Do Explicit Racial Cues Influence Candidate Preference? The Case of Skin Complexion in the 2008 Campaign

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Abstract

Skin color is an explicit racial cue. Although there is strong evidence linking darker skin complexion to the activation of racial stereotypes and adverse societal outcomes, little is known about the extent to which this effect is in play during political campaigns. If white voters make use of this skin complexion cue, we would expect exposure to darker images of a minority candidate to result in a "dark-skin penalty" at the ballot box. We investigate the impact of skin complexion on support for Barack Obama at two different stages of the 2008 campaign: Study 1 occurred during the primary campaign and Study 2 during the closing stages of the general election. Our findings suggest that when citizens are still learning about a minority candidate's personal background, subtle changes in skin complexion can have an effect on evaluations of that candidate and that citizens with higher levels of implicit racial bias are less likely to prefer a darker-skinned minority candidate.

> In November, some fans of Sammy Sosa, the former Chicago Cubs slugger, were surprised when photographs from the Latin Grammy Awards ceremony showed his face as uniformly lighter. Online critics accused him of wanting to be white….Evelyn Nakano Glenn, a professor of gender and women's studies at the University of California, Berkeley, said it was wrong to assume that skin-lightening is a cultural anachronism or an effort to negate one's racial heritage…."Sociological studies have shown there's a clear connection between skin color and socioeconomic status. It's not some fantasy. There is prejudice against dark-skinned people…."
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> Creams Offering Lighter Skin May Bring Risks**,** *New York Times***,** Jan 15, 2010

Although white Americans are significantly less inclined to hold racially prejudiced sentiments than they were several decades ago, they continue to show a strong preference for the in-group (white) over the out-group (non-white). In a recent comparison of implicit and explicit racial attitudes, for example, 82 percent of the whites in a national sample showed an implicit preference for whites while between 60 and 65 percent expressed a similar explicit preference on standard survey indicators of overt and symbolic racism (Iyengar et al., 2009). Given this considerable level of anti-black bias, it is not surprising that skin complexion -- a visible indicator of ethnicity -- is significantly correlated with a variety of social and economic outcomes. In fact, members of nearly every non-white ethnic group with relatively dark complexions fare less well in American society.

In this paper, we extend research on the complexion penalty to the political arena by examining whether exposure to photographs that either lighten or darken the complexion of an African-American candidate can influence voter support. In the case of Barack Obama, the target candidate in this study, our evidence shows that darker images weakened his support during the early stages of the campaign, but variation in the candidate's complexion had no influence after Obama secured the nomination. Although the overall effect of the complexion manipulation dissipated by the later stages of the campaign, voters with higher levels of implicit racial bias were less likely to evaluate Obama favorably when exposed to a darker image. Taken together, the two studies suggest that the impact of racial cues on electoral support depends upon voter familiarity with non-white candidates.

Complexion Effects: The Dark-Skin Penalty

Experimental research in psychology demonstrates that darker skin tone elicits more negative racial stereotypes. Whites typically associate more stereotypic traits with dark-skinned than light-skinned blacks (see Maddox & Gray, 2002). One salient stereotypic trait is criminality, and whites are especially likely to associate this trait with darker complexion non-whites (Eberhardt et al., 2004). Darker skinned criminal perpetrators are also more memorable and evoke stronger affective responses (Dixon & Maddox, 2005; Gilliam & Iyengar, 2000).

Most explanations for the stereotype triggering effects of skin complexion focus on the learned association of light skin and other European features with positive valence. Americans, both within and outside a particular racial or ethnic group, attribute more favorable traits to lighter-skinned members of that group, believe that others see light skin as more attractive than dark skin (Ross 1997), and prefer to have lighter skin themselves (Bond & Cash, 1992; Neal & Wilson, 1989).

Preferences for the light-skinned have been documented throughout history and across cultures (Iwawaki et al., 1978; Russell, Wilson, & Hall 1992). The Human Relations Area Files database reveals that lighter skin is considered more attractive in 47 of 51 countries for which skin color was identified as a criterion for attractiveness (Russell et al., 1992). Light-skinned blacks receive benefits associated with attractiveness, such as presumed competence and the ability to attract a higher status mate (Bond & Cash, 1992; Breland, 1998).

A preference for light skin can also be interpreted through the lens of social dominance theory (Sidanius, 1993) as stemming from physical similarity to the dominant group's standard of attractiveness (Neal & Wilson, 1989). However, in the cross-cultural study cited above, all 12 sub-Saharan majority-black African cultures showed a preference for lighter skin, suggesting that the association between light complexion and attractiveness is not entirely attributable to socialization within a white culture.

Another potential explanation of the preference for light complexion is that humans have over-learned the association between positive valence and light colors (see Dovidio et al., 1996). By this account, people in most societies learn that the color white conveys more positive connotations than the color black (Frank & Gilovich, 1988; Williams, 1970). Dovidio et al. (1997) tested the hypothesis that color evaluations would correlate with racial evaluations using the implicit associations test (IAT). Although they found that people did have more positive associations with the color white than black, the color-based associations were considerably weaker than the associations based on racial grouping. In a further study, Smith-McLallen et al. (2006) examined the potential contribution of general implicit evaluative associations with the colors white and black to implicit race preferences as measured by the race IAT. They found that although implicit evaluative associations with colors correlated significantly with evaluative racial associations, controlling for implicit color preferences did not weaken implicit preferences for whites.

Negative associations with darker skin complexion not only shape perceptions and attitudes, but also influence behavioral and policy outcomes. By any measure of economic outcomes, darker-skinned African-Americans are worse off. They have less income and education (Allen et al., 2000; Hill, 2000; Hochschild & Weaver, 2007; Hughes & Hertel, 1990; Keith & Herring, 1991), are more likely to be passed over for job openings (Pager, Western, & Bonikowski, 2009; Bertrand & Mullainathan, 2004), endure more prolonged periods of poverty (Bowman, Muhammad, & Ifatunji, 2004), and adverse health outcomes (Krieger et al., 1998; Harburg et al., 1978). Conversely, lighter skin color is associated with more advantageous outcomes within the African-American community (Freeman et al., 1966; Ransford, 1970; Silva, 1985; Tidrick, 1973; Telles & Murguia, 1990). The same pattern holds for black communities in countries such as Brazil and Jamaica (Silva, 1985; Tidrick, 1973).

Parallel effects emerge in the criminal justice process where it is well-documented that judges treat non-whites with stereotypical facial features more severely, even after taking into account their previous criminal histories (Eberhardt et al., 2004; Blair et al., 2004; Gyimah-Brempong & Price, 2006). Similarly, jurors in capital cases are twice as likely to impose the death penalty on blacks with more Afrocentric facial features including darker skin (Eberhardt et al., 2006).

The complexion effect is symmetric across both government sanctions and benefits. In other words, individuals with Afrocentric features are not only punished more severely, but also seen as less deserving of public assistance. The relatively slow official response to the plight of Hurricane Katrina victims was widely attributed to the racial make-up of the affected population. Experimental re-creations of media coverage of the Katrina disaster suggest that people exposed to images of light rather than dark-skinned victims recommended higher amounts of emergency disaster relief assistance (Iyengar & Morin, 2006; Fong & Luttmer, 2007; Harris-Lacewell, Imai, & Yamamoto 2007). Similar results have been observed in the case of welfare and housing assistance (Iyengar, 1991; Yinger, 1995).

Extending the Complexion Effect to Politics

The significant under-representation of non-whites in Congress and state legislatures suggests that visible indicators of a candidate's race -- such as skin complexion -- may be a relevant cue for American voters. In the case of the U.S. House, the infrequency with which blacks have won elections in districts that are majority white speaks for itself: between 1966 and 1996, in nearly 7,000 elections, the success rate of black candidates was less than one percent in such districts (Canon, 1999, p. 12; also see Lublin, 1997; Schaller & King-Meadows, 2006; Barker et al., 1999; Griffin & Newman, 2008).

Because there have been only a small number of elections in which voters are asked to choose between a white and black candidate, political scientists have by necessity examined the

electoral significance of race indirectly, by focusing on white candidates' positions on policies related to race. In majority-white districts, white candidates have a clear incentive to position themselves as opponents rather than proponents of the interests of non-whites (Jamieson, 1993; Mayer, 2002; Metz & Tate, 1995).[1] Given the demise of overt racial prejudice, the positioning is accomplished through implicit rather than explicit racial appeals. It is generally assumed that candidates who advocate racial discrimination, for instance, will be rejected for holding views at odds with mainstream culture (Mendelberg, 2001; Valentino et al., 2002). But candidates who oppose school busing or favor stricter eligibility requirements for welfare assistance can use these positions to signal closer proximity to white voters without violating egalitarian norms. A considerable body of work in political communication suggests that "coded" racial appeals are relatively effective in eliciting support from white voters (Mendelberg, 2001; Valentino et al., 2002; White, 2007).

Although implicit racial appeals may be effective in contemporary campaigns, it is premature to dismiss explicit racial cues as ineffective. In the case of skin complexion there is a paucity of evidence. The first experimental study on complexion effects (Terkildsen, 1993) found that white voters in Kentucky were less inclined to support a fictitious black candidate whose skin tone had been darkened. More recently, Weaver (2009) manipulated the Afrocentric features of hypothetical minority candidates and had them compete against either a white or black opponent. She found significant effects in favor of the lighter-skinned candidate, but only when voters were given a choice between two black candidates. When the choice was between a white and black candidate, the results were ambiguous and conditioned by partisanship. Democrats were more inclined to support the candidate with more Afrocentric features over the white candidate, while Republicans were less

[1] Indeed, there is an abundance of evidence that racial attitudes are significant predictors of voting preferences in elections that feature candidates of different races (see, for instance, Knuckey & Orey, 2000; Sears et al., 1987; Sears & Henry, 2005; Tesler & Sears, 2010; Jackman & Vavreck, 2009).

likely to support the Afrocentric-looking candidate. One possible explanation for the finding of racial out-group preference among Democrats is that race represents a salient ideological cue: voters impute more liberal positions to a non-white candidate (McDermott, 1998).[2]

In sum, although there is extensive evidence linking skin complexion with the activation of negative racial stereotypes and adverse real-world outcomes for the dark skinned, there have been few attempts to replicate this effect in the electoral arena. Political scientists have identified race bias in campaigns by focusing on the visual attributes of non-white candidates, but on the verbal appeals made by their white opponents.

In the studies described below, we exploited the 2008 presidential campaign to assess the impact of skin complexion on support for Barack Obama at two different stages of the campaign. In Study 1, we provided a sample of registered Democrats and Independents with photographs and policy position information for each of the three leading Democratic contenders -- Obama, Hillary Clinton, and John Edwards -- and then asked for evaluations of each candidate. The photograph of Obama was altered to produce relatively light and dark versions. Study 2 replicated Study 1, but in the context of the general election (i.e. participants saw photographs of Obama and McCain).

Study 1

Design and Procedure

The study was administered before the South Carolina primary (respondents completed the survey between January 20 and January 25). A matched sample (N=3714) of self-identified Democrats and independents was drawn from the YouGov-Polimetrix (YGP) online panel. YGP recruits their online panel (now in excess of one million adult Americans) by offering credit points for completing surveys applicable towards acquiring various consumer products (e.g. an Ipod).

[2] Because the images of the light-skinned and dark-skinned black candidates were created by morphing different black and white faces, it is also possible that Weaver's manipulation confounded attractiveness, babyfaceness, and facial similarity with complexion.

YGP implements a two-stage sampling methodology (details are available at www.polimetrix.com). First, a sampling frame is constructed from the American Community Study with additional data from the Current Population Survey voter supplement and the Pew Religious Life study.[3] From this frame, YGP draws a stratified random sample (the target sample) of people similar in size to the desired sample from their opt-in panel. Second, YGP searches their opt-in online panel for respondents who most closely match the individuals in the target sample on the variables of race, gender, age, education, and imputed party identification. On average, 2-3 matches are drawn for every person in the target sample all of whom are invited to complete the study. From this set of completed interviews, YGP draws the final matched-sample taking the panelists who most closely match the target sample counterparts. The end result is a sample of opt-in respondents with equivalent characteristics as the target sample on the matched characteristics listed above; under most conditions, the matched sample will converge with a true random sample (Rivers, 2005).[4]

The median level of education in this particular sample was "some college," the average age was 52, 53 percent were men, and 87 percent of the respondents were white. The sample included residents of all 50 states with the largest representation (N=772) from California and the smallest (N=14) from Hawaii.

The experimental treatment consisted of a side-by-side photographic array of the three major contenders for the Democratic nomination (see Figure 1) accompanied by a one sentence description

[3] The 2006 American Community Survey (ACS), conducted by the U.S. Bureau of the Census, is based on a probability sample of size 1,194,354 with a response rate of 93.1 percent.

[4] The fact that YGP matches according to a set of demographic characteristics does not imply that their samples are unbiased. All sampling modes are characterized by different forms of bias and opt-in Internet panels are no exception. Systematic comparisons of YGP matched samples with RDD (telephone) samples and face-to-face interviews indicate trivial differences between the telephone and online modes, but substantial divergences from the face-to-face mode (Hill et al. 2007; Malhotra and Krosnick 2007). In general, the online samples appear biased in the direction of politically attentive voters. For instance, in comparison with National Election Study respondents (interviewed face-to-face), YGP respondents were more likely by eight percentage points to correctly identify the Vice-President of the US. Because attentiveness is likely to be associated with recognition of cultural norms, it is possible that the level of under-reporting of racial bias may be somewhat higher in online samples in comparison with RDD samples.

of the candidates' respective positions on the Bush tax cuts, the war in Iraq, school vouchers, and gay marriage.[5] We provided the four issue positions to ensure that the visual image of Obama would not be the overriding information cue. Thus, even among individuals who were completely unaware of the Obama candidacy at the time of this study, the ethnicity manipulation amounted to just one of five information cues about the candidate that they encountered.

Respondents were exposed to the manipulation while answering a set of questions concerning their evaluations of the candidates. The position of the candidates within the array was randomized. Participants were assigned to one of four conditions. One group saw the array corresponding to the actual photographs of Obama, Edwards and Clinton (see Figure 1). Two other groups were exposed either to a lightened or darkened version of Obama[6] (Figure 2 shows the three different Obama complexion conditions) and a fourth group responded to the survey questions without seeing any photographs at all.[7]

(Figures 1-2 here)

The pictures of the three candidates remained on the screen while participants indicated their primary vote preference[8] and responded to a trait battery in which they identified particular positive and negative traits that applied to each of the candidates. We computed separate indices of net positive and negative trait ratings for Obama.[9] The survey instrument also included the four-items

[5] The issue information remained identical across all conditions and reflected the candidates' public statements concerning these issues.

[6] Not only did we ensure that the complexion cue was accompanied by non-racial information (policy positions), we also implemented a relatively modest variation in the candidate's complexion. As measured by the brightness (V) component of the HSV color space (See Fink, 2001, Messing et al., 2009), the V value for the actual image of Obama was .68. The corresponding values for the light and dark images were .72 and .53 respectively.

[7] At the end of the survey, all participants were debriefed in full. They were shown the altered photographs and provided a brief description of the purpose of the research.

[8] Respondents were asked "If you had to choose among these candidates, which one would you prefer?"

[9] We separate the positive and negative trait terms because a dimensional analysis identified two separate positive and negative factors. The positive terms were intelligent, honest, competent, inspiring, strong, steady, nice, and calm. The negative terms were ruthless, emotional, angry, boring, and weak. The number of positive terms attributed to Obama was subtracted from the average number of positive attributions for

making up the racial resentment index (Kinder & Sanders, 1996)[10] and a question tapping the respondent's level of interest in politics.[11]

We focus on racial resentment and interest as background variables of particular interest because of their potential to moderate the effects of the complexion manipulation. We anticipate that highly resentful and less involved individuals will prove especially responsive to the race cue and evaluate Obama more negatively following exposure to the darker image. In the case of the resentful, the argument is that darker complexion is more likely to activate unfavorable stereotypes of black people that will carry over to influence evaluations of a black candidate. In the case of the less interested, because they possess less information about the candidates' personal attributes, previous records, or issue positions, we expect that the complexion cue will add more to their store of knowledge about Obama and hence exert a stronger effect on their overall impression of the candidate.

Results

We begin by examining the mean scores for vote preference, positive traits and negative traits across the four experimental conditions (see Figure 3). In general, evaluations of Obama were most favorable in the light complexion condition and most unfavorable in the dark complexion condition. Exposure to the light complexion condition significantly boosted the likelihood of voting for Obama when compared with both the dark condition alone (+4.6 points, $p < .05$) and with all the non-light

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Clinton and Edwards. Similarly, we calculated a "net" negative trait ratings measure by subtracting the average number of negative traits attributed to Clinton and Edwards from the number attributed to Obama.

[10] The items were as follows. (1) "Over the past few years, blacks have got less than they deserve." (2) "The Irish, Italians, Jews, Vietnamese and other minorities overcame prejudice and worked their way up. Blacks should do the same without any special favors." (3) "It's really a matter of some people not trying hard enough; if blacks would only try harder they could be just as well off as whites." (4) "Generations of slavery and discrimination have created conditions that make it difficult for blacks to work their way out of the lower class." Respondents answered each item along a four-point scale that ranged from "strongly agree" to "strongly disagree." Items 2 and 3 were reflected, the items were converted to a 0-1 metric and an index score was computed as the average of the six items. Coefficient Alpha was .869.

[11] Respondents were asked "How interested are you in politics and current affairs?" The response options were very much interested, somewhat interested, and not much interested.

conditions (+ 3.5 points, $p < .05$). A similar pattern held for the index of net negative trait ratings; negative qualities were applied to Obama significantly less frequently -- and to Edwards and Clinton more frequently -- when respondents were exposed to the light image of Obama. Unlike vote choice and negative trait attributions, the positive traits measure was unaffected by the manipulation. Given the valence of racial stereotypes, it is to be expected that a marker of race should exert stronger effects on negative rather than positive judgments of an African-American candidate.

(Figure 3 here)

Although the dark and light conditions proved distinctive, the effects of the manipulation were not symmetric in the sense that the results from the actual image condition more closely resembled the dark rather than light condition. Thus, the actual and dark image conditions both elicited more negative feelings about Obama. These images proved sufficiently darker than the corresponding image in the light condition to elicit more unfavorable candidate evaluations.

Next, we estimated the independent effects of the complexion manipulation on the three measures of candidate preference. We set the light complexion condition as the baseline (the constant term in the equation) and included two dummy variables, one corresponding to the pooled actual and dark image conditions and the second for the no picture condition. We pooled across the dark and actual images because of the results above; both conditions represent a darker cue in relation to the light complexion condition. Moreover, when we included a separate term for the actual image condition, the effects of the actual and dark image conditions were indistinguishable.[12]

While estimating the effects of the pooled dark-actual image condition and the no image condition, we controlled for respondents' race, gender, education, region of residence, ideology, the respondent's opinion on the issues of US troop withdrawal from Iraq and raising taxes on the

[12] We conducted a Wald test assessing the null hypothesis H_0: $\beta_{Dark} = \beta_{Actual}$. The results showed that the difference in the coefficient estimates was non-significant.

wealthy,[13] the index of racial resentment and an indicator of political interest. The potential moderating effects of resentment and interest were assessed through interaction terms between these variables and the dark-actual image dummy variable. The interactions reflect the differential impact of exposure to the actual and darkened images according to respondents' level of racial resentment and political interest. The left column of Table 1 presents the results without the interaction terms and the right-hand column shows the results with the interaction terms included.

(Table 1 here)

Exposure to relatively dark images of Obama significantly affected both vote choice and negative trait attributions. When the ordinal variables were held constant at their mean and the categorical variables at white, male, democrat, and non-southerner, exposure to the dark and actual images reduced the probability of voting for Obama by 3 percent when compared with the other conditions. In the case of the negative traits index, the treatment effect amounted to roughly two points. Thus, relatively early in the campaign, darker skin complexion did function as an electoral penalty; Obama was evaluated most favorably when his image was lightened.

When the model included the interactions between resentment and interest on the one hand and exposure to the actual and dark condition on the other, the main effects of complexion were no longer robust. The interaction terms involving political interest proved consistently non-significant, indicating that the complexion penalty was neither strengthened nor weakened among more or less involved respondents. In the case of racial resentment, we detected only faint traces of the expected interaction; the effect of complexion on vote choice was somewhat enlarged among those with

[13] In the case of Iraq, we asked respondents "How long should the U.S. stay in Iraq?" The options were should leave immediately, should leave by the end of next year, should stay for at least another year, but not indefinitely, should stay in Iraq as long as it takes to stabilize the country. In the case of taxes, we asked "Do you favor raising taxes on families with incomes over $200,000 per year?" The response options included yes, no, and not sure.

higher resentment scores ($p < .15$). On balance, however, the effects of the complexion manipulation were uniform across levels of resentment and interest.

Among the control variables, racial resentment and ideology exerted powerful effects on evaluations of Obama. The more resentful and conservative were less inclined to vote for Obama and viewed him unfavorably on both the positive and negative trait measures. Independents were clearly more supportive of Obama than self-identified Democrats who were more likely to favor Clinton. Men, blacks, and the more educated were important contributors to Obama's standing. The importance of gender and race reflects social identity effects; Hillary Clinton attracted the great majority of women voters while Obama was a near consensus choice among African-Americans. Southerners were significantly less supportive of Obama at least in terms of vote choice and the index of positive traits. Finally, Obama's candidacy also reflected a liberal policy component; those favoring a more rapid withdrawal from Iraq and increased taxes on the wealthy were strongly pro-Obama.

Overall, Study 1 suggests that at a time when voters were relatively unfamiliar with the candidates, their evaluations of Obama were sensitive to an explicit racial cue. Relatively early in the 2008 primary season, Democrats and Independents who saw an actual photograph of the candidate and one that was darkened were less likely to support Obama than their counterparts who saw a lightened image of the candidate. Unfamiliar non-white candidates are subject to a complexion penalty.

Study 2

Design and Procedure

We replicated Study 1 during the closing stages of the 2008 campaign. Approximately 1100 respondents, recruited from the Polimetrix-YouGov online panel, completed an online survey between October 21 and October 27. While answering a set of questions about McCain and Obama, respondents were shown photographs of the two candidates (for a screenshot from this study, see Figure 4). As in Study 1, depending on the condition to which they were assigned, participants were either exposed to the actual photographs of the two candidates, the dark or light version of the Obama photograph, or no photographs at all.[14] Unlike Study 1, however, the photographs were not accompanied by information concerning the candidates' positions on issues. The dependent measures in Study 2 included respondents' intended vote choice, their feelings (warm or cold) towards each candidate on a 100-point thermometer scale, and a pair of affect scores indicating the number of positive and negative emotions elicited by Obama and McCain.[15]

(Figure 4 here)

Study 2 was designed to permit a more nuanced analysis of racial attitudes as potential moderators of the complexion effect. As in Study 1, we administered the items making up the racial

[14] The race manipulation in this study entailed more than an alteration in Obama's complexion. We also manipulated the presence of Afrocentric facial features by morphing Obama's face with either a prototypical Afrocentric or Eurocentric face in the ratio of 70:30. The complexion of the Afrocentric and Eurocentric source faces was first matched with the complexion level of the Obama images in the dark and light conditions. In effect, this procedure produces Afro- and Eurocentric images with light and dark complexion respectively. In this analysis, we pool across the morphed conditions and focus on differences attributable to complexion because the morphing produced no significant effects on evaluations of Obama. Because face morphing tends to enhance the attractiveness of the morphed face, we also morphed McCain's face with the face of an unknown white male in the same 70:30 ratio.

[15] The affect battery was as follows: "Now we would like to know something about the feelings you have toward the candidates for President. For each of the two major candidates running for President, please indicate whether something the candidate has done has made you have certain feelings like anger or pride. Has Barack Obama – because of the kind of person he is, or because of something he has done, ever made you feel: angry, hopeful, afraid, proud, happy, sad, and disgusted." For each candidate, we computed indices of positive and negative affect. (Cronbach's Alpha ranged from .73 to .85.). We then created a measure of net difference in positive affect (Obama positive affect – McCain positive affect) and negative affect (Obama negative affect – McCain negative affect).

resentment scale. Respondents also completed a set of trait ratings measuring overt or old-fashioned racism.[16] To these conventional measures of explicit prejudice, Study 2 added an indicator of implicit racial preference --the race IAT. Since it was developed in the 1990s, the race IAT has been used extensively as a measure of unconscious or implicit race bias (for a review see Nosek, Greenwald, & Banaji, 2007; for critical commentary on the IAT and responses, see Blanton & Jaccard, 2006; Greenwald, Nosek, & Sriram, 2006). An effect size, or "IAT score," measures the mean difference in response latency during a task in which respondents associate terms such as African-American and European-American and images of black and white faces with words conveying positive or negative feelings (e.g. wonderful, joy, laughter and terrible, hurt, failure). The IAT score ranges from -2 to 2 with positive values representing faster association of African-American and black faces with negative feelings and vice-versa (for full details on computing the D score, see Greenwald et al., 2003).[17] Positive values of the IAT score thus represent higher levels of implicit bias against blacks.

With the addition of the race IAT in Study 2, we are in a position to compare explicit and implicit racial attitudes as moderators of the complexion effect. Given the considerable evidence that survey-based measures typically understate the level of racial bias expressed by whites (McConahay, Hardee, & Batts, 1981; Kuklinski, Cobb, & Gilens, 1997; Crosby, Bromley, & Saxe, 1980; Iyengar et al., 2009), we have strong priors, namely, that there will be greater differentials in

[16] The first item in the overt racism set was worded as follows: "We're interested in your opinions about different groups in our society. Using the scale shown below, where a score of 1 would mean that you think most of the people in the group tend to be "hard working," while a score of 7 would mean that most of the people are "lazy," where would you place African-Americans." This was followed by trait scales with end points of "violent" and "peaceful," "self-reliant" and "prefer to be on welfare," and "interact with people of different backgrounds" and "stick to themselves." We converted each item to a 0-1 metric, summed the four responses aimed at each group and divided by four. The final indicator was the difference between the ratings of whites and blacks. The Alpha values for the African-American and White indices were .77 and .67 respectively.

[17] On completing the online survey, respondents were directed to the Project Implicit website where they were given a "warm-up" IAT designed to acclimatize them to the reaction time protocol followed by the race and candidate IATs. Finally, the IAT data were merged with the survey data.

the magnitude of the treatment effect associated with implicit rather than explicit racial bias. Stated differently, we expect that the level of attitude-behavior consistency (i.e., race prejudice, or responding more unfavorably to the darker images of Obama) will be stronger for respondents with high IAT scores than those with high resentment or overt racism scores.

Results

In keeping with Study 1, intent to vote for Obama tended to be slightly higher among respondents assigned to the light image but given our sample size, the observed differences of 1-2 percentage points proved non-significant (see Figure 5). The results from the actual, dark, and no image conditions were generally indistinguishable.

(Figure 5 here)

Introducing a series of control variables failed to alter the pattern of null effects (see Table 2). In one solitary instance -- the index of negative affects – the effect associated with exposure to dark and actual images was significant. After adjusting for the effects of the control variables, participants assigned to the dark and actual image conditions were more likely to associate negative feelings with Obama ($p < .05$). For unknown reasons, respondents assigned to the no picture condition also registered slightly higher negative affect scores ($p < .10$). Overall, two weeks before the election, the complexion manipulation provided little "added value" to voters' evaluations of Obama.

(Table 2 here)

Although exposure to light or dark images of Obama did not generally move voters in the direction of McCain, the effects of complexion were significantly strengthened among respondents with higher levels of implicit racial prejudice. Unlike both survey-based measures of prejudice -- racial resentment and overt racism -- which failed to interact with the manipulation, the IAT interaction was significant for both vote intention ($p < .05$) and the feeling thermometer ($p < .05$).

The effect size of these interactions was non-trivial. We simulated predicted probabilities based on the model coefficients, allowing complexion and our measures of prejudice (racial resentment and IAT score) to vary while holding other variables at their mean values (see King, Tomz, and Wittenberg, 2000). The left column of Figure 6 plots simulated predicted probabilities of voting for Obama when one's IAT score is one or two standard deviations below and above the mean.

The predicted probability of voting for Obama increased by 18 percentage points in the light condition among respondents with race IAT scores two standard deviations above the mean (high anti-black implicit bias), compared to the dark condition. For respondents with IAT scores two standard deviations below the mean (i.e. those with pro-black implicit bias), exposure to the dark condition increased the likelihood of voting for Obama by a similar margin. Using a one standard deviation departure from the mean as the basis for comparison, the probability of voting for Obama fell by nearly 9 percentage points in the dark condition when anti-black implicit bias was high and increased by 10 percentage points among respondents with pro-black implicit bias. As shown in the right column of Figure 6, in the case of the feeling thermometer measure (which ranges from -100 to 100), the effect size was increased by sixteen points among respondents with extremely high IAT scores and by nine points among those with moderately high levels of implicit bias.

(Figure 6 here)

Among the control variables, both measures of explicit racial bias, but especially the index of racial resentment ($p < .01$) eroded support for Obama (for similar evidence concerning the importance of resentment, see Tesler & Sears, 2010; Jackman & Vavreck, 2009). Implicit racial bias, however, failed to directly impact the measures of candidate preference. Thus, *explicit* but not implicit attitudes toward African-Americans carried over to *explicit* evaluations of an African-American candidate. The effects of the former were unconditioned by racial cues while the effects of implicit attitudes were triggered by exposure to explicit racial cues.

Although implicit attitudes were dominated by explicit attitudes as antecedents of support for Obama, the significant interaction between the complexion manipulation and the IAT adds to the growing body of evidence that implicit attitudes are better predictors of race-related behavior than explicit attitudes. Unlike racial resentment or overt racism, the race IAT discriminated between voters who were responsive or unresponsive to the complexion cue.

Given the context of the 2008 election, it is not surprising that retrospective assessments of the national economy provided a substantial impetus to Obama's candidacy ($p < .01$). Unlike the primary election study, group influences were noticeably absent from voting choices. Support for Obama was no different among men and women, whites and blacks, southerners and northerners. Of course, the lack of racial effects may be attributed to the inclusion of three separate measures of racial prejudice all of which are correlated with race.

Taken together, the results from the two studies suggest that the importance of explicit racial cues depends upon voter familiarity with minority candidates. The complexion manipulation significantly influenced the evaluations of Democratic primary voters early in the campaign when relatively few Americans were aware of Obama's candidacy and persona. For a relatively unknown candidate, the known attribute of ethnicity provided a significant impetus to impression formation and Obama was penalized when the racial cue was relatively strong (dark complexion). By October, however, as more voters acquired information about Obama's positions on the issues, his handling of the economic crisis, his personal background and his standing in the polls, the question of ethnicity became either less relevant or entirely redundant as a basis for evaluating Obama. In other words, by the closing stages of the campaign, non-racial considerations were sufficiently abundant to dominate complexion as a voting cue.

Conclusion

The most plausible account of our pattern of results – significant complexion effects in January, but no effects in October -- stems from the differing information environment at the time of the two studies. Study 2 occurred in the aftermath of a major financial crisis thus virtually assuring that voters would fixate on candidates' positions on economic matters (see Fiorina, 1981; Markus, 1988; Alvarez & Nagler, 1995). In fact, the amount of media coverage devoted to the economy during the 2008 campaign was ten times greater than in the 2004 election (Holbrook, 2009). Study 1 was administered immediately after Obama's surprise win in Iowa and before the candidate became an established national figure. In January, the central questions for voters concerned the candidates' personal backgrounds and experiences.

The difference in the timing of the two studies provides a real-world manipulation of voter familiarity with Candidate Obama. Study 1 occurred before the Reverend Wright feeding frenzy, the wave of press coverage associated with Super Tuesday and the ensuing head-to-head competition between Obama and Clinton. Even as early as the Democratic Convention, the great majority of Americans were well aware of Obama's personal background. Thus, as a signal of ethnicity, the complexion cue offered no new information for participants in Study 2. In January, on the other hand, some significant percentage of the electorate was only vaguely familiar with Obama. In this more uncertain environment, complexion was a sufficiently meaningful cue to move evaluations of the non-white candidate.

The stronger effects of the complexion manipulation at the opening of the presidential campaign imply that a more telling test of the hypothesis would focus on a less visible contest with little news coverage and unknown candidates. The odds against detecting complexion effects are perhaps greatest in the case of presidential candidates. In genuinely information-poor campaigns, we anticipate that the role of nonverbal cues in general and racial cues in particular would be more

important. We hope to administer the experimental design in the context of a state-level race in 2010. We are also compiling a photographic database of non-white candidates running for statewide office in the 2010 campaign that will permit an observational test of the complexion penalty.

Finally, our findings in Study 2 suggest that the importance of racial cues in political campaigns depend on voters' implicit racial attitudes. In the aftermath of the civil rights era and the diffusion of egalitarian norms, explicit (self-reported) racial attitudes typically understate the true level of racial prejudice (for evidence of the substantial discrepancy between implicit and explicit measures of racial prejudice, see Iyengar et al., 2009). This discrepancy suggests that research based on survey data will inevitably understate the effects of racial cues in campaigns. As previously noted, the literature on "racial priming" (Mendelberg, 2001; Valentino et al., 2002) suggests that exposure to subtle racial messages (rather than blatantly racist campaign appeals) has the effect of making explicit indicators of racial preference stronger predictors of vote choice. However, since the explicit indicators are contaminated with systematic measurement error, we should expect even stronger priming effects if the measure of racial preference is implicit rather than explicit. In short, a more sensitive examination of the "race card" in campaigns requires the measurement of both implicit and explicit racial attitudes.

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Figure 1: Screenshot from the Actual Obama Complexion Condition

	Hillary Rodham Clinton	John Reid Edwards	Barack Hussein Obama
Education	The government should not provide school vouchers, because vouchers could end up funding radical religious schools.	Private school vouchers drain resources from public schools.	Private school vouchers drain resources from public schools.
Gay Marriage	The states should decide whether same-sex marriage should be legal.	Same-sex couples should be entitled to the same rights as married couples through civil unions.	Same-sex couples should be entitled to the same rights as married couples through civil unions.
Taxes	End Bush tax cuts to divert money from the rich to the broader public.	Repeal Bush tax cuts to pay for universal health care.	Reduce Bush tax cuts to pay for health care and other programs.
Iraq War	Bring out as many combat troops as quickly as possible.	End combat missions and focus on removing all combat troops.	Only leave troops sufficient for protection of Americans and counterterrorism.

Figure 2: The Obama Complexion Conditions

Light Complexion | Original | Dark Complexion

Figure 3: Study 1 - Mean Scores by Condition (with Standard Errors)

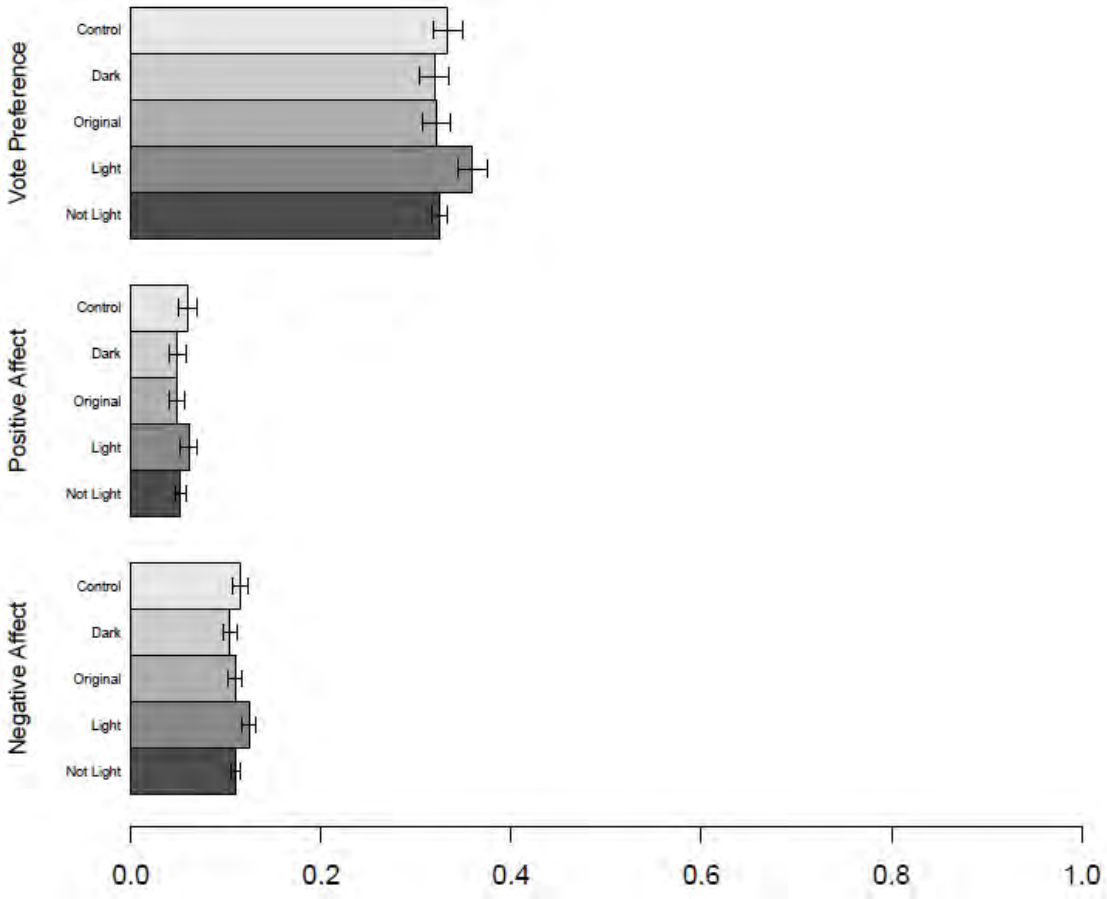

Table 1: Effects of Skin-complexion – Study 1

	Vote Preference[1]		Positive Traits[2]		Negative Traits[2]	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Constant	-.442	-.677†	.137**	.142**	-.133**	-.116**
	(.324)	(.383)	(.040)	(.043)	(.033)	(.036)
Education	.086†	.085†	.010†	.010†	-.007	-.007
	(.052)	(.052)	(.006)	(.006)	(.005)	(.005)
Black	1.264**	1.252**	.152**	.152**	-.041*	-.040*
	(.187)	(.187)	(.021)	(.022)	(.017)	(.018)
Female	-.178*	-.177*	-.054**	-.054**	.050**	.050**
	(.078)	(.078)	(.009)	(.009)	(.007)	(.007)
South	-.228**	-.225**	-.023*	-.023*	.003	.003
	(.082)	(.082)	(.009)	(.009)	(.008)	(.008)
Ideology	-.008	-.007	.012*	.012*	-.031**	-.030**
	(.047)	(.047)	(.005)	(.005)	(.005)	(.004)
Independents	.207**	.206**	.050**	.050**	-.023**	-.023**
	(.080)	(.080)	(.009)	(.009)	(.007)	(.007)
Extended Stay in Iraq War	1.497**	1.500**	.130**	.129**	-.120**	-.120**
	(.118)	(.118)	(.013)	(.013)	(.011)	(.011)
Tax Raise	-.481**	-.476**	-.093**	-.093**	.105**	.105**
	(.100)	(.100)	(.012)	(.011)	(.010)	(.009)
Political Interest	-.267	-.133	.029	.022	-.061**	-.080**
	(.219)	(.298)	(.025)	(.033)	(.020)	(.028)
Racial Resentment	-.929**	-.741**	-.205**	-.202**	.091**	.089**
	(.182)	(.224)	(.022)	(.025)	(.018)	(.020)
No Photo Condition	-.119	-.120	-.007	-.006	.008	.008
	(.102)	(.102)	(.012)	(.012)	(.010)	(.010)
Dark Obama Condition	-.227*	.264	-.014	-.025	.017*	-.020
	(.089)	(.439)	(.010)	(.049)	(.008)	(.041)
Dark x Political Interest		-.284		.014		.038
		(.426)		(.047)		(.039)
Dark x Racial Resentment		-.396		-.005		.004
		(.272)		(.030)		(.025)
Pseudo/Adj. R^2	.085	.086	.138	.134	.218	.216
LR χ^2	404.95	407.37				
N	3686	3686	3686	3686	3686	3686

†$p < .10$; *$p < .05$; **$p < .01$

[1] Cell entries are binary logit estimates with standard errors in parenthesis.

[2] Cell entries are OLS estimates with standard errors in parenthesis.

Figure 4: Study 2 Screenshot (actual complexion condition)

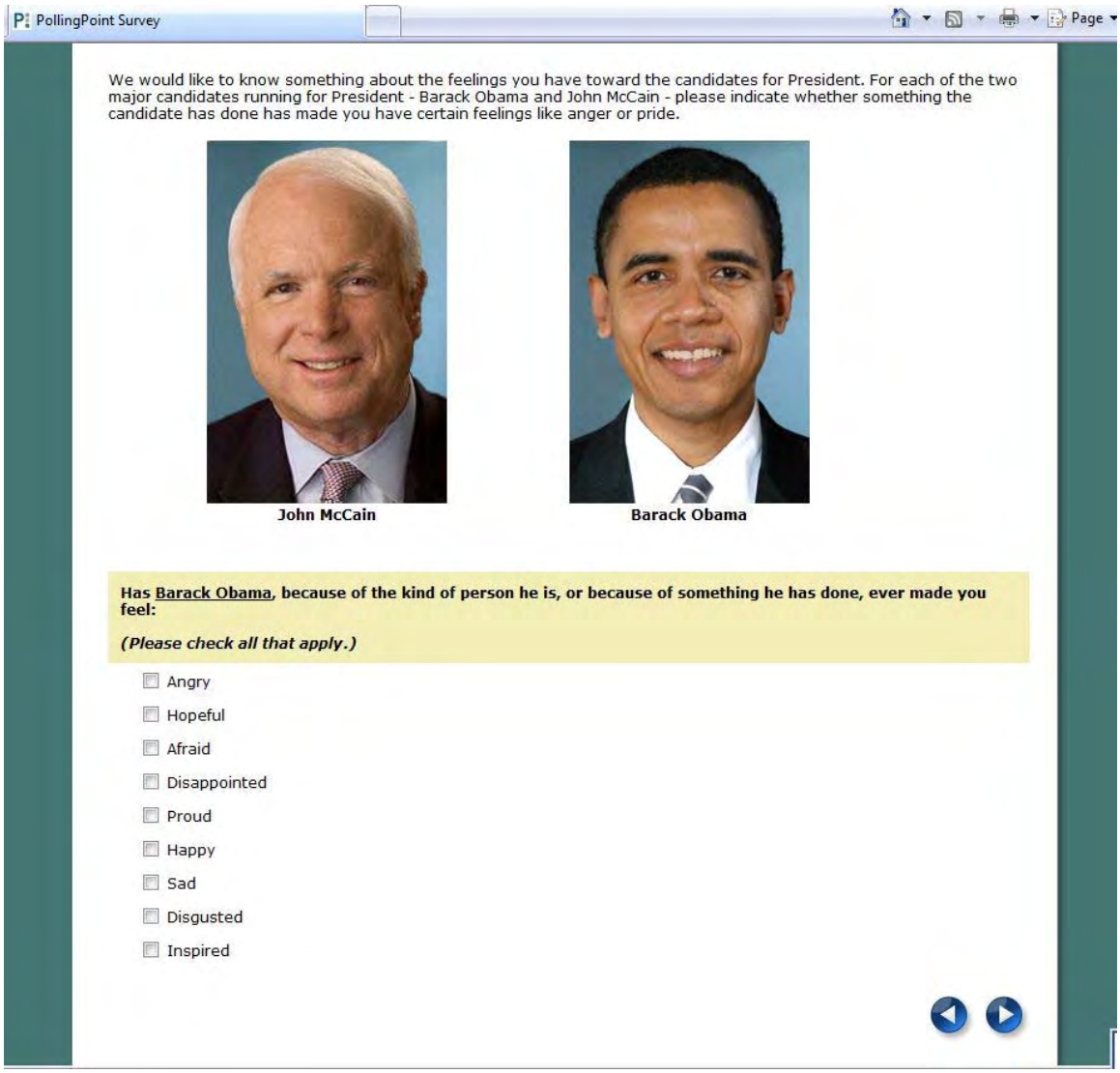

Figure 5: Study 2 - Mean Scores by Condition (with Standard Errors)

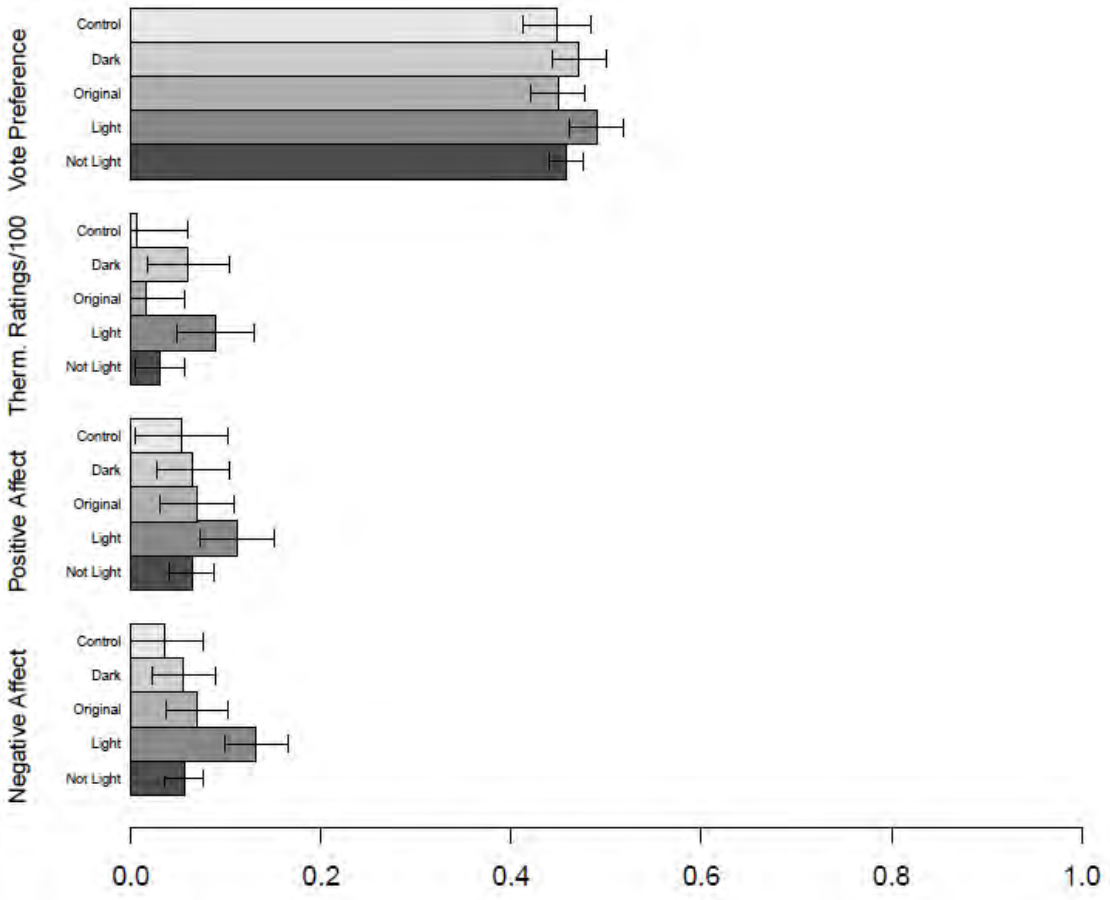

Table 2: Effects of Skin-complexion – Study 2

	Vote Preference[1]		Positive Affects[2]		Negative Affects[2]		Thermometer Ratings[2]	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Constant	4.636**	4.468**	.531**	.605**	-.571**	-.569**	70.191**	68.518**
	(.872)	(1.118)	(.092)	(.110)	(.065)	(.097)	(9.311)	(11.554)
Education	-.020	.008	.022	.023	-.003	-.004	-.294	-.223
	(.144)	(.139)	(.015)	(.015)	(.015)	(.014)	(1.430)	(1.429)
Black	.626	.608	(.068	.069	.024	.030	.826	.414
	(.645)	(.635)	(.052)	(.052)	(.046)	(.044)	(4.916)	(4.911)
Female	-.451	-.486	-.020	-.021	.040†	.042†	-3.559	-3.618
	(.320)	(.306)	(.028)	(.028)	(.023)	(.024)	(2.506)	(2.539)
South	.030	.123	-.040	-.035	.018	.016	.781	1.055
	(.234)	(.246)	(.032)	(.032)	(.020)	(.029)	(2.928)	(2.938)
Ideology	-.676**	-.671**	-.085**	-.086**	.091**	.087**	-7.908**	-7.936**
	(.185)	(.171)	(.017)	(.017)	(.014)	(.014)	(1.641)	(1.635)
PID	-.789**	-.812**	-.120**	-.119**	.093**	.095**	-13.781**	-13.839**
	(.071)	(.073)	(.010)	(.010)	(.007)	(.009)	(.957)	(.963)
Economic Voting	-2.910**	-3.180**	-.258**	-.264**	.197**	.200**	-34.274**	-34.321**
	(.970)	(1.016)	(.081)	(.081)	(.055)	(.069)	(7.744)	(7.837)
Political Interest	-.245	.071	-.001	-.025	-.017	-.035	-8.608	-6.735
	(.378)	(.542)	(.046)	(.064)	(.043)	(.054)	(4.275)	(6.373)
Overt Racism	-2.568**	-3.903**	-.133	-.274*	.223**	.253*	-16.032†	-20.351
	(.919)	(1.416)	(.095)	(.135)	(.065)	(.116)	(8.597)	(13.089)
Racial Resentment	-5.408**	-4.790**	-.703**	-.696**	.567**	.582**	-78.307**	-80.527**
	(.755)	(1.145)	(.084)	(.101)	(.065)	(.088)	(8.039)	(9.185)
Race IAT	-.267	.361	-.041	.000	.004	-.010	-3.318	5.055
	(.331)	(.323)	(.033)	(.045)	(.032)	(.038)	(3.051)	(4.092)
No Photo Condition	.175	.105	.000	-.001	.061†	.057†	-3.100	-3.184
	(.375)	(.382)	(.039)	(.039)	(.035)	(.034)	(3.646)	(3.637)
Dark Obama	.061	.391	-.006	-.141	.045*	.049	-4.188	-0.917
	(.331)	(1.384)	(.031)	(.113)	(.020)	(.096)	(2.915)	(10.758)
Dark x Political		-.732		.043		.034		-3.548
		(.940)		(.088)		(.076)		(8.393)
Dark x Overt Racism		2.672		.255		-.062		5.148
		(2.193)		(.185)		(.157)		(17.626)
Dark x Racial		-1.555		-.021		-.011		5.157
		(1.687)		(.118)		(.106)		(10.329)
Dark x Racial IAT		-1.007*		-.069		.020		-14.807*
		(.529)		(.065)		(.053)		(5.819)
Pseudo/Adj. R^2	.697	.701	.642	.643	.614	.618	.729	.731
LR χ^2	684.52	696.46						
N	965	965	986	986	965	986	879	879

†$p < .10$; *$p < .05$; **$p < .01$.

[1] Cell entries are binary logit estimates with standard errors in parenthesis.

[2] Cell entries are OLS estimates with standard errors in parenthesis.

Figure 6: Simulated Probabilities of Voting for Obama (top) and Thermometer Ratings (bottom), Showing Condition x Racial Bias Interactions (with 95% Confidence Intervals)