

Psychophysiological Approaches to Studying the Effects of Race-Based Messages in Political Campaigns

Stephen Maynard Caliendo, North Central College
smcaliendo@noctrl.edu

Charlton D. McIlwain, New York University
Cdm1@nyu.edu

Abstract

Scholars have long recognized that racism is rooted in systemic factors that manifest in attitudinal and behavioral elements that are largely unrelated to intent or conscious recognition of prejudice or bias. Empirical researchers have worked hard to adequately tap into latent racist predispositions by devising sophisticated questionnaires and interview methods that are effective in avoiding social filters and conscious-level self-deception that is inherent in self-response survey data. Advances in technology designed to measure psychophysiological factors – functional magnetic resonance imaging, electroencephalography, electromyography, galvanic skin response, heart rate variability, respiratory sinus arrhythmia, post-auricular response, startle eyeblink modulation, etc. – hold promise in moving forward the state of knowledge in this field broadly, and in the area of potential effects of race-based political messages in particular. In this paper, we advance a theoretical justification for employing such techniques to capture “preconscious” responses to race-based campaign communication.



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Further research into the relationship between race-based messages communicated in a variety of political campaign contexts and the potential effects on voter attitudes and decision making is necessary, interesting and potentially fruitful because of, rather than despite, Barack Obama's historic election in 2008. Even though we witnessed a flurry of implicit and not-so-subtle race-based messages throughout the 2008 presidential election landscape, little seemed to affect individual voters' attitudes enough to deter them from electing Obama the first Black president of the United States.

However, this is only one aspect of the story about the role that race-based appeals played in that election and beyond. Despite their relative lack of direct impact on Obama's election, such messages, the racial prejudices on which they were based, and the underlying sentiments creating and eschewing racial, ethnic, national and religious otherness seemed to have provided the fuel that launched and helped to sustain various strains of right-wing opposition to Obama since he was sworn into office – from TEA Party opposition to the signature healthcare policy to sustained claims denying the legitimacy of his birth and citizenship. Further, it is important to remember that Obama lost the White vote in 2008 by some 12 percentage points (CNN, 2008). Of the ninety percent of the electorate that told exit pollsters in 2008 that race played no role in their presidential voting choice, more than sixty percent admitted that they still held significant prejudices about African Americans – from their perceived laziness to their pervasive criminality (Associated Press, 2008). In stark contrast to the Willie Horton discourse in 1988, when Obama and his supporters, as well as journalists and others, pointed out the racial underpinnings of Obama attacks from the left and right, the response was not reconsideration, acquiescence or even denial. Many attempts to point out racial attacks resulted in counter attacks that castigated Obama and others who called attention to it as the real “racists” – a trend that has continued through the first term of Obama's presidency.

In short, Obama's campaign and election provided probably our best look yet at the “real” state of racial affairs within the political and electoral arena. Yet, even as we received a first-hand look at how the racial fears and hopes, resentments and recriminations played out in a campaign scenario featuring an African American candidate at the top of the ticket, that experience revealed a number of contradictions, inconsistencies and nagging questions about the racial attitudes of U.S. citizens across the racial spectrum, the electoral behaviors associated with them, and the relationship between those attitudes and behaviors and the kinds of race-infused messages that did and continue to proliferate within the electoral landscape. The primary objective of this paper is to begin thinking about new approaches for dealing with the lingering questions surrounding how race-based appeals influence all members of the electorate.

The Effects of Race-Based Appeals: The Evolution of Our Understanding

This paper comes on the heels of several years of work that resulted in our recently published book, *Race Appeal: How Candidates Invoke Race in U.S. Elections* (McIlwain & Caliendo, 2011). Two of our goals in this book were to demonstrate the precise ways that language, images and electoral context work together to produce race-based appeals in political campaign communication and to examine the potential influence of racially framed news about election contests involving candidates of color. However, perhaps our most challenging objective was to determine how race-based candidate appeals – both racist appeals, which draw on negative stereotypes, resentments and fears of persons of color, and racial appeals to Black authenticity – affected both White and Black potential voters' perceptions of the White and Black candidates who deployed those appeals, respectively.

We understood that our work would be constrained by that which has plagued media effects researchers in general and researchers studying racial attitudes more specifically for years: the inability to place overwhelming confidence in the kinds of self-report measures at our disposal. Such tools often threaten to obscure results because of everything from race-of-interviewer effects (Anderson, Silver & Abramson, 1988; Huddy & Feldman, 2009) to social desirability pressures (Krysan & Couper, 2003) and vast subject differences in interpreting even the most carefully crafted racial language in the variety of measures we use to assess racial attitudes and the processing of race-related stimuli.

But it was the results of our studies of the potential effects of race-based messages that left us eager to discover or develop more sophisticated research methods to provide greater insight into the psychology underlying some of the conflicting and even contradictory subject interpretations and decisions expressed in our experiments (not to mention similar complexities in the today's racial and political landscape). For instance, how and why is it that Black and White participants exposed to a race-neutral message by an African American candidate would perceive that the candidate “played the race card?” Or, why is it that, and what is it about, certain forms of race-based messages that make them categorically objectionable to both Blacks and Whites across the ideological spectrum and without respect to reported strength of Black identity (Dawson, 2001; Sellers et al., 1997) or degree of symbolic racism (Henry & Sears, 2002). Similarly, when exposed to a message in which language, images, sound and context work together to produce a potential message, what part of such a message are study participants reacting to when they report that the messages diminished their evaluation of the candidate or influenced them not to vote for him or her?

These are just a few questions that emerged from our work over the last decade that have led us to search for additional insight into these psychological dynamics that lead individuals to perceive certain forms of racial discourse in certain ways, to better understand the real strength of effect such messages have on individuals, and the degree to which the strength of that effect may lead individuals to judge political candidates by certain criteria and then to make political decisions consistent with or contrary to those criteria.

The First Breakthroughs: Modern and Symbolic Racism

In the 1980s, social scientists developed the first sophisticated measures designed to circumvent the potential gap between survey respondents' attitudes and opinions (conceptualized as expressed attitudes) that could result from conscious avoidance of reporting socially undesirable ideas. The concepts of "modern racism" (McConahay, 1983) and "symbolic racism" (Kinder & Sears, 1981; Henry & Sears, 2002) and their resultant multi-item scales have dominated the scholarly exploration of race-based attitudes and behaviors for the better part of three decades. These measures are designed to tap into latent constructs that are more reflective of negative racial predispositions in the post-Jim Crow era, which Mendelberg (2001) has argued has been characterized by a "norm of equality" with respect to race. This means that even though attitudes about the equality of persons of different races differ, there is an overarching cultural understanding that it is improper to judge people (especially negatively) based on their race or ethnicity. The symbolic racism scale and the modern racism scale provides researchers with a battery of questions that have been tested for reliability and internal validity so that they may be used (collectively) as either independent or dependent variables in statistical models.

Despite their sophistication and the vast improvement over direct measures of racial animosity or resentment, there is still the nagging problem of self-reporting that creates an atmosphere of skepticism and discomfort amongst social scientists and critical race theorists who subscribe to theories of racial attitudes that recognize that individuals' desire to appear to be racially unbiased may interfere with their honesty on survey items (particularly in contexts where there is an interviewer involved).

Second Wave: The Implicit Association Test

The most groundbreaking alternative to multiple-item scales is the Implicit Association Test (IAT) in the late 1990s (Greenwald, McGhee & Schwartz, 1998). Building on the cognitive priming literature, the architects of this measure – available freely online at <http://implicit.harvard.edu> – have devised a system of measuring the accuracy and timeliness of a keystroke task that involves pairing words and images relating to a variety of groups that have experienced prejudice (racial minorities, women, overweight persons, etc.) to positive and negative terms. Because the participants are instructed to work quickly (in fact, working too slowly will generate no results at all), the test is measuring automatic evaluative associations stored in neural networks, often outside of our consciousness. Because participants are not answering any questions about their racial preferences or attitudes, and because they are physically unable to change their responses to satisfy cultural norms and expectations, the results are believed to be more accurate in measuring subconscious associations.

The IAT is not without its detractors, most of whom acknowledge it to be a significant theoretical advancement but are concerned about possible alternate explanations (beyond latent prejudice) for the results that it generates (see, for

instance, Brendl, Markman & Messner, 2001; DeHouwer, 2001; Mierke & Klauer, 2001; Olson & Fazio, 2004; and Rothermund & Wentura, 2001). However, the IAT has been a reliable and popular tool to achieve what has been heretofore unachievable: measurement of latent racial predispositions without fear of participant interference based on expectations of social desirability.

The Next Frontier: Psychophysiology

It is our purpose here to advocate for the development of psychophysiological models to help explain and predict potential effects of race-based political campaign communication. Similar to multi-item indicators and the IAT, these techniques have benefits that enable researchers to circumvent of conscious expression of opinions that make them desirable.

Lang, Potter & Bolls (2010) note that the use of physiology to study media effects dates back to the 1960s, but that the reemergence of such methodology in the 1980s signaled a shift from an exploration of physiological effects in and of themselves to a dedication to understanding how such effects reflected cognitive processing. In essence, there was not simply “a return to the use of physiological measures but instead [an embracing of] the discipline of psychophysiology” (p. 186). As such, there are certain theoretical assumptions that undergird this methodological approach (Lang, Potter & Bolls, 2010):

1. Belief in the “embodied brain,” which means that the ways that the body responds are directly related to processing that takes place in the brain.
2. “The work of the brain and the body occur over time” (p. 186) and in a predictable order. Thinking (not necessarily consciously) happens first, and the body reacts. Reaction time can be measured in seconds or milliseconds.
3. The body, as well as the mind, has an effect on the body. Both operate in ways that have effects on multiple aspects of physiological functioning.
4. All physiological functions are a result of multiple causes. Cacioppo, Tassinari & Bernston (2000) refer to this as “monstrosities” of functioning (as cited in Lang, Potter & Bolls, 2010, p. 186).
5. “Physiological systems are interactive and have both feedback and feed-forward mechanisms” (Lang, Potter & Bolls, 2010, p. 187). This may appear to contradict the second assumption, but although chicken-and-egg questions still arise in this field, much of the existing literature supports the notion that the body can react prior to *conscious* recognition of a stimulus, and then once consciousness is achieved, the physiological response can be affected further. As we discuss below, the primary reason for turning to neuroscience to address questions related to race and political communication is to try to capture *pre-conscious* processing in as sophisticated a way as is possible with existing technology.

Embracing these assumptions entails rejecting common beliefs about the level of control that humans have over cognitive functioning. That is, we need to understand that much (in fact, the overwhelming majority) of what happens in our brains

occurs outside of our awareness. This, of course, is not at all foreign to scholars in various fields who have concentrated their efforts on understanding the complexities of racial attitudes and behaviors. What is new here is that the technology and state of knowledge in the various areas within neuroscience have developed in such a way as to allow social scientists to partner with neuroscientists to apply our theories and models to these phenomena.

To date, much of the neuroscience-based work designed to consider race has not been explicitly political in nature. While there is inherent power dynamics at work in all scholarly considerations of racial dynamics, the bulk of the literature in this area explains psychophysiological correlates pertaining to either 1) the race of the participants (Fisher & Kotses, 1973; Liebllich, Kugelmass, & Ben-Shakhar, 1973), 2) the race of the experiment administrator (Fisher & Kotses, 1973; Nagra, Skeel & Sbraga, 2007; Sheffield et al., 2000), 3) the stimulus to which participants are exposed, or 4) some combination of the aforementioned. The most important of this work to our argument here is that which focuses on race-based stimuli. Accordingly, we turn to an exploration of that work in more detail.

Race-related Stimuli

There has been significant research effort aimed at more directly measuring the ways that cognitive processing is related to stereotyping and prejudice. As early as the 1970s, political scientists recognized the limits of indirect measures of racial prejudice and sought to advance the use of physiological measures in their stead (Tursky, Lodge, & Reeder, 1979). As Guglielmi (1999) notes, such work virtually disappeared for nearly two decades because of the strength of the emergence of cognitive models and inadequate knowledge of physiology by those interested in examining these questions (among other reasons). As political scientists come to better understand the role of affect in predicting political behavior, however, the return to physiological indicators is both natural and appropriate. As Lee (2011) so accurately observes in a recent article for *The American Prospect*, survey techniques (even sophisticated ones such as those we reviewed above) are consistently unable to accurately predict levels of racial animosity, resentment or even outright hostility. Lee puts his hope in the IAT and similar measures but ignores the possibility (at least in this piece) of psychophysiological models.

Yet there have been numerous studies using physiological indicators that can inform our understanding of how race-based messages might work in the context of political campaign communication. It would be redundant to thoroughly review the literature in this area here (see Eberhardt, 2006; Guglielmi, 1999; Ito & Bartholow, 2009; and Phelps & Thomas, 2003 for excellent overviews), but we offer a few examples by way of arguing for a push toward testing campaign communication as stimuli in such experiments.

The most prominent work in this area involves “facial recognition” experiments, and for good reason: Nelson (2001) notes that humans begin to see faces as unique objects very early in our cognitive development (within the first six months of life), and he posits that such recognition relies on experiences and the expectations that are derived from those experiences. Even apart from racial

variables, this work has been of interest to political scientists. Perhaps the best known of this work in recent months – largely as a result of *New York Times* columnist David Brooks’s trumpeting of it as he publicizes his new book, *The Social Animal* (2011) – is that which demonstrates that participants are able to predict the outcome of actual elections after being exposed to the faces of candidates for as briefly as one second (Armstrong, Green, Jones, Jr., & Wright, 2010; Ballew & Todorov, 2007; Todorov, Mandisodza, Goren & Hall, 2005). Spezio et al. (2008) examined participants’ brains using functional magnetic resonance imaging (fMRI) while they viewed photos of candidates and found that “elicitation of negative emotional processes may predominate in mediating the connection between candidate appearance and voting behavior” (p. 348). Because of the existence of negative emotional attachments related to racial predispositions, there is reason to extrapolate (and eventually test) hypotheses relating to potential effects on voters in the context of a bi-racial election.

Outside of explorations of electoral behavior, there has been considerable research on race and processing using facial recognition experiments. In these studies, participants are presented with images of faces of varying races or ethnicities in different contexts, and physiological measurements are recorded. Anthony, Copper & Mullen (1992) report that individuals tend to be more accurate in recognizing faces of in-group members as compared to out-group members and that those effects “may be driven by the same types of basic cognitive mechanisms that drive other in-group/out-group social cognitive phenomena” (p. 300). More recently, Natu, Raboy & O’Toole (2011) recorded neural activity by way of fMRI of both Asians and Whites as they viewed Asian and White faces and found that same-race faces elicited greater (quicker and stronger) neural response, while other-race faces elicited weak response at first, with an increase over time. The authors note that the results are consistent with an understanding of cognitive processing that favors the familiar. Using other physiological indicators (electromyography [EMG] and skin conductance), Brown, Bradley & Lang (2006) found “some support for an in-group empathy hypothesis, in which people responded with more exaggerated affective responses when viewing pictures depicting in-group members” (p. 310). Similarly, using startle eyeblink modulation, Amodio, Harmon-Jones, & Devine (2003) found that

there are predictable individual differences in basic level affective processes associated with the automatic activation of race bias. [The results] further suggest that controlled, belief-based responses are implemented not at the basic affective level but in more deliberative channels of affective expression. By linking race bias directly to basic affective processes, the present research provided support for the widely acknowledged but seldom tested assumption that affective responses represent a major component of racial bias. (p. 749)

When prejudiced thoughts and feelings enter consciousness, however, individuals tend to respond with anxiety. Richeson & Trawalter (2008) report anxious arousal and impaired attention to a subsequent task among White participants who had

high levels of external (as opposed to internal – see Amodio, Devine & Harmon-Jones, 2008; Plant & Devine, 1998) motivation to avoid prejudice.

These results are highly relevant to our interests, particularly as they are consistent with the strongly emerging evidence in political behavior research broadly over the past decade that reason may, indeed (to paraphrase David Hume), be a slave to the passions. This notion has been brought to the mass public primarily through the work of Drew Westen (2007) and George Lakoff (2004, 2008, 2009), as well as by less visible scholars who have offered evidence to support the role of emotion in the evaluation of political candidates (see especially Brader, 2006). Relating specifically to race, some recent studies make a strong case for the connection between face recognition and emotions based on increased amygdala responses of participants presented with Black and White faces (see, for example, Cunningham et al., 2004; Phelps et al., 2000). As the amygdala is the portion of the brain that is believed to be responsible for emotions, identifying activity in this region after exposure to certain stimuli can help us to understand the degree to which emotions may be affecting evaluations of candidates.

But even where the amygdala is not the primary region of activity, racial biases may be able to persevere. Amodio et al. (2004), for example, found that race-biased responses in experimental settings were produced by participants despite the activation of neural networks that have the responsibility of detecting bias so that controlled cognitive processing can occur. In other words, “the . . . process [of detecting racial bias] may operate below awareness and therefore does not necessarily rely on conscious reflection” (p. 93).

It would be improper, however, to conceptualize a cognitive-affective dichotomy in terms of political psychology research. Amodio & Devine (2006) argue, for instance, that racial *stereotyping* is a cognitive function while race-based *evaluation* is affective. That is, we cannot simply pack up our cognitive theories and models in favor of more direct measures of affect and physiological indicators if we hope to move toward a fuller understanding of the effects of race-based political communication. We need, rather, to turn to the subfield of cognitive neuroscience and its rich and emerging literature as we seek to build stronger models to explain political communication effects.

Application to Race-based Campaign Communication

At the end of *Race Appeal*, we note that “[t]o get past the filters that humans possess, we need to drill deeper. . . into the human brain to tap into responses that cannot be controlled or altered by research participants” (McIlwain & Caliendo, 2011, p. 221). Indeed, the ability to explore the effects of subconscious processing in a way that might inform the way we understand candidate evaluation and vote choice is enticing. For instance, if we can better understand the reflexive (as opposed to reflective) mechanisms that underpin the various elements that affect voters’ evaluation of candidates of color, we can move closer toward a deeper understanding of modern application of some of the more fundamental aspects of democratic theory.

For instance, there has been substantial popular and scholarly discussion about the benefit of majority-minority congressional districts in terms of the ability of members of historically disadvantaged racial groups in increasing symbolic representation in the national government (Banducci, Donovan & Karp, 2004; Cameron, Epstein & O'Halloran, 1996; Epstein & O'Halloran, 1999; Guinier, 1993; Lublin, 1999; Overbay & Cosgrove 2009). Irrespective of the debate about whether racial minority citizens are more adequately served by having elected officials of their own race, however, is the broader (and related) notion of having a racially diverse deliberative body responsible for creating public policy at the national (and, indeed, state and local) level. The ability of persons of color to be elected to office thus has important implications for the promise of democracy that characterizes U.S. government and politics.

Conclusion

Much of the public resistance to existing scholarship with respect to race and politics centers on individuals' inability to meaningfully understand that a significant portion of cognitive processing takes place outside of our consciousness. The increased respect and deference that citizens have for the natural sciences creates a situation where research in this area has an opportunity to move public sentiment in a more sophisticated direction in this area. That is, while it is relatively easy to dismiss the results of the Implicit Association Test because there is a sort of "black box" where the analysis takes place, images of brain activity, data related to heart rate variability and startle eye blink modulation, and explanations (with tangible evidence) about body responses that do not in any way involve participant behavior have the capacity to lend credibility to the work that psychologists, political scientists, sociologists and critical race theorists from a variety of disciplines have been offering for decades. Specifically, it is understood in those circles that racial predispositions are deeply incorporated into our worldviews throughout our lives, often (and most importantly) in ways that are by and large beyond our detection. Those predispositions become available to us (again, often outside of our consciousness) as we go about the business of our everyday lives. Irrespective of our conscious "norm of equality" (Mendelberg, 2001), racial resentments and preferences have an influence in our lives. Further, from a normative standpoint, those who wish to advocate for greater racial justice understand that such awareness is a crucial step toward garnering support for public policies that might begin to dismantle systemic racism.

The potential importance of the emerging advances in neuroscience and its application to the study of race-based political communication can, however, be overstated. This is not a panacea. We expect to be able to learn how the brain processes certain types of racialized messages by observing how the body responds, but that is not the same as learning what direct effects such communicative acts have on political behavior. While medical researchers can look to physiological indicators as a way to definitively answer some important questions (e.g., how the body responds to different treatments), social scientists must constantly be attentive to the fact that these measures are merely additional variables in the

multi-disciplinary task of assembling accurate models of human thought, affect and behavior.

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