on a 9-point Likert-type scale (1 = *very negative* to 9 = *very positive*).

### **Procedure**

Participants were recruited online through MTurk and were provided with a website link to Survey Gizmo to complete the study. Survey Gizmo was used to collect basic demographic information, including state of residence to identify the location of our respondents. Those who identified their race/ethnicity as African American were thanked for their interest in the study but did not complete the rest of the materials. Included with the demographic questions was a question in which participants were asked to self-identify their political ideology using a 7-point Likert-type scale (1 = *very liberal* to 7 = *very conservative*). Next, participants were directed to Inquisit (version 4) to complete the IAT, RWA, SDO, and MRS measures (the order of measures was counterbalanced). Finally, participants were thanked for their time and compensated for their participation.

## Results

### Data Preparation and Preliminary Analyses

After removing ineligible participants (e.g., those with duplicate IP addresses), the MRS, SDO, and RWA scales were scored and standardized. All scales had good internal consistency (Cronbach's  $\alpha = .90, .96, \text{ and } .97$ , respectively). Consistent with Son Hing et al. (2008), SDO was reverse-scored to provide the estimate of egalitarianism, and RWA scores were used to reflect social conservatism. Participants' self-identified political conservatism was highly positively correlated with their scores on the social conservatism measure,  $r(10520) = .71, p < .001$ . Further, egalitarianism scores were negatively correlated with both social conservatism,  $r(10520) = -.52, p < .001$  and self-identified political conservatism,  $r(10520) = -.47, p < .001$ . *D* scores were created from participants' responses on the IAT. Participants' *D* scores ranged from -1.77 to 1.56 ( $M = 0.36, SD = 0.41, \text{ median} = 0.39$ ). See Table 2 for the summary statistics, including correlations.

Because our goal was to replicate Son Hing and colleagues' (2008) two-dimensional model of prejudice with African Americans and map the concentrations of the four prejudice classifications, we first sorted participants into one of the four prejudice classifications. To do this, we followed the procedure utilized by Son Hing et al. (2008) and used median splits on the IAT and MRS to separate participants into high and low scorers. Specifically, participants who scored above the median were designated as high scorers and those at, or below, the median were classified as low. Therefore, participants high on both the IAT and MRS were classified as MR, double-lows were classified as TLP, those that were high on the IAT, but low on the MRS were classified as AR, and finally, participants who were low on the IAT, but high on the MRS were classified as PC.

### Replicating the Two-Dimensional Model of Prejudice

We sought to replicate Son Hing and colleagues' (2008) two-dimensional model of prejudice findings related to political conservatism, social conservatism, and egalitarianism. Findings from three ANOVA models with Tukey HSD post-hoc tests were generally in line with Son Hing et al. (2008) and indicated that, overall, there were significant differences between prejudice types (i.e., MR, PC, AR, TLP) in self-identified political conservatism,  $F(3, 10518) = 1427, p < .001, \eta^2 = .29$ , social conservatism  $F(3, 10518) = 1825, p < .001, \eta^2 = .34$ , and egalitarianism,  $F(3, 10518) = 1438, p < .001, \eta^2 = .29$ .

Specifically, we predicted that participants classified as MR and PC would self-identify as more politically conservative than those classified as AR and TLP. Results supported this hypothesis, indicating that participants classified as MR had significantly higher political conservatism scores ( $M = 4.56, SD = 1.48$ ) than those classified as AR ( $M = 2.75, SD = 1.46; p < .001, d = 1.23$ ) and as TLP ( $M = 2.63, SD = 1.43; p < .001, d = 1.33$ ), and participants classified as PC had significantly higher political conservatism scores ( $M = 4.57, SD = 1.55$ ) than those classified as AR ( $p < .001, d = 1.21$ ) and as TLP ( $p < .001, d = 1.31$ ). It was also hypothesized that there would be no significant differences on political conservatism for participants classified as MR and PC, as well as no significant differences for those classified as AR and TLP. Results indicated that participants classified as MR were as conservative as those classified as PC ( $p = .80, d = 0.007$ ). Contrary to predictions, participants classified as AR were more conservative than those classified as TLP ( $p = .002, d = 0.09$ ).

In regard to social conservatism, it was predicted that MR would have higher RWA scores than AR and PC, and AR and PC would have higher RWA scores than TLP. Results indicated participants classified as MR had significantly higher RWA scores ( $M = -.09, SD =$

1.42) than those classified as AR ( $M = -2.01$ ,  $SD = 1.47$ ;  $p < .001$ ,  $d = 1.33$ ), but not than those classified as PC ( $M = -.09$ ,  $SD = 1.30$ ;  $p = .99$ ,  $d = 0.0004$ ), and participants classified as AR and PC had significantly higher RWA scores than those classified as TLP ( $M = -2.19$ ,  $SD = 1.41$ ;  $p < .001$ ,  $d = 0.13$ , and  $p < .001$ ,  $d = 1.55$ , respectively).

In regard to egalitarianism, it was predicted that MR would have lower egalitarianism scores than AR and PC and AR and PC would have lower egalitarianism scores than TLP. Results indicated participants classified as MR had significantly lower egalitarianism scores ( $M = 6.46$ ,  $SD = 1.66$ ) than those classified as AR ( $M = 8.13$ ,  $SD = 1.01$ ;  $p < .001$ ,  $d = 1.20$ ), but not than those classified as PC ( $M = 6.49$ ,  $SD = 1.61$ ;  $p = .87$ ,  $d = 0.02$ ). Participants classified as AR did have significantly lower egalitarianism scores than those classified as TLP ( $M = 8.24$ ,  $SD = 0.96$ ;  $p = .02$ ,  $d = 0.11$ ), and participants classified as PC did have significantly lower egalitarianism scores than those classified as TLP ( $p < .001$ ,  $d = 1.36$ ).

### **Geographic Variation in the Two-Dimensional Model of Prejudice**

Along with testing the predicted differences between MR, PC, AR, and TLP when the target group was African Americans, we also sought to develop a preliminary map of the different types of prejudice as specified by the two-dimensional model (Son Hing et al., 2008). To map regional prejudice, we calculated averaged levels of direct and indirect prejudice for each of the nine geographic sub-regions used by the U.S. Census Bureau (see Table 3 for a listing of sub-regions), as well as each of the 50 states. The medians for regional MRS and IAT scores were used to classify sub-regions into MR, AR, PC, or TLP. Similar classifications of states were done based on state-level medians for direct and indirect prejudice. Once classified, participants' IP addresses were used to map the different prejudice classifications at the sub-region and state levels (see Table 3). First, to illustrate regional differences, Table 4 shows which

type of prejudice was most prevalent in each census sub-region. The Pacific, West North Central, Mid Atlantic<sup>4</sup>, and New England sub-regions were classified as TLP, the Mountain sub-region was classified as PC, the East North Central sub-region was represented by AR, and the West South Central<sup>5</sup>, South Atlantic, and East South Central sub-regions were characterized by MR (see Figure 2). Figure 3 illustrates the type of prejudice associated with each state. When including Washington, D.C. (classified as AR), 12 states were classified as TLP, 14 states as PC, 11 states as MR, and 14 states as AR. Figure 4 shows the type of prejudice in each state along with participant locations, derived from IP addresses. It is important to note that the sub-regional and state categorizations are based off of average MRS and IAT scores, which obscures the variation within each geographic region. In other words, just because a region was classified as being TLP, does not mean that there are not MR in that region.

### **Discussion**

Guided by the two-dimensional model (Son Hing et al., 2008), we sampled over 10,500 adults in the United States to map the four different types of prejudice towards African Americans. We chose the two-dimensional model to guide our efforts because it uses both direct and indirect measures of prejudice and it separates political conservatism and prejudice. Using this model, we found that the East South Central, West South Central, and South Atlantic regions were most closely associated with modern racism, the Mountain region was best characterized by principled conservatism, aversive racism represented the East North Central region, and being truly low in prejudice occurred in the Pacific, West North Central, Mid Atlantic, and New England regions. Additionally, our results largely replicated Son Hing et al. (2008) with regards to distinctions between the different forms of prejudice on political orientation, social conservatism, and egalitarianism. Specifically, those categorized as MR or PC self-identified as

having a more conservative political orientation than those individuals labeled as AR or TLP. Furthermore, MR scored higher on social conservatism than AR, and AR and PC scored higher on social conservatism than TLP. MR also scored lower in egalitarianism than AR, and AR and PC scored lower in egalitarianism than TLP. However, contrary to the results of Son Hing et al. (2008) and the two-dimensional model, we found no differences between MR and PC on social conservatism and egalitarianism.

### **Importance and Implications**

We believe the present research is important for several reasons. To our knowledge, this is the first attempt to map regional prejudice targeting African Americans using the two-dimensional model. Previous research examining the geographic distribution of prejudice toward African Americans has primarily treated prejudice as unidimensional (Chae et al., 2015; Lee et al., 2015; Stephens-Davidowitz, 2014) or has not examined the intersection between direct and indirect measures of prejudice (Hehman et al., 2018; Leitner et al., 2016; Rae et al., 2015) as specified in the two-dimensional model. In addition, previous research has rarely provided a map of regional prejudice. We believe that mapping the four different forms of prejudice provides investigators with a tool to examine state and regional prejudice and its potential correlates. For example, after controlling for other geographic differences, can type of state or regional prejudice predict behaviors or outcomes? Previous research has shown that regional levels of prejudice can predict African American mortality from health-related risks (Chae et al., 2015; Lee et al., 2015; Leitner et al., 2016) and use of lethal force by police (Hehman et al., 2018). If the amount of prejudice is critical for predicting these important outcomes, perhaps the type of prejudice matters as well.

A preliminary map of regional prejudice may also inform prejudice reduction efforts. Many prejudice reduction techniques focus on the individual, but the existence of regional styles of prejudice suggests a more comprehensive strategy, targeting both the individual and the community. Altering a single individual's level of prejudice may be difficult to maintain in a community with high levels of prejudice. Therefore, broad scale efforts at prejudice reduction are likely necessary. Comprehensive prejudice reduction might involve harnessing the media as an agent of social change by using persuasion, portraying anti-prejudice beliefs as normative, encouraging perspective taking, and recruiting key community members and peers to deliver these messages (Paluck & Green, 2009).

Tailoring prejudice reduction strategies to the type of prejudice in the geographic area could also be crucial because techniques that reduce one type of prejudice may actually exacerbate a different type. As Paluck and Green (2009) pointed out, many prejudice reduction strategies rely on an individual's motivation as the catalyst for change (e.g., consistency and self-worth interventions). For example, drawing attention to how a person displaying aversive racism is not living up to their egalitarian goals might trigger guilt and motivation to overcome prejudiced responding (Monteith, 1993; Son Hing, Chung-Yan, Grunfeld, Robichaud, & Zanna, 2005). However, this technique may not be successful with individuals characterized by modern racism. Recall that individuals with this form of racism do not believe they are prejudiced because they do not endorse old-fashioned prejudice. In addition, as those with more conservative beliefs may be more threat sensitive (Fessler, Pisor, & Holbrook, 2017), telling these individuals that they are racist is likely to trigger defensive responding, reactance, or further justification that they are truly unprejudiced (Feygina, Jost, & Goldsmith, 2010; Jost, Glaser, Kruglanski, & Sulloway, 2003). However, because individuals with conservative belief

systems tend to endorse authoritarian worldviews (see Jost et al., 2003 for a review) and more strongly identify as patriotic than those holding liberal views (Hoyt & Goldin, 2016), perhaps making a strong case that reducing subtle prejudices is patriotic or maintains the status quo (e.g., supports the Bill of Rights) would be effective. Similar messages have succeeded in making conservatives more pro-environment (Feygina et al., 2010). Paluck and Green (2009) also suggest harnessing the power of conformity or obedience to authority to reduce prejudice. Those characterized by modern racism might be more willing to obey or conform to a prejudice reduction request if the message comes from a well-respected authority figure. Finally, research on self-affirmation suggests that individuals are more willing to consider negative information about themselves after a self-affirmation manipulation (Critcher & Dunning, 2015). For example, thinking about one valued aspect of the self (e.g., I am a Christian) enables more acceptance of negative information (e.g., maybe some of my beliefs are prejudiced). Once an individual high in modern racism acknowledges harboring some prejudice, specific steps can be taken to reduce the prejudice.

In addition to creating a preliminary map of the different types of prejudice, which may inform future investigations as well as aid prejudice reduction efforts, our research also extended the two-dimensional model for explaining prejudice toward African Americans. Son Hing et al. (2008) originally tested their model with Asian Americans as the target of prejudice. Results largely replicated Son Hing et al. (2008), showing that the different forms of prejudice against African Americans associated the way they should with self-reported political orientation, social conservatism, and egalitarianism. However, we did not replicate important differences between modern racists and principled conservatives. We address this issue in the next section.

Finally, the present research is important because it investigated differences between aversive and modern racism. Although these concepts have been around for more than 30 years, relatively few studies have attempted to differentiate the outcomes or associations of the two types of prejudice (but see Gawronski et al., 2008; Harton & Nail, 2008; Nail et al., 2003; Son Hing et al., 2008). On the surface, modern and aversive racism share commonalities. Individuals with both forms of prejudice will display prejudice and discriminate under certain situations, especially if they have non-racial justifications. However, based on the two-dimension model, and supported by our data as well as others (Harton & Nail, 2008; Nail et al., 2003; Son Hing et al., 2008), individuals with the two forms of prejudice will likely differ on political orientation, social conservatism, and egalitarianism (see also Gawronski et al., 2008).

### **Limitations and Future Directions**

Despite the important contributions of this research, it is not without limitations. First, we did not use a probability sampling technique to acquire participants. Therefore, the generalizability of our findings to all people in the four regions may be limited. However, the use of MTurk, and the internet more generally for data collection, can increase sample diversity compared to convenience samples of college students (Buhrmester et al., 2011; Gosling et al., 2004), and studying non-student-based samples can improve the understanding of prejudice as well as the generalizability of findings (Henry, 2008). Although the distribution of participants in our sample correlated highly with the percentage of the United States population from each state, our sample was younger than the U.S. population. Because age positively correlates with conservatism and prejudice (Franssen, Dhont, & Van Hiel, 2013; Truett, 1993), we might be underestimating the endorsement of conservative beliefs and bias toward African Americans. In other respects, our sample cannot perfectly represent regional populations due to choices we

made in data collection. For example, we did not sample individuals under 18 years of age, due to Institutional Review Board concerns, and we excluded African Americans since African Americans were the target of the prejudice we were studying. Although it is common practice to exclude data from African Americans (Cunningham et al., 2004; Legault et al., 2011; Leitner et al., 2016; Nail et al., 2003; Plant & Devine, 2009) when studying prejudicial attitudes toward African Americans (but see Chae et al., 2015; Lee et al., 2015; Rae et al., 2015), future research would benefit from including African Americans to better understand the dynamic interplay between regional ingroup and outgroup attitudes.

Another potential limitation of our research concerns the absence of a measure of old-fashioned racism. Since the creation of the Modern Racism Scale (McConahay et al., 1981), researchers have argued that old-fashioned racism (e.g., belief in outgroups' genetic inferiority, support for segregation) has been on the decline and largely replaced with subtle forms of prejudice (i.e., modern and aversive racism). However, old-fashioned racism was never eliminated (see Forscher, Cox, Graetz, & Devine, 2015). In fact, one extreme measure of old-fashioned racism, the tracking of hate crimes by the FBI, showed an uptick in 2016 (Petulla, 2017), and hate crimes spiked around the time of the presidential election according to the FBI and the Southern Poverty Law Center (Miller & Werner-Winslow, 2016; Petulla, 2017). Furthermore, old-fashioned racism's ability to predict behavior may be on the rise. Tesler (2013) found that old-fashioned racism became increasingly important in predicting political party affiliation and voting preferences during Obama's presidency compared to previous years. In our research, we did not include items that directly tapped old-fashioned racism. However, it is likely that individuals high in old-fashioned racism were grouped together with individuals categorized as high in modern racism in our sample. Individuals high in old-fashioned racism would likely

agree with the sentiments conveyed on the MRS and also have strong negative associations with African Americans, thus scoring high on the MRS and the IAT. Although individuals endorsing old-fashioned racism might score even higher on the MRS and IAT than those viewed as modern racists, the most direct route to differentiating the two would be to include a measure of old-fashioned racism. In contrast to those who endorse old-fashioned racism, individuals categorized as modern racists would not necessarily score high on a measure of old-fashioned racism (see Sears & Henry, 2005). But, this is an empirical question that we cannot address with our data, and therefore, we believe that future investigations into the two-dimensional model and regional prejudice should include items that explicitly tap old-fashioned racism.

In addition to examining the importance of old-fashioned racism, future research should explore whether modern racism and principled conservatism differ conceptually. According to the two-dimensional model (Son Hing et al., 2008), principled conservatives should be higher in egalitarianism and lower in social conservatism than modern racists, and that is what Son Hing and colleagues found. However, our research failed to differentiate modern racists and principled conservatives on these variables. Several factors might contribute to this discrepancy. Recall that the primary difference in the determination of modern racism versus principled conservatism is on indirect prejudice (score on the IAT), with modern racists scoring higher than principled conservatives. Perhaps scores on the IAT in Son Hing et al. (2008) and our research differentially associated with egalitarianism and social conservatism because we investigated prejudice toward different groups. Perceptions of African Americans and Asian Americans differ on dimensions of warmth and competence (Fiske, 2018). Therefore, an individual might hold equally negative associations with Asian Americans and African Americans in comparison to European Americans, but do so for different reasons (e.g., Asian Americans are competent and

therefore an economic threat) and experience different emotions (e.g., envy vs. fear). If the reasons for negative associations differ across groups, this might moderate the ability of the IAT to predict outcomes (e.g., associations with egalitarianism and social conservatism). Interpreting performance on the IAT is further complicated by the fact that scores might reflect ingroup favoritism, outgroup derogation, or a combination of both (Nosek & Banaji, 2001).

Another potential reason for the discrepancy between Son Hing et al. (2008) and our results is the passage of time. Approximately 10 years separate Son Hing et al.'s research from our own. Consequently, our results may represent a shift in political discourse and climate, with earlier distinctions between modern racists and principled conservatives becoming blurred in the current politicized environment. Because of the differences between Son Hing et al. (2008) and our research, further investigations are needed to determine the veracity of distinguishing modern racism and principled conservatism. Do these types of prejudice differentially predict outcomes (e.g., egalitarianism, policy support) and what factors might moderate these associations (e.g., does target group matter)?

Finally, our research, like other research on regional differences, has the potential to be oversimplified and sensationalized. Because of this, we wish to point out an additional caveat to our research. Specifically, by suggesting that geographic regions are characterized by particular forms of prejudice toward African Americans, we risk stereotyping groups of people in our effort to further understand prejudice. Obviously, this is not our intent. In a related discussion on *Face the Nation* in 2017, John Dickerson stated that Hillary Clinton's remark about Trump supporters being deplorable may have "overshot the mark and painted with a broad brush. People felt that she was talking about them" (Hager, 2017). In response, Senator Tim Kaine of Virginia responded, "we ought to throw away the broad brushes" (Hager, 2017). Ideally, we wish to avoid

the broad brush. However, because regional prejudice does predict important outcomes for African Americans (e.g., mortality, involvement in lethal police shootings, circulatory disease risk; Chae et al., 2015; Hehman, 2018; Lee et al., 2015; Leitner et al., 2016; Mesic et al., 2018) and influences the day-to-day experiences of people in this country, it is an important area of study and should not be ignored. At the same time, some of the problems associated with the broad brush can be avoided by remaining cognizant of three things: (a) regional prejudices do not necessarily represent an individual's beliefs (i.e., relatively unprejudiced individuals could live in an area characterized by modern or aversive racism), (b) individual and regional prejudice levels or types may change over time (e.g., Charlesworth & Banaji, 2019; Monteith, 1993), and (c) labeling an individual *a racist* may trigger defensive responding and undermine the possibility of future positive intergroup contact (Richeson & Shelton, 2007). To be clear, we are not suggesting that perpetrators of prejudice or discrimination warrant protection from criticism. To do so would perpetuate the problem of prejudice, further marginalize victims of prejudice, and discount the experiences of prejudice that many in the United States face daily. Rather, we are suggesting that calling someone a racist is not the most effective route for promoting attitude or belief change.

## **Conclusion**

Guided by the two-dimensional model of prejudice, we developed a preliminary map of the four different types of prejudice in the United States. Overall, our results supported the conceptualization of the two-dimensional model to differentiate MR, PC, AR, and TLP, when the target of prejudice was African Americans. However, additional research is needed to determine if MR and PC differ conceptually. We believe our research is an important step toward guiding future investigations into the different types of regional prejudice and their related

outcomes. Furthermore, finding differences in regional prejudice highlights the importance of considering both regional and individual levels of prejudice when planning prejudice reduction strategies. Finally, we should be mindful that (a) individuals within a region may not share a region's prejudices, (b) prejudice can change over time, and (c) calling someone a racist will likely trigger defensive responding. Although our research provides a preliminary glimpse into the geographic distribution of prejudice types, we should be careful not to paint individuals within geographic areas with too broad a brush.

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## Footnotes

<sup>1</sup>The term *symbolic racism* is often used synonymously with modern racism and is preferred by some researchers (Henry & Sears, 2002). However, we use the term modern racism in this paper to be consistent with Dovidio and Gaertner (1998), McConahay (1986), and Son Hing et al. (2008).

<sup>2</sup>We use the terms *direct* and *indirect* instead of *explicit* and *implicit* based on the recommendations of De Houwer (2006). The terms explicit and implicit imply a process pure measure of conscious or unconscious processes. On the contrary, explicit and implicit measures likely tap both conscious and unconscious processes.

<sup>3</sup>Specifically, Stephens-Davidowitz (2014) examined the frequency of “nigger, nigga, and fuck” (p. 39). However, Chae et al. (2015) only examined singular and plural versions of the N-word. They did not examine other spellings (i.e., ending in “a”) because they argued that the word took on a different meaning and was used in a qualitatively different way.

<sup>4</sup>Caution should be used when interpreting the classification for the Mid Atlantic region as it was at the median on both the MRS and IAT. However, consistent with Son Hing et al. (2008), we classified scores at the median as low in prejudice.

<sup>5</sup>The West South Central sub-region scored at the median on the IAT, so caution should be exercised in interpretation.

Table 1. *U.S. Census and Sample Age and Race Breakdown*

Race	U.S. Census	Sample
White	77.10%	83.08%
Asian	4.30%	5.90%
American Indian/Alaskan Native	0.08%	1.67%
Age		
18-29	20.8%	35.71%
30-44	23.9%	42.26%
45-64	34.5%	19.44%
65 and over	20.7%	2.59%

*Note:* Hispanic/Latino(a) is not included in this table because the census does not have a separate non-White Hispanic/Latino(a) category. African American is not included in the table because we excluded participants from our sample who identified as African American.

Table 2. *Summary Statistics and Correlations*

	Measure	Mean (SD)	Range	1	2	3	4
1	IAT D Score	0.36 (0.41)	-1.76, 1.56				
2	MRS	-0.79 (2.09)	-4, 4	0.16			
3	Social Conservatism	-1.13 (1.73)	-4, 3.97	0.10	0.68		
4	Egalitarianism	7.36 (1.59)	1, 9	-0.08	-0.59	-0.52	
5	Political Ideology	3.60 (1.75)	1, 7	0.07	0.63	0.71	-0.47

*Note:* All correlations are significant at  $p < 0.001$ . RWA and reverse-scored SDO scores were used to as indices for social conservatism and egalitarianism, respectively.

Table 3. *U.S. States and D.C. Categorized by Census Sub-region*

Sub-region	State
Pacific	AK
	CA
	HI
	OR
	WA
Mountain	AZ
	CO
	ID
	NM
	MT
	UT
	NV
	WY
West North Central	IA
	KS
	MN
	MO
	NE
	ND
	SD
East North Central	IN
	IL
	MI
	OH
	WI
West South Central	AR
	LA
	OK
	TX
South Atlantic	DE
	DC
	FL
	GA
	MD
	NC
	SC
	VA
WV	
East South Central	AL
	KY
	MS
	TN
Mid Atlantic	NJ
	NY
	PA
New England	CT
	ME
	MA
	NH
	RI
	VT

Table 4. *Prejudice type by Census sub-region*

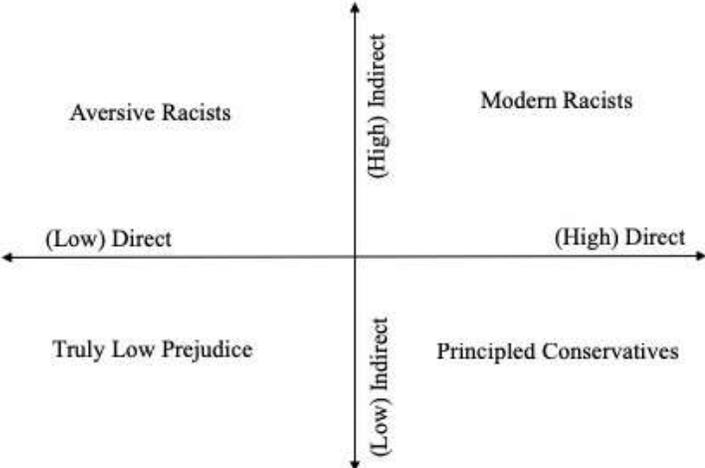
Sub-Region	Sample Size	Prejudice Type	IAT <i>D</i> score (median = 0.37)	MRS score (median = -0.77)
Pacific	1,581	TLP	0.32	-1.21
Mountain	829	PC	0.36	-0.70
West North Central	580	TLP	0.33	-0.94
East North Central	1,591	AR	0.39	-0.85
West South Central	1,123	MR*	0.37	-0.53
South Atlantic	2,220	MR	0.38	-0.57
East South Central	630	MR	0.38	-0.51
Mid Atlantic	1,505	TLP*	0.37	-0.77
New England	463	TLP	0.34	-1.28

\*The West South Central and Mid Atlantic regions were at the median on the IAT *D* score.

Consistent with Son Hing et al. (2008), we classified regions at, or below, the median as low on the measure of prejudice. The Mid Atlantic region was also at the median on the MRS.

Therefore, caution should be used when interpreting prejudice type classifications for these regions.

Figure 1. Prejudice Types in the Two-Dimensional Model (Son Hing et al., 2008).





*Figure 2.* Sub-region-level prejudice classifications

*Note:* Caution should be used when interpreting the classifications for the West South Central and Mid Atlantic regions because they were at the median on one or both measures of prejudice. Consistent with Son Hing et al. (2008), we classified scores at the median as low on that measure of prejudice.

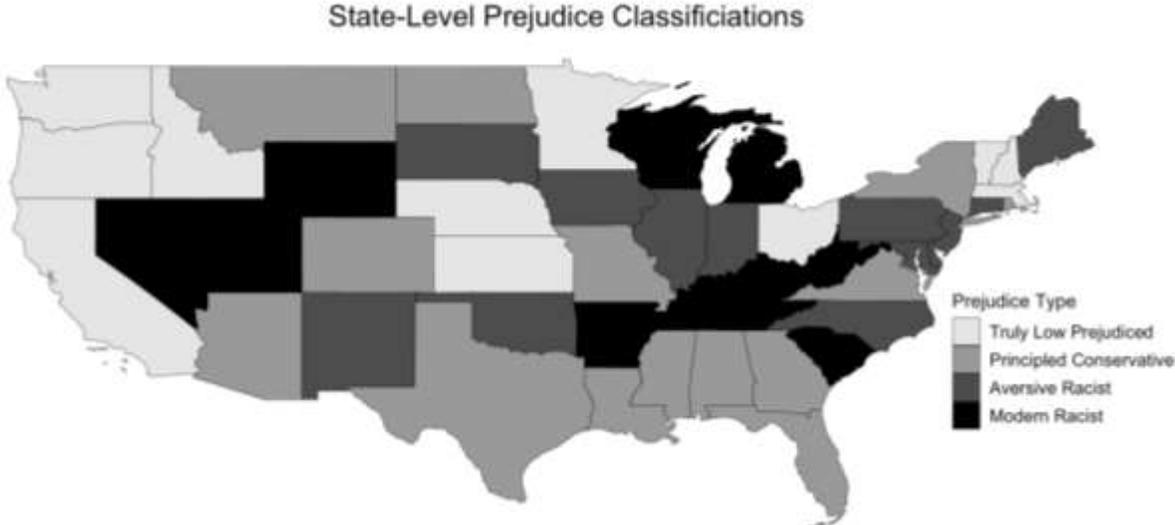


Figure 3. State-level prejudice classifications

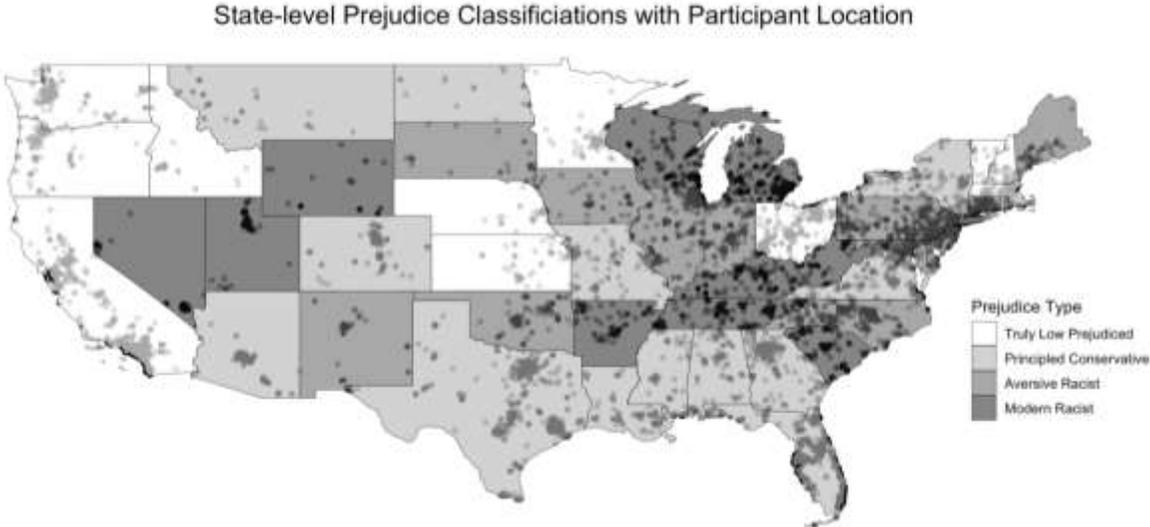


Figure 4. State-level prejudice classifications with participant location