

Racist or racism? Taxometric support for a dimensional latent structure of explicit prejudice

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Abstract

Individual differences in explicit prejudice have long been a central concern in intergroup relations, yet no study has investigated the latent structure of prejudice. Whereas some media reports, lay classifications, and historical notions of prejudice focus on a prejudiced type of person, more recent conceptualizations of prejudice explain it as a dimension with any given individual falling along a continuum from low to high. In the first taxometric research to assess attitudes, two studies used taxometric methods to explore whether explicit prejudice is best considered dimensional (i.e., differing in degree) or taxonic (i.e., differing in kind). In Study 1, 130 undergraduates (M age = 19.2 years, ranging from 18 to 26) completed measures of explicit prejudice toward Muslims. These results largely supported a dimensional latent structure. In Study 2, 448 non-Hispanic participants (M age = 46.2 years, ranging from 18 to 86) completed three measures of explicit prejudice toward Hispanics (modern racism, social distance, and negative traits) via the internet. Results were consistent with a dimensional latent structure. Implications for promoting intergroup relations are discussed.

Keywords

prejudice, racism, racial attitudes, taxometrics

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Among social scientists, it is generally assumed—implicitly, if not explicitly—that prejudice is a dimensional attribute in which all individuals can be located somewhere along a continuum from low to high. By contrast, popular media and lay people sometimes describe those who espouse prejudicial attitudes toward racial or ethnic outgroup members as simply “racists” or “bigots” (ADL, 2005; CNN, 2006a; *Los Angeles Times*, 2007; *Wall Street Journal*, 2005; *Washington Post*, 2008). In the psychiatric community, it has even been proposed that racism should be considered a mental disorder (Bell, 2004). Although this may be due to the correspondence bias (Gilbert & Malone, 1995) in conjunction with the basic human tendency to categorize

our social world (e.g., Macrae & Bodenhausen, 2000), such classification may also reflect real, qualitative distinctions between prejudiced and non-prejudiced individuals. Despite the importance of this question—whether prejudice is a matter of *degree* or *kind*—no research has investigated whether the latent structure of prejudice is

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best conceptualized as dimensional or dichotomous. Moreover, this question has important implications for improving intergroup relations in multicultural societies. In the current research we provide evidence consistent with a dimensional latent structure of explicit prejudice.

Early personality and social psychologists were much concerned with prejudice (e.g., Adorno, Frenkel-Brunswick, Levinson, & Sanford, 1950; Allport, 1954/1979), and prejudice is still one of the most-studied phenomena in the social sciences. In recent decades, research on prejudice has examined numerous aspects of the topic. These include, among others, cognitive mechanisms such as stereotyping and perceived outgroup variability (Fiske, Cuddy, Glick, & Xu, 2002; Linville & Fischer, 1993; Ostrom & Sedikides, 1992); motivational processes such as social identification, group-serving bias, terror management, and perceptions of the extent to which outgroups violate ingroup values (Biernat, Vescio, & Theno, 1996; Pettigrew, 1979; Pyszczynski et al., 2006; Tajfel & Turner, 1986); societal-level causes such as the justification of status inequalities (Jost, Banaji, & Nosek, 2004; Sidanius & Pratto, 1999); and automatic, non-conscious mechanisms (e.g., Greenwald & Banaji, 1995; Greenwald, McGhee, & Schwartz, 1998; Harris & Fiske, 2006; Phelps et al., 2000; Ronquillo et al., 2007).

Within the context of individual differences, numerous prejudice-relevant constructs have been studied including social dominance orientation, right-wing authoritarianism, motivation to control prejudice, and belief in a just world (Adorno et al., 1950; Altemeyer, 1988; Lerner, 1980; Plant & Devine, 1998; Pratto, Sidanius, Stallworth, & Malle, 1994; Sidanius & Pratto, 1999). Relevant to the current study is Adorno and colleagues' classic research on the authoritarian personality (Adorno et al., 1950). Adorno et al. conceptualized authoritarians as a distinct personality type characterized by rigid conservatism, intolerance, and hatred of outgroups. Although Adorno et al.'s work has been criticized as being methodologically flawed and ideologically biased (Martin, 2001), this historical notion that prejudiced individuals could differ in

kind from non-prejudiced individuals has never been empirically evaluated.

Personality types have a distinguished history in psychology. In addition to the authoritarian personality, other prominent examples include Carl Jung's (1921/1923) typology (Myers, 1962); the Type A behavior pattern (Friedman & Rosenman, 1974); and more recently, the Type D (i.e., distressed) personality (Denollet, 2005). The decision to cast a personality variable as a type or a dimensional construct has largely been considered a matter of theoretical preference. For example, Adorno et al. (1950) chose to categorize authoritarianism because "...the world in which we live is typed and produces different types of persons" (p. 747).

Why does the latent structure of prejudice matter? Determining whether prejudice is a matter of degree or kind has meaningful consequences for how we assess prejudice and attempt to reduce it. Currently, the most commonly used method of assessing explicit prejudice is to use ordinal self-report measures where averaged, composite variables are created from multiple interrelated items (e.g., Glick & Fiske, 1996; Henry & Sears, 2002; Katz & Hass, 1988; McConahay, Hardee, & Batts, 1981). If the latent structure of prejudice is indeed dimensional, then this is a reasonable assessment method. However, if prejudice is dichotomous, the use of methods such as cut-off scores or the simple presence or absence of specific criteria that indicate group membership may be more appropriate. This is because categorical assessment methods are designed to best discriminate at a specific point that differentiates the two groups rather than along the entire dimension.

Regarding real-world applications, empirical evidence for a dimensional construct of prejudice would also encourage those who think of prejudice as a character flaw, exhibited by others, to reconsider their own potential for bigotry. To many who study racism, this is considered an essential step in prejudice reduction (Corlett, 2003). There is indeed some evidence from recent American national surveys that most individuals do tend to disavow prejudice in themselves but

not others. A CNN poll reported that 43% of whites and 48% of blacks know someone who is racist; however, only 13% of whites and 12% of blacks reported being racist themselves (CNN, 2006b). In another poll prior to the Obama/McCain presidential election, only 5% of white respondents reported that they would not vote for a black candidate, yet 19% estimated that most people they know would not vote for a black candidate (*New York Times*, 2008). Providing evidence of a dimensional structure of prejudice would make it more difficult for individuals to disavow their own prejudices. This could provide a motivational starting point for increasing the willingness to engage in behaviors that facilitate improved intergroup relations.

A group of statistical methods known as *taxometrics* has recently proven useful for empirically determining whether psychological constructs are best conceptualized as dimensional or taxonic (i.e., distinct categories). Taxometric methods offer a number of advantages over other analytical methods such as latent class analysis (for a detailed discussion, see Ruscio, Haslam, & Ruscio, 2006; Ruscio & Ruscio, 2004). Taxometric personality research has focused primarily on determining whether abnormal personalities are best considered types or dimensions. For instance, taxometric investigations have reported that antisocial personality disorder (Marcus, Lilienfeld, Edens, & Poythress, 2006) and psychopathy (Edens, Marcus, Lilienfeld, & Poythress, 2006) are best conceptualized as dimensional constructs, despite the taxonic description they are given in the American Psychiatric Association's classification system (2000).

The same logic underlying these investigations can be applied to normal individual differences. Specifically, a taxonic model would suggest that those possessing high levels of a certain personality characteristic are actually a different *kind of person* than those who possess lower levels of the characteristic. In the context of explicit racial prejudice, those who strongly endorse prejudiced beliefs may be classified as "racists", whereas those who do not endorse such beliefs (or endorse them to a lesser extent) may be considered

"non-racists" (e.g., Bell, 2004).¹ By contrast, a dimensional explanation would suggest that prejudice is a *matter of degree*. Levels of prejudice can be ascribed to all individuals and quantified along a continuum from low to high. The dimensional model appears to be the default assumption about the latent structure of most normal personality characteristics. This is evident in research on personality traits, the Big 5 personality dimensions² (Goldberg, 1993), and the preference given to factor analysis as the most commonly used analytic method to uncover latent personality *dimensions*. Indeed, in a discussion of the dimensional versus discrete nature of personality, Gangestad and Snyder (1985) concluded: "overwhelmingly, the basic units of personality are presumed to be dimensions" (p. 318) and that in personality psychology, there is a "prejudice against class [categorical] variables" (p. 317). Thus, the currently dominant theoretical model in abnormal personality is taxonic, whereas in normal personality psychology, the dimensional model is more prominent.

Haslam and Williams (2006) reviewed the literature on normal individual differences and concluded that despite its suitability, the application of taxometric methods has not been widely implemented in this domain. Furthermore, Haslam and Kim (2002) noted that "no taxometric studies have addressed cognitive variables such as abilities, aptitudes, *ideologies or attitudes*" (p. 308, italics added). The current investigation is the first such work. Given the psychological and social harm associated with discriminatory behavior, investigation of the latent structure of explicit prejudice is clearly worthy of investigation. Moreover, whereas the latent structure of prejudice is assumed to be dimensional, this assumption remains untested. Thus, the goal of the present work is to empirically examine the latent structure of prejudice.

What evidence suggests prejudice is dimensional versus taxonic? Although this remains an open question, there are sound arguments in favor of both outcomes. Because prejudice is an attitude, in terms of a taxonic explanation, prejudiced individuals should fundamentally differ

from non-prejudiced individuals in cognitive (prejudiced beliefs), affective (negative emotional reactions), and behavioral components (tendency toward discrimination). This taxonic explanation is echoed in Blum's (2002) claim that racists are those for whom bigotry, antipathy, and contempt become a part of the person's psychological makeup. Furthermore, as the degree of explicit prejudice has decreased in recent decades, it has become socially unacceptable to endorse racist attitudes or engage in discriminatory behavior. As a result, a categorical distinction may exist with anti-normative "racists" in one group and norm-abiding "non-racists" in the other group. Thus, within a society (in this instance, the US), racists may form a distinct subculture with distinct affective, cognitive, and behavioral processes.

There is also theoretical justification to be made in favor of a dimensional latent structure of prejudice. Support for a dimensional model would be consistent with social psychological models of the causes of prejudice. Allport (1954/1979) identified a wide range of causes of prejudice including cultural and situational variables such as the quality and quantity of intergroup contact. Because these variables are themselves dimensional (e.g., intergroup quality can vary from very poor to very good) and these causes of prejudice demonstrate linear relationships with prejudice, it seems that the most likely latent structure of prejudice is dimensional. Indeed, the degree and quality of contact individuals have with outgroup members influences prejudice in a linear and continuous manner (e.g., Pettigrew & Tropp, 2006). Further support for the dimensional structure of prejudice is witnessed in social influence explanations of the development of prejudice. For instance, individuals vary in the extent to which they are exposed to influential sources of prejudice (e.g., prejudiced peers, biased media), and social influence models suggest that in the absence of prejudice-reducing moderators, the effects of exposure to sources of prejudice should linearly and additively increase prejudice. Another influential social psychological perspective on prejudice, realistic conflict theory (RCT), is also consistent

with a dimensional conceptualization of prejudice. According to RCT, individuals vary in the extent to which they perceive competition with outgroups. As with other social psychological perspectives on the causes of prejudice, the key aspect of RCT is that it is this continuous variation in the causal antecedent (i.e., perceived competition or threat) that linearly determines the extent to which an individual endorses prejudiced attitudes. In summary, a large body of social psychological theorizing and research on the causes of prejudice is largely consistent with a dimensional latent structure.

The present research

We conducted two studies with the goal of reconciling dimensional and categorical conceptualizations of prejudice. This research was motivated by two untested assumptions. First, although there is some historical precedent for considering prejudiced individuals as a unique class of individuals and the media still promote this view of prejudice (e.g., Adorno et al., 1950; Bell, 2004; Blum, 2002), no research has examined whether prejudice can be conceptualized in this manner. Second, the dimensional latent structure that is commonly assumed among social and personality psychologists has never been empirically validated, despite important implications for research and intergroup relations in multicultural societies. Thus, the present research examined whether prejudice should best be conceptualized as dimensional or categorical.

In the present research, participants completed three measures of prejudice via the internet. We then applied two non-redundant taxometric methods to determine whether the latent structure of prejudice is best considered dimensional or categorical. Taxometric methods do not rely on traditional significance tests in order to reach a decision. Rather, taxonic and dimensional simulated data is created that shares the same distributional properties as the actual data. Researchers then compare the graphic output of the actual data to the simulated taxonic and dimensional data. A conclusion is drawn when the actual data is more similar to either the taxonic or dimensional data.

A secondary quantitative analysis, known as a consistency check, is also employed to aid in the decision-making. Furthermore, replication across two distinct taxometric methods lends confidence to the findings. Thus we utilized both the MAXimum COVariance (MAXCOV) and Mean Above Minus Below a Cut (MAMBAC) procedures in the present research.

Study 1

In this initial test of the latent structure of prejudice, Study 1 examined explicit prejudice toward Muslims in a sample of undergraduate students. Specifically, participants completed three measures of explicit prejudice, which we analyzed with two taxometric procedures.

Method

Participants and procedure A total of 130 (34% male, $M = 19.2$ years, $SD = 1.57$, ranging from age 18 to 26) California State University, Long Beach undergraduates completed the three measures of explicit prejudice via the internet in exchange for extra course credit. The ethnic composition of the sample was 39% white, 36% Hispanic, 19% Asian, 3% black, and 3% other ethnicity. There were no gender differences in levels of prejudice.

Measures of explicit prejudice Because any single observed variable is an imperfect indicator of a latent construct (i.e., contains error variance), taxometric procedures rely on multiple observed variables to measure the latent variable. We therefore selected three different types of indicators designed to assess common as well as unique aspects of explicit prejudice. Each indicator is described in turn.

Modern Racism Scale (MRS) The MRS was originally designed to assess explicit attitudes toward African Americans (McConahay et al., 1981). We modified the seven-item MRS by replacing the word “black” with “Muslim”. Sample items included “It is easy to understand the anger of Muslim people in America” (reverse

scored) and “Muslims should not push themselves where they’re not wanted”. Response options ranged from 1 (strongly disagree) to 5 (strongly agree). The items were averaged. Higher scores represent more negative attitudes toward Muslims, $M = 2.13$, $SD = 0.58$, median = 2.21, values ranged from 1 to 5, $\alpha = .73$.

Social Distance Scale (SDS) The Bogardus (1933) seven-item Social Distance Scale was used to assess negative behavioral tendencies toward Muslims. Sample items included “I would admit Muslims as close relatives by marriage” and “I would admit Muslims as neighbors on the same street”. Response options were dichotomous forced choice (i.e., “yes” or “no”). “No” responses were summed to create an index of social distance. Higher values represent more distancing away from Muslims, $M = 1.62$, $SD = 0.95$, median = 1.00, values ranged from 0 to 7. The SDS was one of the first attitude measures and is still in recent use (e.g., Angermeyer & Matschinger, 2003).

Negative traits In order to assess stereotypical trait beliefs, participants indicated the percentage of Muslims that possess each of five negative traits (i.e., physically violent, rebellious, criminal tendencies, dirty/smelly, and noisy). The scores from the five traits were averaged. Higher scores indicate an increasingly negative view of Muslims ($M = 30\%$, $SD = 20\%$, median = 27%, values range from 0 to 100%, $\alpha = .84$). Such percentage estimates of stereotypical traits have been used in the prejudice literature (e.g., Jackson et al., 1996; Strube & Rahimi, 2006).

Taxometric procedures Replication across more than one taxometric procedure is necessary in order to have confidence in the results obtained from these analyses. Thus, our analytic strategy consisted of using two nonredundant taxometric methods developed by Meehl and Yonce (1994, 1996): MAXCOV and MAMBAC. These procedures use quantitative methods to determine whether qualitative differences exist in the latent structure in the construct of interest, in our case, explicit prejudice. We used programs written by Ruscio et al. (2006) for the R software package.

For each method, we created 10 dimensional and 10 taxonic simulated data sets based on the distributional features of the research data. Since skew may produce misleading results (e.g., peaks in the absence of a taxonic latent structure; see Ruscio, Ruscio, & Keane, 2002, 2004), simulated data provides advantages because it enables comparison of the taxometric results between the research data and simulated data with the same skew and kurtosis (Ruscio, 2007; Ruscio & Marcus, 2007; Ruscio, Ruscio, & Meron, 2007). Such parallel analyses with simulated data are now common procedures in taxometric investigations (e.g., Denson & Earleywine, 2006; Marcus, Johns, & Edens, 2004; Ruscio & Marcus, 2007; Ruscio et al., 2002, 2004).

The concept underlying MAMBAC is that if the construct is discrete, there should be an optimal score that separates the two groups (Meehl & Yonce, 1994; Ruscio et al., 2006). Ruscio et al.'s (2006) MAMBAC program allows analyses with one variable serving as an output variable, while a composite of the remaining indicators serves as the input variable, thus providing more power than traditional MAMBAC procedures. Our MAMBAC analysis therefore produced three graphs, one for each indicator. Cases were ordered along the input variable. Each composite input indicator was then partitioned into 50 evenly spaced cuts beginning at 25 cases from each extreme. At each cut, the variables were standardized and the difference score of the means on the output variable for those cases located above and below the cut were plotted on the y-axis. A peak in the graph, which represents the optimal point for maximally separating the two groups, indicates taxonicity. Dimensional results appear nonpeaked.

We relied on MAXCOV as our second non-redundant taxometric procedure (Meehl & Yonce, 1996; Ruscio et al., 2006). In MAXCOV one indicator serves as an input variable (x) and the remaining two indicators serve as output variables (y). Thus, the current data were ordered according to their scores on each of the three explicit prejudice measures (i.e., the input variable). They were then transformed into standardized scores, and

cut into 50 sections overlapping by 90% (i.e., windows with 90% overlap). For each of three input variables, the remaining two items were removed to serve as output variables. The covariance of the two output variables was then plotted on the y-axis for each of the 50 windows across the x-axis. This process was repeated for all additional combinations of two output variables. Taxonic figures generally have a peak in the section where the taxon and complement groups are most evenly split. Dimensionality is generally indicated by a nonpeaked curve. Variables were standardized for the analyses.

In addition to the visual inspection of the graphs, for each of the taxometric procedures, we relied on a secondary check of the latent structure of prejudice. This *consistency test* (Ruscio et al., 2006) consisted of examining the Comparison Curve Fit Index (CCFI). The CCFI is a quantitative measure of relative fit, which assesses the degree to which the research data resemble dimensional or taxonic latent structure. Values range from 0 to 1. A value of .50 indicates equally good fit of dimensional and taxonic models and to the extent that the CCFI is below (above) .50, it provides increasingly strong evidence supporting dimensional (taxonic) structure (Ruscio et al., 2006).

Results and discussion

MAMBAC

Indicator validities and nuisance covariance Prior to conducting taxometric analyses, one must first examine the suitability of the data for these procedures. This entails (a) ensuring that the indicators are of sufficient validity to detect the existence of a taxon should one exist, and (b) ensuring that the mean correlation among the measures in the putative taxon and complement groups is small (also known as nuisance covariance). In the context of taxometrics, indicator validity refers to large enough standardized mean differences in scores on each of the three indicators between the putative taxon and complements groups.

Using the MAMBAC base rate estimate, the standardized mean differences between members

of the putative taxon ($N = 54$) and complement ($N = 76$) groups were calculated for each of the three indicators. These validity estimates revealed adequate validities for the MRS (1.46), social distance measure (1.27), and the negative stereotypic traits (1.41). The average indicator validity was 1.38 ($SD = .10$), larger than the suggested average minimum of 1.25 (Meehl, 1995). Table 1 displays the correlations among the measures. As expected, there were significant correlations among all of the measures in the full sample but not in the putative taxon and complement groups. Indeed, nuisance covariance was extremely low. The mean correlation among the measures was larger in the entire sample, $r = .30$, $SD = .04$, than the mean correlations in the putative taxon group, $r = -.05$, $SD = .09$, and putative complement group, $r = .03$, $SD = .11$. Thus, the data were considered suitable for conducting the MAMBAC analyses.

Results Figure 1 presents the averaged curve for the research data as well as the 10 simulated taxonic and 10 simulated dimensional datasets. As can be seen in Figure 1, the results for the primary analyses supported a dimensional latent structure. Specifically, the simulated taxonic data peak in the upper third of the distribution, whereas the research data and simulated data appear flat. Thus, the research data more strongly resemble the

Table 1. Correlations among the measures as a function type of analysis and putative group membership for Study 1 indicators.

	MRS	SDS
Full sample ($N = 130$)		
SDS	.30***	–
Neg. traits	.33***	.27**
MAMBAC procedures		
Putative taxon ($n = 54$)		
SDS	–.00	–
Neg. traits	.01	–.15
Putative complement ($n = 76$)		
SDS	–.05	–
Neg. traits	–.02	.16
MAXCOV procedures		
Putative taxon ($n = 77$)		
SDS	.03	–
Neg. traits	.02	.03
Putative complement ($n = 53$)		
SDS	.02	–
Neg. traits	–.12	.12

Note: ** $p < .01$; *** $p < .001$.

simulated dimensional data than taxonic data. Moreover, the low CCFI value ($CCFI = .248$) suggested that these results strongly favor a dimensional latent structure of explicit prejudice toward Muslims.

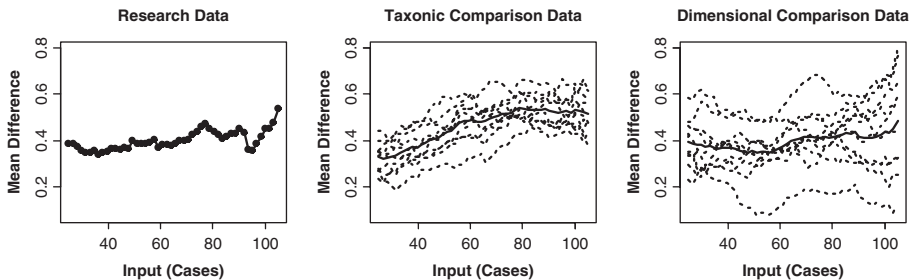


Figure 1. The averaged MAMBAC curves for the research data, simulated taxonic data, and simulated dimensional data for Study 1. The simulated data was based on 10 simulations. The x-axis represents the average of all possible composites of two of the three indicators ordered and cut at 50 intervals beginning 25 cases from either extreme. This is the input variable. The variable not included as part of the input variable composite served as the output variable. At each cut, mean scores for those cases above and below the cut value were calculated. This mean difference is plotted on the y-axis. All variables were standardized. The research data more closely resemble the simulated dimensional data than the simulated taxonic data.

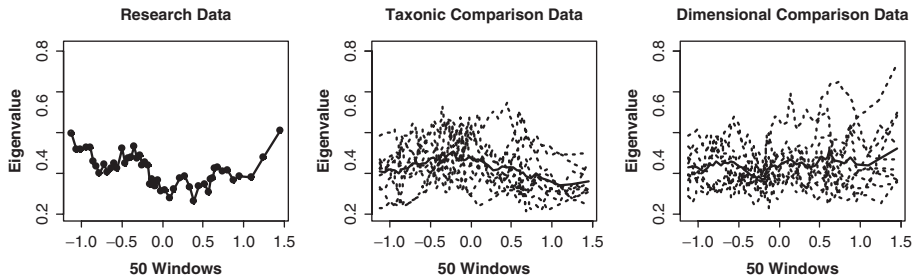


Figure 2. The averaged MAXCOV curves for the research data, simulated taxonic data, and simulated dimensional data for Study 1. The simulated data was based on 10 simulations. The x-axis represents a composite of two of the three prejudice measures ordered and divided into 50 sections (i.e., windows) with 90% overlap ($n = 22$ per window). This is the input variable. The correlation between the remaining two indicators (output variables) is plotted on the y-axis for each window. This process was repeated for all three possible input–output combinations. All variables were standardized. These results were somewhat ambiguous, although the research data slightly more closely resemble the simulated dimensional data than the simulated taxonic data.

MAXCOV

Indicator validities and nuisance covariance Using the MAXCOV base rate estimate, the standardized mean differences between members of the putative taxon ($N = 77$) and complement ($N = 53$) groups were calculated for each of the three indicators. These validity estimates revealed adequate validities for the MRS (1.76) and negative stereotypic traits (1.25), but the validity for the social distance measure was lower (0.96). However, the average indicator validity was 1.32 ($SD = .40$), larger than the suggested average minimum of 1.25 (Meehl, 1995). Nuisance covariance was extremely low. The mean correlation among the measures was larger in the entire sample, $r = .30$, $SD = .04$, than the mean correlations in the putative taxon group, $r = .03$, $SD = .01$, and putative complement group, $r = .01$, $SD = .12$. Thus, the data were considered suitable for conducting the MAXCOV analyses.

Results The results for the primary analyses were somewhat ambiguous. Figure 2 presents the averaged curve for the research data as well as the 10 simulated taxonic and 10 simulated dimensional datasets. The research data slightly resembled the simulated dimensional data; however, the CCFI value (CCFI = .497) suggests that no conclusion should be made about the latent structure

of explicit prejudice toward Muslims based on the MAXCOV procedure. One possible reason for this failure of the MAXCOV procedure to provide stronger evidence in favor of a dimensional or taxonic structure is that the mean indicator validity was barely above the recommended minimum value. The low validity was likely due to sampling error resulting from our relatively small sample. Study 2 addressed this limitation.

Study 2

In Study 2, we examined explicit prejudice toward a second outgroup (i.e., Hispanics) in a much larger sample of American internet users. Results consistent with a dimensional latent structure in this larger sample would lend more confidence to our notion that explicit prejudice should best be conceptualized as dimensional. In Study 2, we examined prejudice against Hispanics in the context of the 2006 immigration debate in the United States. This period was characterized by sending National Guard soldiers to stop illegal immigration at the border with Mexico, government crackdowns on employers hiring illegal aliens (81% of whom are from Mexico and other Latin American countries; Passel, 2005), a debate in the federal government regarding building a wall between Mexico and the United States, and a nationwide event, dubbed “A Day Without

Immigrants” in which hundreds of thousands of primarily Hispanic individuals took to the streets in protest of proposed immigration legislation (CNN, 2006c).

This time period was especially appropriate because for many Americans Hispanic immigration is a source of both symbolic and realistic threats to the ingroup (Stephan & Stephan, 2000). Symbolic threats are perceptions that the ingroup’s norms and ways of life are being subverted by the outgroup (e.g., “America is turning Hispanic”). Indeed, many protesters carried Mexican flags on the “Day Without Immigrants”. Realistic threats represent competition between the ingroup and outgroup over scarce resources (e.g., “Hispanics are taking American jobs”). In the context of this debate, we expected that prejudiced individuals would be more likely to express their true levels of prejudice, because they would feel justified in defending themselves against these two types of perceived threats. More specifically, by eliciting true levels of explicit prejudice, this sampling strategy would permit us to obtain data from enough highly prejudiced individuals to detect a categorical distinction between racists and non-racists, should one exist.

Method

Participants, materials, and procedure A total of 448 (60% male, $M = 46.2$ years, $SD = 15.9$, ranging from age 18 to 86) non-Hispanic participants completed the same three measures of explicit prejudice used in Study 1 at a time and place of their choosing via the internet. The measures were modified to refer to Hispanics rather than Muslims. These measures were the MRS ($M = 3.34$, $SD = 1.22$, median = 3.57, $\alpha = .92$), SDS ($M = 1.49$, $SD = 2.20$, median = 0), and negative traits ($M = 38\%$, $SD = 26\%$, median = 31%, $\alpha = .91$).³

In an effort to obtain a sufficient number of prejudiced individuals in the general population, we recruited participants from either a website dedicated to the discussion of immigration issues ($n = 286$), or through an advertisement directed toward those individuals who used the

Google search engine ($n = 162$) to locate immigration-related topics (e.g., illegal immigration, Mexican immigration, illegal aliens). The ethnic composition of the sample was 87% white, 8% black, 4% Asian, and less than 2% Native American.⁴ The median and modal education was “some college.”

Results and discussion

Demographic variables Men reported higher scores on the MRS than women, $M_{men} = 3.53$, $SD_{men} = 1.10$, $M_{women} = 3.05$, $SD_{women} = 1.33$, $T^*_Y = 3.72$, $p = .002$ (Wilcox, 2005).⁵ Men and women did not differ on the social distance or negative trait measures. Older age was related to increased scores on the MRS, $r = .39$, $p < .001$, and marginally more social distance items, $r = .08$, $p = .10$, but was unrelated to the trait measure. More education was related to lower scores on the MRS, $r = -.11$, $p = .02$, and marginally less negative traits, $r = -.09$, $p = .07$, but was unrelated to the social distance measure. Whites reported higher scores on the MRS than (non-Hispanic) participants of color, $M_{whites} = 3.41$, $SD_{whites} = 1.20$, $M_{of\ color} = 2.90$, $SD_{of\ color} = 1.26$, $T^*_Y = 2.78$, $p = .01$, but the two groups did not differ on the other two indicators. Participants who responded to the immigration website reported higher scores on the MRS, $M = 3.63$, $SD = 1.07$, than the Google search, $M = 2.84$, $SD = 1.29$, $T^*_Y = 6.79$, $p < .001$. They also reported higher scores on the SDS, $M = 1.63$, $SD = 2.20$ vs. $M = 1.24$, $SD = 2.17$, $T^*_Y = 2.95$, $p < .001$, and negative traits, $M = 39\%$, $SD = 25$ vs. $M = 35\%$, $SD = 28$, $T^*_Y = 2.43$, $p = .01$, although these latter two effects were quite small in magnitude, Cohen’s d s = .18 and .15, respectively.⁶

MAMBAC

Indicator validities and nuisance covariance Using the MAMBAC base rate estimate, the standardized mean differences (i.e., Cohen’s d) between members of the putative taxon ($N = 166$) and complement ($N = 282$) groups were first calculated. These validity

estimates revealed adequate validities for the MRS (1.90), social distance measure (1.93), and the negative stereotypic traits (2.18). Thus, the average indicator validity was 2.01 ($SD = .15$), larger than the suggested minimum of 1.25 (Meehl, 1995). As expected, the mean correlation among the measures was fairly large in the entire sample, $r = .56$, $SD = .04$, yet nuisance covariance was fairly low. The mean correlations in the putative taxon group, $r = .15$, $SD = .13$, and putative complement group, $r = .15$, $SD = .14$, were considerably smaller. Thus, the data were deemed suitable for conducting the MAMBAC analyses. The correlations among the complete set of measures are presented in Table 2.

Results Figure 3 presents the averaged curve for the research data as well as the 10 simulated taxonic and 10 simulated dimensional datasets. As expected, the simulated taxonic data appeared to peak at the upper third of the ordered sample, whereas the simulated dimensional data appeared concave and non-peaked. The research data most strongly resembled the simulated dimensional data. Examination of the individual indicator curves demonstrated a dimensional appearance for all three measures, i.e., non-peaked. The relatively small CCFI value provided further evidence for a dimensional structure of explicit prejudice, $CCFI = .246$.

Table 2. Correlations among the measures as a function type of analysis and putative group membership for Study 2 indicators.

	MRS	SDS
Full sample ($N = 448$)		
SDS	.52***	–
Neg. traits	.58***	.59***
MAMBAC procedures		
Putative taxon ($n = 166$)		
SDS	.15	–
Neg. traits	.03	.28***
Putative complement ($n = 282$)		
SDS	.19**	–
Neg. traits	.26***	–.01
MAXCOV procedures		
Putative taxon ($n = 148$)		
SDS	.25**	–
Neg. traits	.14	.50***
Putative complement ($n = 300$)		
SDS	.30***	–
Neg. traits	.38***	–.07

Note: ** $p < .01$; *** $p < .001$.

In summary, these results provide consistent evidence of a dimensional latent structure of explicit prejudice.

MAXCOV

Indicator validities and nuisance covariance Using the MAXCOV base rate estimate, the

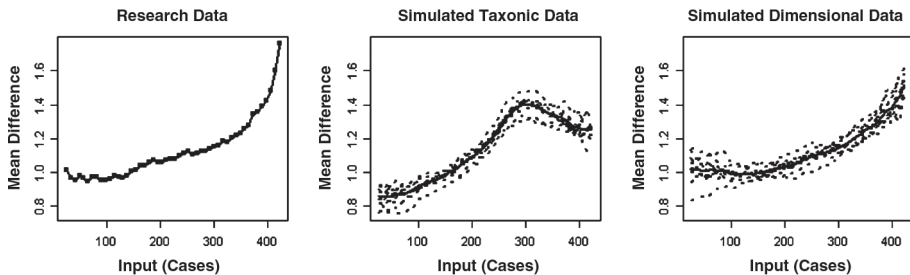


Figure 3. The averaged MAMBAC curves for the research data, simulated taxonic data, and simulated dimensional data for Study 2. The simulated data was based on 10 simulations. The x-axis represents the average of all possible composites of two of the three indicators ordered and cut at 50 intervals beginning 25 cases from either extreme. This is the input variable. The variable not included as part of the input variable composite served as the output variable. At each cut, mean scores for those cases above and below the cut value were calculated. This mean difference is plotted on the y-axis. All variables were standardized. The research data more closely resemble the simulated dimensional data than the simulated taxonic data.

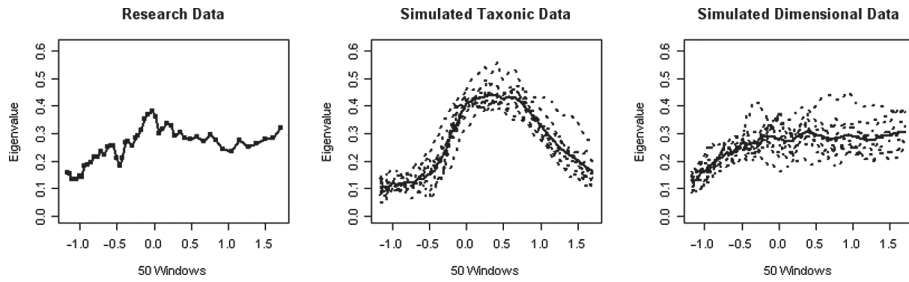


Figure 4. The averaged MAXCOV curves for the research data, simulated taxonic data, and simulated dimensional data for Study 2. The simulated data was based on 10 simulations. The x-axis represents a composite of two of the three prejudice measures ordered and divided into 50 sections (i.e., windows) with 90% overlap ($n = 76$ per window). This is the input variable. The correlation between the remaining two indicators (output variables) is plotted on the y-axis for each window. This process was repeated for all three possible input–output combinations. All variables were standardized. The research data more closely resemble the simulated dimensional data than the simulated taxonic data.

standardized mean differences (i.e., mean differences expressed in standard deviation units; also known as Cohen's d) between members of the putative taxon ($N = 148$) and complement ($N = 300$) groups were calculated for each of the three indicators. These validity estimates revealed adequate validities for the MRS (1.46), social distance measure (1.85), and the negative stereotypic traits (2.18). Thus, the average indicator validity was 1.83 ($SD = .36$), larger than the suggested average minimum of 1.25 (Meehl, 1995). Nuisance covariance was fairly low. Specifically, the mean correlations in the putative taxon group, $r = .30$, $SD = .18$, and putative complement group, $r = .20$, $SD = .24$, were of moderate magnitude, and were no larger than .30 as suggested by Meehl (1995). Thus, the data were considered suitable for conducting the MAXCOV analyses.

Results Figure 4 presents the averaged curve for the research data as well as the 10 simulated taxonic and 10 simulated dimensional datasets. As expected, the simulated taxonic data appeared peaked, whereas the simulated dimensional data appeared primarily flat and slightly irregular. The research data most strongly resembled the simulated dimensional data. Examination of the individual indicator curves demonstrated a dimensional appearance for all three measures, i.e., non-peaked.

The relatively small CCFI value provided further evidence for a dimensional structure of explicit prejudice, $CCFI = .286$. In summary, these results provide consistent evidence of a dimensional latent structure of explicit prejudice.

General discussion

Two studies using two non-redundant taxometric methods examined the latent structure of explicit prejudice toward two outgroups. This was the first use of these methods to assess the latent structure of attitudes. Although not entirely unequivocal, the findings from Study 1 were largely consistent with a dimensional latent structure of explicit prejudice. Specifically, the MAMBAC analyses strongly supported a dimensional structure whereas the MAXCOV analyses did not support either a dimensional or taxonic structure. The results of Study 1 should be interpreted more cautiously than those of Study 2 due to the smaller sample size in the first study. Study 2 provided stronger empirical support for a dimensional conceptualization of the latent structure of prejudice. This finding was further bolstered by dimensional conclusions from a secondary consistency check within each method. Taken together, the results of the current investigation suggest that the latent structure of prejudice is

best conceptualized as dimensional in nature and not categorical.

Social scientists continue to try to explain the systemic racial divisions visible in society given the fact that the levels of “old fashioned” explicit racism have fallen (Pena, Sidanius, & Sawyer, 2004; Sax, Lindholm, Astin, Korn, & Mahoney, 2002). In recent years, research focusing on the assessment of implicit prejudice has provided one explanation for the continued existence of prejudice. This research has revealed the existence of subtle biases, often outside of conscious awareness, favoring ingroups over outgroups. One of the reasons that implicit tests of racism are intriguing is that it allows us to find convergent evidence for the racism that we see in society and the racism that we posit to exist in the average person. Still, many people who take implicit racism tests may doubt the meaning of their own test results (e.g., Blanton & Jaccard, 2006). Although there may indeed be valid methodological reasons for doubt (Brendl, Markman, & Messner, 2001), people’s scepticism is likely bolstered by motivated reasoning to see oneself as “not a racist”. While psychologists may have nuanced ideas as to what constitutes racism, Sommers and Norton (2006) have shown that the average person is more likely to think of old fashioned blatant racism when characterizing racists. Further, those individuals who score higher on the MRS were found to be less likely to include more subtle and psychological factors in determining whether or not someone could be considered racist. Yet it is these very people who need to be open to interventions to address their subtle form of racism if societal racism is ever to be addressed. Publicized empirical evidence that racism is a dimension rather than a kind will hopefully help in this regard.

These current results have implications for assessment and research. First, our findings suggest that individual differences in prejudice should continue to be assessed with ordinal and continuous measures, and future measures of prejudice should also use these scales of measurement. Thus, this commonly used assessment method appears warranted, but measures based

on categorical classifications are not. Thus, it would not be fruitful to search for prejudiced “types” but rather, future research should focus on determining what contributes to the development of prejudice and what factors might reduce its harmful effects. In this manner, prejudice reduction interventions could be targeted toward all individuals as incremental reductions in prejudice would be possible for individuals of varying levels of prejudice. However, such an approach might best take into consideration individuals’ latitudes of acceptance and rejection regarding prejudice. Individuals maintain a range of acceptance around a certain attitude which is typically truncated by high levels of personal involvement (Sherif & Sherif, 1967). Thus, those who endorse high levels of explicit prejudice might be most responsive, if at all, to attitude change messages that are only slightly discrepant from their current views. Attempts at attitude change are likely to be more difficult and time-consuming with such individuals than with relatively less prejudiced individuals who are likely to have a latitude of rejection that precludes the endorsement of even somewhat prejudiced attitudes. Such individuals would therefore be more amenable to anti-prejudice messages than highly prejudiced individuals.

We also note that we have used the terms “taxon” and “type” interchangeably. A prejudiced personality type, such as Adorno et al.’s (1950) conceptualization of the authoritarian personality, is only one manner by which individuals might differ in *kind*. The hypothesis that we tested in the present research refers only to prejudicial attitudes as indicated by our selection of measures. Although we assessed three different aspects of prejudice, we did not examine related, correlated attributes that might constitute a prejudiced “type” of person. Our data do, however, suggest that at least one core aspect of such a personality type—prejudicial attitudes—differs in degree rather than kind.

The current work was also limited in some aspects. One limitation concerns our slightly limited selection of prejudice measures. We selected the three indicators because they assessed unique

aspects of prejudice (i.e., modern racism, behavioral inclinations toward discrimination, and stereotype endorsement) and because all three measures were disparate in their response options (i.e., Likert-type scales, forced choice, and percentage estimates), thus eliminating unwanted shared method variance. Still, it is possible that our results would have differed had we chosen other measures of explicit prejudice. Finally, combined data sets might contribute to spurious taxonic findings. Recall that the two sets of participants in Study 2 differed on some of the prejudice measures. Typically mixed samples of this nature would increase the chance of producing categorical findings. However, since our data demonstrated a dimensional solution even despite these mean differences in website recruitment, combining the data sets did not pose a threat to the validity of our results and provided support for the robustness of the dimensional solution.

Prejudice is a serious threat to the egalitarian aims of modern, democratic, multicultural societies. Martin Luther King, Jr., (1964) in a letter from a Birmingham jail, revealed his disappointment with white clergymen, who shared his goals, but resisted taking action. Perhaps these clergymen saw the prejudice of their time as something outside of themselves and their immediate control. The present research may help us reduce the chance of making this same mistake by confirming what many psychologists assumed, but what many lay people do not (Blum, 2002; Corlett, 2003; Sommers & Norton, 2006): that racists are not a separate *kind* of people, but rather individuals who demonstrate a greater *degree* of prejudice along a common dimension.

Notes

1. It is also important to note that a taxonic conceptualization does not exclude continuous variation. For example, prejudice may consist of two distinct categories; however, each category would possess some degree of within-class variability. In other words, individuals are not all identical within a single category.
2. On a historical note, extraversion was once conceptualized as a discrete type (cf. Myers, 1962).

3. Because the SDS was skewed, as a sensitivity test, we replicated the dimensional results with a log-transformation of this variable.
4. In order to be certain that the results obtained were not due to the inclusion of participants of color in the sample, we conducted additional analyses with only white participants ($N = 388$). These results replicated the dimensional findings in the larger sample. We report the results for the entire sample because it more accurately represents the population that we wish to generalize to (viz. the non-Hispanic US population).
5. Recently, Wilcox and Keselman (2003) reviewed a substantial body of evidence suggesting that traditional methods of inferential statistics based on means perform poorly under most circumstances encountered in psychological research (e.g., heavy tails, slight skewness, heteroscedasticity). These authors demonstrated that bootstrap methods and analyses with trimmed means provide superior performance relative to traditional procedures. Because socially undesirable behaviors such as prejudice are not well approximated by normal distributions and because arbitrarily small violations of the assumptions of normality or homogeneity of variance may greatly decrease the sensitivity of traditional analysis of variance methods and produce biased results (Wilcox, 1998; Wilcox, 2005; Wilcox & Keselman, 2003), we adopted the robust statistical methods advocated by Wilcox and colleagues. These methods accurately control Type I error rate, provide increased power, and tolerate violations of the homogeneity and normality assumptions.
6. Combined data sets might contribute to spurious taxonic findings. However, since our data demonstrated a dimensional solution despite mean differences in website recruitment, combining the data sets did not pose a threat to the validity of our results and provided support for the robustness of the dimensional solution.

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References

- Adorno, T., Frenkel-Brunswik, E., Levinson, D., & Sanford, R. N. (1950). *The authoritarian personality*. New York: Harper.
- Anti-Defamation League (ADL) (2005, September 9). Racists blame Jews, seek to help whites only in hurricane's aftermath. Retrieved July 29, 2008, from http://www.adl.org/main_extremism/Hurricane_Katrina.htm
- Allport, G. W. (1954/1979). *The Nature of Prejudice*. Reading, MA: Addison-Wesley.
- Altemeyer, B. (1988). *Enemies of freedom: Understanding right-wing authoritarianism*. San Francisco, CA: Jossey-Bass.
- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.; DSM-IV-TR). Washington, DC.
- Angermeyer, M. C., & Matschinger, H. (2003). The stigma of mental illness: Effects of labelling on public attitudes towards people with mental disorder. *Acta Psychiatrica Scandinavica*, *108*, 304–309.
- Bell, C. (2004) Racism: A mental illness. *Psychiatric Services*, *55*, 1343.
- Biernat, M., Vescio, T. K., & Theno, S. A. (1996). Violating American values: A "value congruence" approach to understanding outgroup attitudes. *Journal of Experimental Social Psychology*, *32*, 387–410.
- Blanton, H., & Jaccard, J. (2006). Arbitrary metrics in psychology. *American Psychologist*, *61*, 27–41.
- Blum, L. (2002) "I'm Not a Racist, But . . .": *The Moral Quandary of Race*. Ithaca, NY: Cornell University Press.
- Bogardus, E. S. (1933). A social distance scale. *Sociological Social Research*, *17*, 265–271.
- Brendl, C. M., Markman, A. B., & Messner, C. (2001). How do indirect measures of evaluation work? Evaluating the inference of prejudice in the Implicit Association Test. *Journal of Personality and Social Psychology*, *81*, 760–773.
- CNN (2006a, October 12). Commentary: Minutemen have a right to be idiotic. Retrieved July 29, 2008, from <http://edition.cnn.com/2006/US/10/12/navarrette/index.html>
- CNN (2006b, December 12). Poll: Most Americans see lingering racism—in others. Retrieved August 19, 2008, from <http://edition.cnn.com/2006/US/12/12/racism.poll/index.html>
- CNN (2006c, May 3). Hundreds of thousands march for immigrant rights. Retrieved April 3, 2007, from <http://www.cnn.com/2006/US/05/02/immigrant.day/>
- Corlett, J. A. (2003). *Race, racism, and reparations*. Ithaca, NY: Cornell University Press.
- Denollet, J. (2005). DS14: Standard assessment of negative affectivity, social inhibition, and Type D personality. *Psychosomatic Medicine*, *6*, 789–797.
- Denson, T. F., & Earleywine, M. (2006). Pothead or pot smoker? A taxometric investigation of cannabis dependence. *Substance Abuse Treatment, Prevention, and Policy*, *1*, 22.
- Edens, J. F., Marcus, D. K., Lilienfeld, S. O., & Poythress, N. G. (2006). Psychopathic, not psychopath: Taxometric evidence for the dimensional structure of psychopathy. *Journal of Abnormal Psychology*, *115*, 131–144.
- Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, *82*, 878–902.
- Friedman, M., & Rosenman, R. H. (1974). *Type A behavior and your heart*. New York: Knopf.
- Gangestad, S., & Snyder, M. (1985). "To carve nature at its joints": On the existence of discrete classes in personality. *Psychological Review*, *92*, 317–349.
- Gilbert, D. T., & Malone, P. S. (1995). The correspondence bias. *Psychological Bulletin*, *117*, 21–38.
- Glick, P., & Fiske, S. T. (1996). The Ambivalent Sexism Inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology*, *70*, 491–512.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, *48*, 26–34.
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*, *102*, 4–27.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, *74*, 1464–1480.
- Harris, L. T., & Fiske, S. T. (2006). Dehumanizing the lowest of the low: Neuroimaging responses to extreme out-groups. *Psychological Science*, *17*, 847–853.
- Haslam, N., & Kim, H. C. (2002). Categories and continua: A review of taxometric research. *Genetic*,

- Social, and General Psychology Monographs*, 128, 271–320.
- Haslam, N., & Williams, B. (2006). Taxometrics. In S. Strack (Ed.) *Differentiating normal and abnormal personality* (2nd ed.), pp. 283–308. New York: Springer.
- Henry, P. J., & Sears, D. O. (2002). The Symbolic Racism 2000 Scale. *Political Psychology*, 23, 253–283.
- Jackson, L. A., Hodge, C. N., Gerard, D. A., Ingram, J. M., Ervin, K. S., & Sheppard, L. A. (1996). Cognition, affect, and behavior in the prediction of group attitudes. *Personality and Social Psychology Bulletin*, 22, 306–316.
- Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology*, 25, 881–920.
- Jung, C. G. (1921/1923). *Psychological Types* (Trans. H. G. Baynes). London: Kegan Paul Trench Trubner.
- Katz, I., & Hass, R. G. (1988). Racial ambivalence and American value conflict: Correlational and priming studies of dual cognitive structures. *Journal of Personality and Social Psychology*, 55, 893–905.
- King, M. L. (1964). *Why we can't wait*. New York: Signet.
- Lerner, M. (1980). *The belief in a just world*. New York: Plenum Press.
- Linville, P. W., & Fischer, G. W. (1993). Exemplar and abstraction models of perceived group variability and stereotypicality. *Social Cognition*, 11, 92–125.
- Los Angeles Times* (2007, April 11). Don Imus: The good-natured racist. Retrieved July 29, 2008, from <http://www.latimes.com/news/opinion/la-oe-rice-11apr11,0,5538321.story?coll=la-opinion-righttrail>
- Macrae, C. N., & Bodenhausen, G. V. (2000). Social cognition: Thinking categorically about others. *Annual Review of Psychology*, 51, 93–120.
- Marcus, D. K., John, S. L., & Edens, J. F. (2004). A taxometric analysis of psychopathic personality. *Journal of Abnormal Psychology*, 113, 626–635.
- Marcus, D. K., Lilienfeld, S. O., Edens, J. F., & Poythress, N. G. (2006). Is antisocial personality disorder continuous or categorical? A taxometric analysis. *Psychological Medicine*, 36, 1571–1581.
- Martin, J. L. (2001). The authoritarian personality, 50 years later: What lessons are there for political psychology? *Political Psychology*, 22, 1–25.
- McConahay, J. B., Hardee, B. B., & Batts, V. (1981). Has racism declined in America? It depends on who is asking and what is asked. *Journal of Conflict Resolution*, 25, 563–579.
- Meehl, P. E. (1995). Bootstraps taxometrics: Solving the classification problem in psychopathology. *American Psychologist*, 50, 266–275.
- Meehl, P. E., & Yonce, L. J. (1994). Taxometric analysis: I. Detecting taxonicity with two quantitative indicators using means above and below a sliding cut (MAMBAC procedure). *Psychological Reports*, 78, 1059–1274.
- Meehl, P. E., & Yonce, L. J. (1996). Taxometric analysis: II. Detecting taxonicity using covariance of two quantitative indicators in successive intervals of a third indicator (MAXCOV procedure). *Psychological Reports*, 78, 1091–1227.
- Myers, I. B. (1962). *The Myers-Briggs type indicator manual*. Princeton, NJ: Educational Testing Service.
- New York Times* (2008, August 8). Racism and the race. Retrieved August 19, 2008, from <http://www.nytimes.com/2008/08/09/opinion/09blow.html?mc=eta1>
- Ostrom, T. M., & Sedikides, C. (1992). Out-group homogeneity effects in natural and minimal groups. *Psychological Bulletin*, 112, 536–552.
- Passel, J. S. (2005). *Unauthorized migrants: Numbers and characteristics*. Washington DC: Pew Hispanic Center.
- Pena, Y., Sidanius, J., & Sawyer, M. (2004). Racial democracy in the Americas: A Latin and U.S. comparison. *Journal of Cross-Cultural Psychology*, 35, 749.
- Pettigrew, T. F. (1979). The ultimate attribution error: Extending Allport's cognitive analysis of prejudice. *Personality and Social Psychology Bulletin*, 5, 461–476.
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90, 751–783.
- Phelps, E. A., O'Connor, K. J., Cunningham, W. A., Funayama, E. S., Gatenby, J. C., Gore, J. C., et al. (2000). Performance on indirect measures of race evaluation predicts amygdala activation. *Journal of Cognitive Neuroscience*, 12, 729–738.
- Plant, E. A., & Devine, P. G. (1998). Internal and external motivation to respond without prejudice. *Journal of Personality and Social Psychology*, 75, 811–832.
- Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology*, 67, 741–763.
- Pyszczynski, T., Abdollahi, A., Solomon, S., Greenberg, J., Cohen, F., & Weise, D. (2006). Mortality salience,

- martyrdom, and military might: The great Satan versus the axis of evil. *Personality and Social Psychology Bulletin*, 32, 525–537.
- Ronquillo, J., Denson, T. F., Lickel, B., Lu, Z-L., Nandy, A., & Maddox, K. B. (2007). The effects of skin tone on race-related amygdala activity: An fMRI investigation. *Social Cognitive and Affective Neuroscience*, 2, 39–44.
- Ruscio, A. M., Ruscio, J., & Keane, T. M. (2002). The latent structure of posttraumatic stress disorder: A taxometric investigation of reactions to extreme stress. *Journal of Abnormal Psychology*, 111, 290–301.
- Ruscio, J. (2007). Taxometric analysis: An empirically-grounded approach to implementing the method. *Criminal Justice and Behavior*, 24, 1588–1622.
- Ruscio, J., Haslam, N., & Ruscio, A. M. (2006). *Introduction to the taxometric method: A practical guide*. Mahwah, NJ: Lawrence Erlbaum.
- Ruscio, J., & Marcus, D. K. (2007). Detecting small taxa using simulated comparison data: A reanalysis of Beach, Amir, and Bau's (2005) data. *Psychological Assessment*, 19, 241–246.
- Ruscio, J., & Ruscio, A. M. (2004). A nontechnical introduction to the taxometric method. *Understanding Statistics*, 3, 151–194.
- Ruscio, J., Ruscio, A. M., & Keane, T. M. (2004). Using taxometric analysis to distinguish a small latent taxon from a latent dimension with positively skewed indicators: The case of Involuntary Defeat Syndrome. *Journal of Abnormal Psychology*, 113, 145–154.
- Ruscio, J., Ruscio, A. M., & Meron, M. (2007). Applying the bootstrap to taxometric analysis: Generating empirical sampling distributions to help interpret results. *Multivariate Behavioral Research*, 42, 349–386.
- Sax, L. J., Lindholm, J. A., Astin, A. W., Korn, W. S., & Mahoney, K. M. (2002). *The American freshman: National norms for fall, 2002*. Los Angeles, CA: Cooperative Institutional Research Program, UCLA.
- Sherif, M., & Sherif, C. W. (1967). Attitudes as the individual's own categories: The social-judgment approach to attitude and attitude change. In C. W. Sherif & M. Sherif (Eds.), *Attitude, ego-involvement and change* (pp. 105–139). New York: Wiley.
- Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. New York: Cambridge University Press.
- Sommers, S. R., & Norton, M. I. (2006). Lay theories about white racists: What constitutes racism (and what doesn't). *Group Processes & Intergroup Relations*, 9, 117–138.
- Stephan, W. G., & Stephan, C. W. (2000). An integrated threat theory of prejudice. In S. Oskamp (Ed.) *Reducing prejudice and discrimination. "The Claremont Symposium on Applied Social Psychology"* (pp. 23–45). Mahwah, NJ: Lawrence Erlbaum.
- Strube, M. J., & Rahimi, A. M. (2006). "Everybody knows it's true": Social dominance orientation and right-wing authoritarianism moderate false consensus for stereotypic beliefs. *Journal of Research in Personality*, 40, 1038–1053.
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & L. W. Austin (Eds.), *Psychology of Intergroup Relations* (pp. 7–24). Chicago, IL: Nelson-Hall.
- Wall Street Journal* (2005, April 26). Crippled by their culture: Race doesn't hold back America's "black rednecks." Nor does racism. Retrieved July 29, 2008, from <http://www.opinionjournal.com/editorial/feature.html?id=110006608>
- Washington Post* (2008, July 7). Jesse Helms, white racist. Retrieved July 29, 2008, from <http://www.washingtonpost.com/wp-dyn/content/article/2008/07/06/AR2008070602321.html>
- Wilcox, R. R. (1998). How many discoveries have been lost by ignoring modern statistical methods? *American Psychologist*, 53, 300–314.
- Wilcox, R. R. (2005). *Introduction to robust estimation and hypothesis testing* (2nd ed.). London: Elsevier.
- Wilcox, R. R., & Keselman, H. J. (2003). Modern robust data analysis methods: Measures of central tendency. *Psychological Methods*, 8, 254–274.

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