Report

Implicit and explicit prejudice in the 2008 American presidential election

B. Keith Payne [a,*], Jon A. Krosnick [b], Josh Pasek [b], Yphtach Lelkes [b], Omair Akhtar [b], Trevor Tompson [c]

[a] Department of Psychology, University of North Carolina, Chapel Hill, Campus Box 3270, Chapel Hill, NC 27599, United States
[b] Stanford University, 450 Serra Mall, Stanford, CA 94305, United States
[c] The Associated Press, 1100 13th Street NW, Suite 700, Washington, DC 20005, United States

ABSTRACT

The 2008 US presidential election was an unprecedented opportunity to study the role of racial prejudice in political decision making. Although explicitly expressed prejudice has declined dramatically during the last four decades, more subtle implicit forms of prejudice (which come to mind automatically and may influence behavior unintentionally) may still exist. In three surveys of representative samples of American adults, explicit and implicit prejudice were measured during the months preceding the election. Both explicit and implicit prejudice were significant predictors of later vote choice. Citizens higher in explicit prejudice were less likely to vote for Barack Obama and more likely to vote for John McCain. After controlling for explicit prejudice, citizens higher in implicit prejudice were less likely to vote for Obama, but were not more likely to vote for McCain. Instead, they were more likely to either abstain or to vote for a third-party candidate rather than Obama. The results suggest that racial prejudice may continue to influence the voting process even among people who would not endorse these attitudes.

© 2009 Published by Elsevier Inc.

Introduction

Throughout 2008, there was a great deal of speculation about the role that racial prejudice might play in the American presidential election. Editorials with such headlines as, "Racism is the only reason Obama might lose," contrasted with headlines like, "Voting against Obama doesn't make you a racist," (Beck, 2008; Weisberg, 2008). Months after the election, former president Jimmy Carter made new headlines by opining that much of the hostility directed at Obama by his political foes was motivated by racism (Associated Press (September 15, 2009). Yet little empirical evidence has been available to assess the extent to which prejudice might have influenced voting. In pre-election polls, between 4% and 6% of Americans said they would not vote for a Black candidate (CBS News/New York Times Poll, 2008). But it was widely recognized that such direct might underestimate the full impact of race. This article presents new evidence from three surveys of nationally representative samples indicating that prejudice – both explicitly reported and implicitly measured – may have significantly shaped electoral outcomes.

Implicit prejudice: findings and controversies

Explicit prejudice refers to consciously endorsed negative attitudes based on group membership. It is measured by asking people questions and thus acquiring their introspective reports. Explicit forms of prejudice against Blacks have become increasingly rare in America and are at low levels now (Schuman, Steeh, Bobo, & Krysan, 1997). In contrast, implicit prejudice refers to associations that come to mind unintentionally, whose influence on thought and action may not be consciously recognized and can be difficult to control (Fazio & Olson, 2003; Gawronski & Bodenhausen, 2006). Implicit prejudice is measured by performance on cognitive tasks that do not require introspection. It is thought to be shaped by unconscious associations stored in long-term memory.

In contrast to explicit prejudice, research using implicit measures with non-representative samples of research volunteers suggests that anti-Black prejudice among Whites may still be widespread (Nosek et al., 2007). Hundreds of studies have documented the existence of implicit prejudice, and a number of studies have also shown that individual differences in implicit prejudice predict discriminatory behavior. For example, several studies have found that implicit tests of prejudice predict less friendly non-verbal behavior in inter-group interactions (Dovidio, Kawakami, & Gaertner, 2002; Fazio, Jackson, Dunton, & Williams, 1995; McConnell & Leibold, 2001). Other studies have found that implicit prejudice predicts the tendency to make biased judgments in forming social impressions (Lambert, Payne, Ramsey, & Shaffer, 2005) and mock hiring decisions (Ziegert & Hanges, 2005). In a meta-analysis of studies employing the implicit association test, implicitly measured prejudice was more predictive of behaviors and judgments than explicit measures were (Greenwald, Poehlman, Uhlmann, & Banaji, 2009).

* Corresponding author. Fax: +1 (919) 962 2537.
E-mail address: payne@unc.edu (B.K. Payne).

Critics of this research, however, have questioned whether performance on implicit tests really reflects prejudice at all (Arkes & Tetlock, 2004; Tetlock & Mitchell, 2008). The criticism is based in part on whether the behaviors predicted by implicit prejudice are consequential. Non-verbal behavior such as averted eye gaze or halting speech, for example, might not reflect discriminatory treatment that has meaningful consequences for stigmatized group members. A second point of criticism is that laboratory studies may not have enough external validity to draw conclusions about bias in daily life. The measures of behavior used in laboratory studies, such as vignettes, are often artificial. Moreover, most laboratory studies are conducted with convenience samples of undergraduate students that are not representative of the wider population. Together, these critiques cast doubt on whether implicit prejudice research really establishes widespread racial bias that has meaningful consequences in the real-world.

One way to make progress in this debate is to examine prejudice as it relates to unambiguously meaningful behaviors and among relevant populations (e.g., von Hippel, Brenner, & von Hippel, 2008). In the present research, we examined the contributions of implicit and explicit prejudice to predicting voting in the 2008 US presidential election. Voting is a consequential behavior for citizens of a democracy. This study is the first of its kind to examine implicit and explicit prejudice using representative samples of American adults. As such, our results can address the unique relationships between implicit and explicit prejudice and consequential behavior, and the conclusions are likely to generalize to the population as a whole.

Overview

The aim of this study was to test whether implicit and explicit racial prejudice, measured in the months preceding the 2008 US presidential election, predicted eventual voting behavior. Theories of modern prejudice suggest that automatic racial associations, measured with implicit tests, can serve as inputs to deliberative reasoning processes. Given sufficient time and cognitive resources, the reasoning process evaluates whether associations are valid or invalid by checking them against evidence and personal values (Crandall & Eshleman, 2003; Fazio et al., 1995). The outcome of this reasoning process is presumably expressed on explicit tests (Gawronski & Bodenhausen, 2006; Strack & Deutsch, 2004). A person who has stored negative associations with Black Americans, for example, might nonetheless reject a prejudiced response as invalid, leading to divergent scores on implicit and explicit tests. Or a person might decide that the association is valid, leading to consistent scores on implicit and explicit tests.[1]

If voting decisions are based on explicit attitudes that are shaped by implicit associations, then effects of implicit prejudice should be indirect, mediated through explicit prejudice. But if voting decisions are based on automatic associations that are either consciously rejected or are not deliberately considered at all, the effects of implicit prejudice may be direct and independent of explicit attitudes. We examined the direct and indirect effects of implicit prejudice using statistical procedures for testing mediation (Baron & Kenny, 1986).

---

[1] The rejection versus endorsement of automatic reactions is not the only factor affecting correspondence between implicit and explicit measures (Nosek, 2005; Payne, Burkley, & Stokes, 2008). We focus on rejection versus endorsement because it is a theoretically important distinction between implicit and explicit tests, and there is a well-developed literature on dual process theories that allows us to derive specific predictions about the nature of implicit and explicit contributions to behavior. By testing for patterns of mediation we can evaluate whether our data are consistent with these predictions.

Method

We investigated racial attitudes and voter decision making using three representative samples of American adults. Data in each sample were weighted to reflect known population demographics on age, gender, race, and education. In all three surveys, respondents were re-contacted after the election, held on November 4, 2008, and reported whether they voted in the race for president and if so, for whom. The prospective design allows inferences about how attitudes formed before the election may have influenced later voting behavior. Probability-based sampling methods allow us to draw conclusions that are likely to generalize to the American public.

Sampling and recruitment

In survey 1, the American National Election Studies (ANES) 2008 Panel Study, prejudice was measured in September and October, 2008. Participants were recruited by telephone using random digit dialing to obtain a representative sample. Respondents were compensated to complete one survey on the internet each month. Those without internet access were provided with a free web appliance and free internet service for the duration of the study. Respondents who agreed to participate provided informed consent. Demographic variables were measured as part of an initial survey conducted in January 2008. Of the 2367 individuals who completed the initial January survey, 63% were retained through October when the last prejudice variables were measured. Of those who completed the October survey, 95% completed the November survey in which voting was recorded. Our final sample included 1056 respondents who completed all measures.

In survey 2, the ANES 2008 Time Series Study, implicit prejudice was measured between September and November 3, 2008. The 2008–2009 ANES Time Series Study used an address-based sampling frame consisting of five stages. First, counties were sampled, followed by census tracts within selected counties, then census block groups within census tracts. Finally, within each selected census block group, individual households were randomly selected. The Time Series consisted of one pre-election interview and one post-election interview. Respondents who agreed to participate provided informed consent, and were paid for each completed interview. Post-election interviews were conducted between November 5 and December 21, 2008. Surveys were conducted in person using computer-assisted interviewing. The Time Series oversampled Black and Latino respondents to ensure adequate representation of these groups. The pre-election survey included 2323 respondents, 2102 of whom completed the post-election survey (90% retention rate). Our final sample included 1933 respondents who completed all measures.

In survey 3 prejudice was measured during August and September, 2008. The survey data for this sample were collected during the sixth wave of a panel survey sponsored by the Associated Press and Yahoo! News, in collaboration with Stanford University. The study began collecting data in November, 2007. Knowledge Networks collected data via the internet from a group of respondents who had been recruited via random digit dial telephone calls. All respondents who did not have internet access at home were given an internet appliance and an internet connection at no cost to them. The sixth wave's main questionnaire was administered between August 27 and September 5, 2008, and an additional nationally representative group of American adults was added to the sample at that time. In a separate data collection, all of these respondents were invited to complete the implicit prejudice measure online. Wave 6 included 2012 respondents who completed the general survey, 1688 of whom completed the AMP. Our final

sample included 1424 respondents (84% retention rate from wave 6) who completed all measures as well as the November survey, in which voting was recorded.

Implicit prejudice measurement

Implicit prejudice was measured in each sample using the Affect Misattribution Procedure (AMP); (Payne, Cheng, Govorun, & Stewart, 2005). Each of 48 trials briefly presented a photograph of the face of a White or Black man, followed by a Chinese ideograph. Each trial began with a fixation point, followed by a face presented for 75 ms, followed next by a pictograph for 250 ms, which was followed by a black and white noise mask. The mask remained on the screen until a response was registered. Respondents were instructed to judge whether each ideograph was pleasant or unpleasant while avoiding influence from the photos. Unintentional influence of the primes on judgments can be used to measure attitudes toward the White and Black faces. Previous research shows that the procedure is a valid measure of prejudice that is resistant to social desirability pressures (Payne et al., 2008).

Explicit prejudice measurement

Measures of explicit prejudice differed across the three surveys.[2] The items are included in the Appendix. Sample 1 included single-item measures of warm/cold feelings toward Blacks, sympathy for Blacks, admiration for Blacks, and perceptions that Blacks have too much political influence. Sample 2 included two-items measuring stereotypes of Blacks' intelligence and work ethic in the pre-election survey. In addition, the post-election survey measured ratings of feelings of warmth, sympathy, and admiration toward Blacks, and four questions measuring symbolic racism (Kinder & Sears, 1981). Because so few prejudice items were included in the pre-election survey we chose to include both pre-election and post-election prejudice items in the explicit composite to achieve a reliable measure. Thus, while implicit prejudice was measured prospectively, explicit prejudice (in sample 2 only) included both pre-election and post-election measures. Sample 3 included single-item measures of liking, sympathy, and admiration for Blacks, a 14-item battery measuring stereotypes of Blacks, and an eight-item battery measuring symbolic racism. In each survey, the various measures were standardized and then averaged to create a composite measure of explicit prejudice. Internal consistencies were acceptable for each composite, although as expected, reliability was higher for those composites made up of more items (sample 1 *alpha* = .60; sample 2 *alpha* = .74; sample 3 *alpha* = .89).

Results

In each sample, AMP responses were significantly more positive for White trials than Black trials. Table 1 displays the mean proportion of pleasant responses for each trial type. Explicit prejudice composites were consistently associated with implicit bias for Black prime trials (sample 1: $r = .24$, sample 2: $r = .32$, sample 3: $r = .24$, all p's < .0001) but not White prime trials (sample 1: $r = .05$, *ns*; sample 2: $r = .05$, $p = .04$, sample 3: $r = .03$, *ns*). On average, voters showed implicit race bias, and individual differences in implicit bias were associated with explicit prejudice. We turn next to the question of whether implicit or explicit prejudice was predictive of later voting behavior.

---

[2] Further details on question wordings and sample designs for samples 1 and 2 are available online at http://www.electionstudies.org/studypages/download/datacenter_all.htm.

Table 1
Proportion pleasant responses to symbols as a function of Black versus White primes. Values in parentheses are standard deviations.

	Black primes	White primes	F	P
Sample 1	.55 (.28)	.64 (.26)	128.01	<.0001
Sample 2	.52 (.29)	.66 (.26)	392.11	<.0001
Sample 3	.55 (.21)	.60 (.21)	54.92	<.0001

Analysis strategy

Prejudice might affect voting in three ways. First, prejudice could lead someone who would otherwise vote for Obama to instead vote for McCain. Second, prejudice could lead someone who would otherwise vote for Obama not to vote at all, or to vote for a third-party nominee. Third, prejudice could lead someone who would otherwise abstain to vote for McCain. We therefore conducted logistic regressions predicting two binary outcome variables: (1) whether the respondent voted for Obama (yes = 1, no = 0), and (2) whether the respondent voted for McCain (yes = 1, no = 0). Respondents who voted for neither received zeros for both variables.

To make regression coefficients comparable, all independent variables were coded to range from zero (meaning the minimum possible value) to one (meaning the maximum possible value). Explicit prejudice composites were scored such that higher numbers indicate greater prejudice. AMP responses were scored as the proportion of *unpleasant* responses on each trial type; thus higher values on the Black trials represent anti-Black attitudes and higher numbers on White trials represent anti-White attitudes. We examined the predictive utility of implicit and explicit prejudice measures first individually, and then simultaneously to investigate their unique contributions.

Data cleaning

We inspected AMP data for outliers, but across studies the maximum and minimum scores were less than three standard deviation from the mean, suggesting that outliers were unlikely to heavily influence scores. We therefore decided to retain all cases rather than eliminating outliers. Samples 1 and 2 included an item asking whether respondents could read the Chinese characters in the AMP. In sample 1, 1.2% said they could, and in sample 2, 4.4% said they could. We conducted the main analyses both including and excluding respondents who indicated the ability to read the characters. We also conducted the analyses while controlling for this variable in the regression equations. None of these approaches changed any conclusions or had any appreciable effects on relationships with AMP scores. Therefore the reported analyses retained all cases to maximize representativeness.

Control variables

Because voting is multiply determined, all regressions that follow included control variables thought to influence voting that might also be related to racial attitudes. We controlled for party identification, liberalism/conservatism, gender, age, race, education, and income. Thus, the findings regarding prejudice are unlikely to be explained by their relationship with party, ideology, or demographics.

Implicit and explicit prejudice analyzed separately

Implicit prejudice

We estimated the parameters of logistic regression equations predicting the probability of voting for McCain and the probability

Table 2

Regression coefficients predicting voting from AMP and explicit prejudice composites, with implicit and explicit prejudice measures entered separately.

	Independent variable	Sample 1		Sample 2		Sample 3	
		Voted for Obama	Voted for McCain	Voted for Obama	Voted for McCain	Voted for Obama	Voted for McCain
Model 1	AMP-Black	−1.50***	.70*	−1.24***	.60**	−1.64***	1.35***
Implicit only	AMP-White	2.02***	−1.12***	.44	−.25	.73*	−.12
Model 2 explicit only	Explicit	−2.25***	2.45***	−4.00***	3.03***	−3.83***	2.38***

Note: AMP-Black and AMP-White represent the proportion of unpleasant responses for Black and White trials, respectively.

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

of voting for Obama using AMP scores, while controlling for party identification, conservatism, gender, age, race, education, and income. AMP responses on Black trials and White trials were entered simultaneously (see Table 2). Respondents with more negative responses to Black trials were more likely to vote for McCain, and less likely to vote for Obama across all three samples. Responses on White trials were less consistently related to voting, with significant relationships in three of six cases. The signs were all in the expected direction, with more negative responses to White trials predicting greater likelihood of voting for Obama and less likelihood of voting for McCain. Thus, when controlling for party, ideology, and demographics, AMP responses predicted later voting behavior. The effect was more consistent for responses to Black primes than White primes.

Explicit prejudice

Explicit prejudice composites were included as predictors in a parallel set of regression equations. Greater explicit prejudice was significantly associated with voting for McCain and not voting for Obama across all three samples. The explicit effects were stronger than the implicit effects. Because implicit and explicit attitudes were correlated with one another, it is useful to examine the unique effects of implicit and explicit prejudice while controlling for the other, and to explore possible patterns of mediation.

Implicit and explicit prejudice analyzed simultaneously

The following analyses included AMP-Black trials and AMP-White trials simultaneously with explicit measures. Together with the individual effects of implicit and explicit prejudice reported above, these analyses allow us to test for mediation. Only Black trials on the AMP are a good candidate for mediation, because White trials were not related to explicit measures of prejudice (the proposed mediator), and were inconsistently related to voting outcomes. Therefore, in the analyses reported below we treat White trials as a covariate and focus on the effects of Black trials for tests of mediation.

Voting for McCain

Considered individually, both explicit and implicit prejudice were significant predictors of McCain votes (see Fig. 1). The effect of implicit prejudice, however, was entirely mediated by explicit prejudice (Sobel tests: survey 1: $z = 3.25$, $p < .001$; survey 2: $z = 4.44$, $p < .0001$; survey 3: $z = 4.19$, $p < .0001$). The relation between implicit prejudice and McCain voting was not significantly different from zero after controlling for explicit prejudice. This suggests that higher levels of implicit prejudice contributed to higher explicit prejudice, and explicit prejudice in turn was associated with greater likelihood of voting for McCain.

We also tested the reverse pattern of mediation, in which implicit prejudice mediates the relationship between explicit prejudice and

voting for McCain. There was no evidence for this pattern. Sobel tests of the indirect path from explicit prejudice to voting via implicit prejudice were non-significant in all samples (sample 1: $z = 1.08$, $p = .28$; sample 2: $z = 1.40$, $p = .16$; sample 3: $z = .78$, $p = .44$).

Voting for Obama

Across all three samples, individuals higher in implicit prejudice and those higher in explicit prejudice were less likely to vote for Obama (see Fig. 2). Tests of mediation indicated that the relation between implicit prejudice and Obama voting was partially mediated by explicit prejudice. The indirect effect of implicit prejudice on Obama voting via explicit prejudice was significant in all three samples using a Sobel test (survey 1: $z = 3.06$, $p < .01$; survey 2: $z = 4.45$, $p < .0001$; survey 3: $z = 5.80$, $p < .0001$). In addition, the direct association between implicit prejudice and voting for Obama remained significant in all three samples after controlling for explicit prejudice. This suggests some additional influence outside of awareness or among respondents who were not willing or able to report their prejudice explicitly.[3]

The finding that implicit prejudice was negatively associated with voting for Obama but not positively associated with voting for McCain indicates that the decline in Obama voting was complemented by an increase in the omitted category: people who performed neither behavior. Taken together, these findings suggest that implicit prejudice influenced the election outcome by contributing to explicit prejudice (which increased voting for McCain and decreased voting for Obama) and also independently by converting some people who otherwise may have voted for Obama into nonvoters or third-party voters.

We also tested for the reverse mediation path, in which implicit prejudice mediates the effect of explicit prejudice on voting. The indirect path was significant in the first sample ($z = 2.44$, $p < .01$) and the second sample ($z = 2.53$, $p < .01$) and marginally significant in the third sample ($z = 1.67$, $p = .09$). In contrast to McCain voting, there was some evidence that Obama voting may reflect a bi-directional influence between implicit and explicit prejudice. However, the path from implicit prejudice to explicit prejudice was stronger (the average z-test was twice as large) and more consistent across samples.

Anti-Black versus pro-Black attitudes

Because differences between people in levels of implicit prejudice included both pro-Black and anti-Black responses, it is inter-

---

[3] All available measures of explicit prejudice were used to maximize measurement reliability. This makes results less comparable across studies because some of the measures differed. Additional analyses used only the measures that were identical across samples (liking or feelings, sympathy, and admiration for Blacks). These analyses replicated the reported patterns, suggesting that the findings are robust across multiple ways of measuring explicit prejudice.
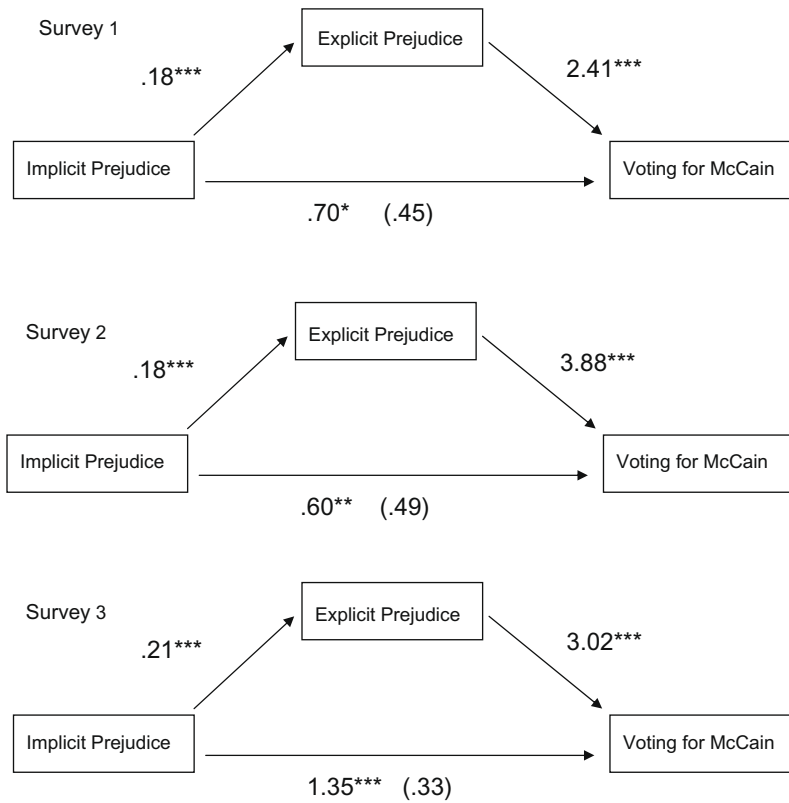
Fig. 1. Direct and indirect influences of implicit prejudice on voting for McCain. The figure shows unstandardized regression coefficients with all variables standardized on a scale from 0 to1. Coefficients in parentheses are values after controlling for explicit prejudice (*p < .05, one-tailed; **p < .01; ***p < .001).
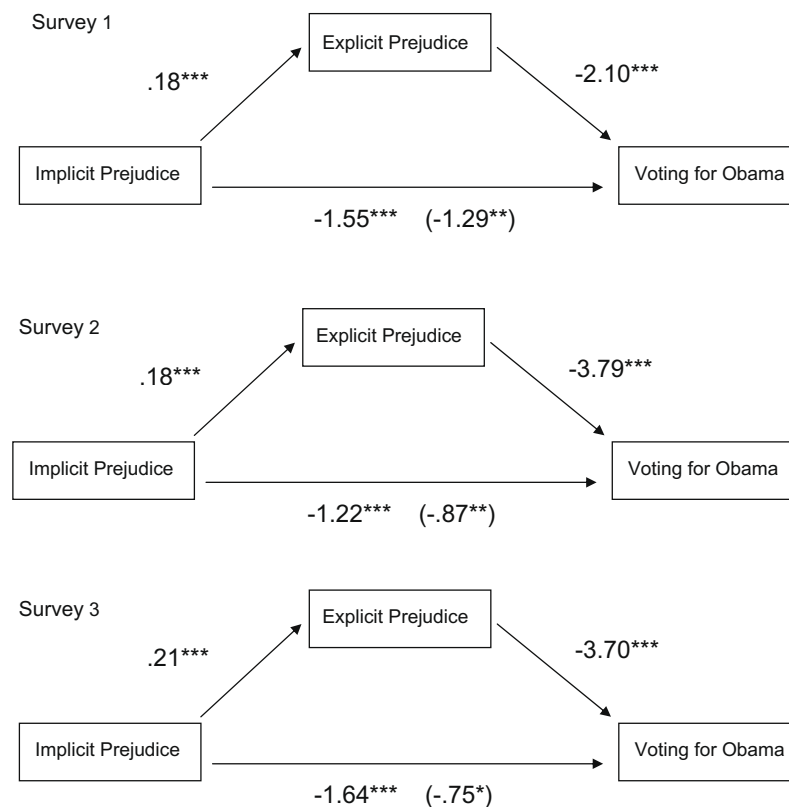

Fig. 2. Direct and indirect influences of implicit prejudice on voting for Obama. The figure shows unstandardized regression coefficients with all variables standardized on a scale from 0 to1. Coefficients in parentheses are values after controlling for explicit prejudice (*p < .05, one-tailed; **p < .01; ***p < .001).

esting to explore whether Obama's votes were decreased by anti-Black attitudes, increased by pro-Black attitudes, or both. To distinguish anti-Black and pro-Black implicit attitudes, we used responses to White faces as a reference point. A measure of anti-Black attitudes was constructed by subtracting the implicit measure of attitudes toward Blacks from the implicit measure of attitudes toward Whites, and then all scores less than or equal to zero were recoded to be zero (higher values reflect more anti-Black attitudes). A measure of pro-Black attitudes was constructed by subtracting the implicit measure of attitudes toward Whites from the implicit measure of attitudes toward Blacks, and then all scores less than or equal to zero were recoded to be zero (higher values reflect more pro-Black attitudes). These scores are not independent and measure individual differences in extremity on the anti-Black and pro-Black ends of the distribution, respectively.

We then estimated the parameters of regression equations including the same control variables as in the analyses reported above, treating anti-Black attitudes and pro-Black attitudes as separate predictors of voting for Obama. A meta-analysis of the three datasets indicated that the effect of pro-Black versus anti-Black attitudes was not significantly different across the three surveys ($X^2(7) = 5.69$, $p = .58$). The aggregated coefficient for pro-Black attitudes was $b = 1.53$, $p < .0001$, and for anti-Black attitudes was $b = -.97$, $p < .0001$. Tests of heterogeneity for individual coefficients in each sample were not significant, $X(2) = .62, 1.81, 3.25$, p's > .19. Thus, increasingly anti-Black attitudes predicted a lower likelihood of voting for Obama, and increasingly pro-Black attitudes predicted a greater likelihood of voting for him. Because respondents on average exhibited an anti-Black bias, however, the net effect was a disadvantage for Obama.

Self-reported discomfort with a Black president

Converging evidence was obtained from examining self-reported feelings of discomfort with a Black president. In surveys 1 and 2, respondents were asked to rate whether the idea of a Black president made them feel uncomfortable on the 5-point scale, from "not at all uncomfortable" to "extremely uncomfortable." We conducted OLS regressions predicting discomfort with a Black president using the same predictors as in the voting analyses (see

Fig. 3). As expected, implicit and explicit prejudice significantly predicted increased feelings of discomfort in both surveys. The effect of implicit prejudice was significantly mediated by explicit prejudice (Sobel tests: survey 1: $z = 3.41$, $p < .001$; survey 2: $z = 5.88$, $p < .0001$). And again, the direct effect of implicit prejudice remained significant after controlling for explicit prejudice, suggesting that implicit prejudice may have had both direct and indirect effects on reported feelings of discomfort. That is, implicit prejudice may have increased discomfort with a Black president by contributing to explicit prejudice, and also independently by increasing discomfort among respondents who were unable or unwilling to report prejudice explicitly.

One possible explanation for this is that voters who expressed discomfort with a Black president may have been mostly the same individuals whose prejudice led them not to vote for Obama. However, in both surveys 1 and 2, the direct and indirect effects of implicit prejudice on Obama voting remained significant (all p's < .001) after controlling for reported discomfort with a Black president. Implicit prejudice thus predicted differences in actual voting beyond self-reported feelings about having a Black president.

Discussion

Together, these findings indicate that racial prejudice may have played a significant role in the 2008 presidential election. Although the decline of explicitly racist sentiments in America has been an encouraging trend, these studies suggest that differences between people in levels of explicit prejudice remain a potent influence in electoral politics. Explicitly measured prejudice was strongly associated with voting, but the impact of explicitly reported prejudice alone appeared to underestimate the total effect of prejudice. Implicit and explicit prejudice each uniquely predicted voting behavior, suggesting that measuring either in isolation would have overlooked meaningful information. This finding is consistent with another recent report that both explicit and implicit prejudice were associated with voting intentions before the election (Greenwald, Smith, Sriram, Bar-Anan, & Nosek, in press). The present results extend prior research by using a prospective design and more elaborate controls to make causal inferences more plausible. We
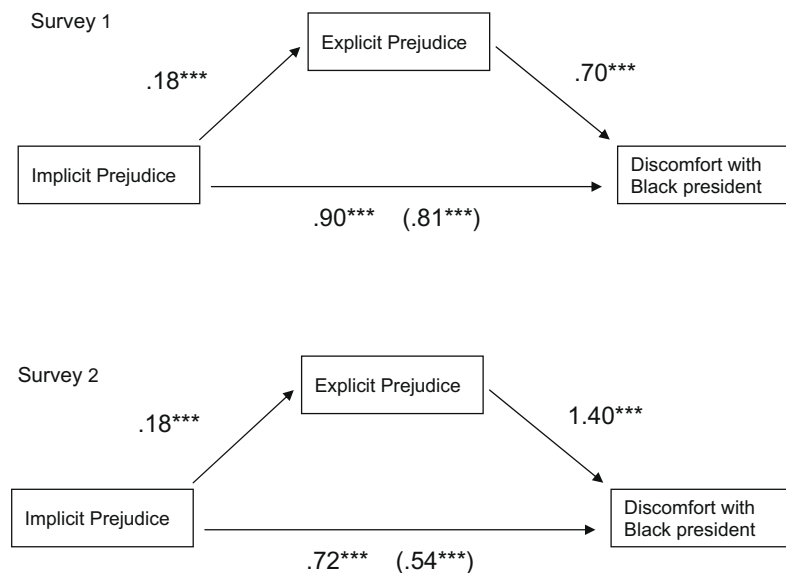

Fig. 3. Direct and indirect influences of implicit prejudice on discomfort with a Black president. The figure shows unstandardized regression coefficients with all variables standardized on a scale from 0 to1. Coefficients in parentheses are values after controlling for explicit prejudice (***p < .001).

also used multiple representative samples to increase the ability to generalize results.

We found that implicit and explicit prejudice predicted voting behavior in subtly different ways. Being higher in explicit prejudice made Americans less likely to vote for Obama and more likely to vote for McCain. The unique effects of implicit prejudice were more subtle. Americans higher in implicit prejudice were less likely to vote for Obama, but not more likely to vote for McCain. These findings have parallels in research demonstrating that explicit and implicit prejudice predict different aspects of social behavior. Explicit prejudice often predicts overt behaviors, such as the content of verbal responses, whereas implicit prejudice predicts more subtle non-verbal behaviors such as eye contact and physical distance (Dovidio et al., 2002; Fazio et al., 1995; McConnell & Leibold, 2001). Just as explicit and implicit prejudice often predict different aspects of social behavior, we found that they predicted unique patterns of voting behavior. Whereas explicit prejudice was associated with actively voting for McCain rather than Obama, implicit prejudice was uniquely associated with simply not voting, or voting for a third-party nominee.

The implications for theories of modern prejudice are twofold. First, our findings suggest that the impact of overt, explicitly reported prejudice may sometimes be underestimated. This is possibly the result of relying on undergraduate samples, in which norms strongly prohibit expressing prejudice. Although the majority of Americans do not endorse overtly racist beliefs, individual differences in explicit prejudice were nonetheless strong predictors of voting for Barack Obama. The emphasis in contemporary theories of prejudice on implicit forms of bias may lead researchers to overlook the real and persistent effects of explicitly prejudiced attitudes.

A second implication is that implicitly measured prejudice is indeed associated with unambiguous and meaningful discriminatory behaviors. Even after controlling for the effect of explicit prejudice, implicit prejudice predicted unwillingness to vote for Obama. The fact that implicit prejudice predicted real-world behavior in a representative sample, and did so differently than explicit prejudice provides evidence for the importance of distinguishing between implicit and explicit bias. The present results are also notable because they are among the first to demonstrate that implicit bias effects frequently replicated in laboratory settings appear to generalize in representative samples.

The partially mediated pattern we observed is consistent with dual-process theories that distinguish between automatic associations and more reflective reasoning processes (e.g., Crandall & Eshleman, 2003; Fazio et al., 1995; Gawronski & Bodenhausen, 2006; Strack & Deutsch, 2004). We found that implicit and explicit attitude measures showed small-to-medium associations, consistent with much recent research. Although early studies often showed small or absent implicit–explicit correlations, later studies using highly reliable measures and well-powered studies have tended to find significant relationships, although the size of the correlation varies dramatically based on a variety of moderators (e.g., Hofmann, Gschwendner, Nosek, & Schmitt, 2005; Nosek, 2005; Payne et al., 2008). Nonetheless, we found that implicit and explicit attitudes played differential roles, as predicted by existing dual-process theories. These theories suggest that automatic racial associations provide input that may be validated or rejected. They also suggest that even associations which are rejected can influence thought and behavior. Voting behavior appeared to be shaped by both of these routes.

Conclusion

Our findings suggest that Mr. Obama was not elected because of an absence of prejudice, but despite its continuing presence.

Although modern theories of prejudice often emphasize subtle implicit forms of bias, old-fashioned explicit prejudice should not be underestimated. Still, even after controlling for explicit prejudice, the independent relation between implicit prejudice and unwillingness to vote for Obama suggests that even explicitly rejected attitudes can influence important political decisions.

Acknowledgments

Appendix A. Supplementary material

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.jesp.2009.11.001.

References

Arkes, H., & Tetlock, P. (2004). Attributions of implicit prejudice, or would Jesse Jackson 'fail' the implicit association test? *Psychological Inquiry, 15*, 257–278.

Associated Press (2009). Carter sees racism in Wilson's outburst. <www.NYTimes.com> <http://www.nytimes.com/2009/09/16/us/politics/16carter.html> Retrieved 10.12.09.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.

Beck, G. (2008). Voting against Obama doesn't make you a racist. <www.CNN.com> <http://www.cnn.com/2008/POLITICS/10/09/beck.issues/index.html?iref=newssearch> Retrieved 08.03.09

CBS News/New York Times Poll. (2008). <www.CBSnews.com> Retrieved 08.03.09

Crandall, C., & Eshleman, A. (2003). A justification–suppression of the expression and experience of prejudice. *Psychological Bulletin, 129*, 414–446.

Dovidio, J., Kawakami, K., & Gaertner, S. (2002). Implicit and explicit prejudice and interracial interaction. *Journal of Personality and Social Psychology, 82*, 62–68.

Fazio, R., & Olson, M. (2003). Implicit measures in social cognition research: Their meaning and uses. *Annual Review of Psychology, 54*, 297–327.

Fazio, R., Jackson, J., Dunton, B., & Williams, C. (1995). Variability in automatic activation as an unobstrusive measure of racial attitudes: A bona fide pipeline? *Journal of Personality and Social Psychology, 69*, 1013–1027.

Gawronski, B., & Bodenhausen, G. (2006). Associative and propositional processes in evaluation: An integrative review of implicit and explicit attitude change. *Psychological Bulletin, 132*, 692–731.

Greenwald, A. G., Poehlman, T. A., Uhlmann, E., & Banaji, M. R. (2009). Understanding and using the implicit association test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology, 97*, 17–41.

Greenwald, A. G., Smith, C. T., Sriram, N., Bar-Anan, Y., & Nosek, B. A. (in press). Implicit race attitudes predicted vote in the 2008 US presidential election. *Analyses of Social Issues and Public Policy*.

Hofmann, W., Gschwendner, T., Nosek, B. A., & Schmitt, M. (2005). What moderates implicit–explicit consistency? *European Review of Social Psychology, 16*, 335–390.

Kinder, D., & Sears, D. (1981). Prejudice and politics: Symbolic racism versus racial threats to the good life. *Journal of Personality and Social Psychology, 40*, 414–431.

Lambert, A. J., Payne, B. K., Ramsey, S., & Shaffer, L. M. (2005). On the predictive validity of implicit attitude measures: The moderating effect of perceived group variability. *Journal of Experimental Social Psychology, 41*, 114–128.

McConnell, A., & Leibold, J. (2001). Relations among the implicit association test, discriminatory behavior, and explicit measures of racial attitudes. *Journal of Experimental Social Psychology, 37*, 435–442.

Nosek, B. A. (2005). Moderators of the relationship between implicit and explicit evaluation. *Journal of Experimental Psychology: General, 134*, 565–584.

Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A., et al. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology, 18*, 36–88.

Payne, B., Cheng, C., Govorun, O., & Stewart, B. (2005). An inkblot for attitudes: Affect misattribution as implicit measurement. *Journal of Personality and Social Psychology, 89*, 277–293.

Payne, B. K., Burkley, M., & Stokes, M. B. (2008). Why do implicit and explicit attitude tests diverge? The role of structural fit. *Journal of Personality and Social Psychology, 94*, 16–31.

Schuman, H., Steeh, C., Bobo, L., & Krysan, M. (1997). *Racial attitudes in America: Trends and interpretations*. Cambridge, MA: Harvard University Press.

Strack, F., & Deutsch, R. (2004). Reflective and impulsive determinants of social behavior. *Personality and Social Psychology Review, 8*, 220–247.

Tetlock, P., & Mitchell, G. (2008). Calibrating prejudice in milliseconds. *Social Psychology Quarterly, 71*, 12–16.

von Hippel, W., Brener, L., & von Hippel, C. (2008). Implicit prejudice toward injecting drug users predicts intentions to change jobs among drug and alcohol nurses. *Psychological Science, 19*, 7–11.

Weisberg, J. (2008). If Obama loses racism is the only reason McCain might beat him. <www.Slate.com> <http://www.slate.com/id/2198397/> Retrieved 08.03.09

Ziegert, J., & Hanges, P. (2005). Employment discrimination: The role of implicit attitudes, motivation, and a climate for racial bias. *Journal of Applied Psychology, 90*, 553–562.