

## **Sharpening Our Focus: Measuring the Potential Effects of Race-Based Messages in Political Campaign Advertisements with Moment-to-Moment Technology**

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Our understanding of the potential effects that race-based appeals in political campaign advertisements might have on voters' perception of candidates for public office has been hampered by the inability to isolate which particular forms of racial content in a spot (e.g., a candidate or other image, a linguistic cue, or mention of a particular issue) is causing the short-term effect. Moment-to-moment (MtM) technology offers an opportunity to sharpen our focus by measuring participant feelings about the content of an advertisement by way of a dial they move fluidly throughout the experience. In this study, we correlate MtM with more traditional behavioral measures in an experimental design centered on race-based messages in a biracial legislative campaign. Participants were randomly assigned to conditions where the White candidate invoked an implicitly racial message, an explicitly racial message, or no racial message at all. We examine the relationship of MtM and other independent measures (e.g., implicit associations, symbolic racism) on attitudes toward the candidates. Findings are situated within theories of racial appeals and implicit associations.

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## Introduction

In our earlier work (McIlwain and Caliendo 2011), we characterized the prevailing understanding of what constitutes a race-based appeal as follows:

Despite more than twenty years of scholarship about the racial discourse candidates employ in U.S. political campaigns, scholars and lay people alike approach discussions about race-based appeals using the same I-know-it-when-I-see-it logic that Supreme Court Justice Potter Stewart used in a 1964 case involving pornography. As with obscenity, however, the problem is that we all “see” different things in political advertisements, because we bring multiple cultural perspectives to our interpretations. (12)

Though scholars have given careful and continuing attention to race-based appeals and their actual or potential influence on political behavior for over a decade, what we know about what constitutes a race-based message and how such messages work still fits this characterization. While recent studies continue to detail and investigate political candidates’ race-based messaging and the underlying racial attitudes that such messages may prime, we still have much to understand in terms of pinning down precisely what forms of race-based stimuli actually move potential voters in terms of attention and affect. Our aim in this paper is to take a first step toward trying to piece together how race-based content (imagery and language) fit with potential voters’ assessment of that content and, more importantly, what these assessments can tell us about how individuals’ positive or negative attributions affect their perceptions about political candidates—candidates of color, in particular.

## Previous Literature

The extant literature about race-based appeals can be separated into many different categories, depending on one’s underlying interests. For our purposes in this paper, one efficient and useful distinction is to look at research prior to and after 2008, when President Barack Obama’s historic candidacy and subsequent election and tenure in office shifted focus in at least three ways that we think are important and germane to the interest we present here.

### Race-Based Messages: What Are They, Do They Work, and Why?

Research about race-based appeals prior to the 2008 election season were, for the most part, unequivocal on two fronts. First, Mendelberg’s work (2001) codified what scholars implicitly understood as constituting race-based messages. Such messages, in her words, were “oblique” in nature, which is to say that the language and images used to convey the underlying race-based message was neither clear in its meaning, or universally interpreted as such by those exposed to the message. This characterization of race-based messages as fundamentally implicit, subtle, and stereotype-referencing in nature (Caliendo and McIlwain 2006; Huber and Lapinski 2006; Hutchings et al. 2004; Reeves 1997; Slocum 2001; Valentino, Hutchings and

White 2002; Valentino, Traugot and Hutchings 2002) had much to do with the prevailing sense that a dominant culture rendered such stereotype-based appeals as norm violating, though not necessarily consistent with personal racial attitudes or altogether politically unuseful (Bobo, Kluegel and Smith 1997; Henry and Sears 2002; Jamieson 1992; Kinder and Sanders 1996). Many of these studies (and others) tended to demonstrate that implicit race-based cues influenced potential voters, though, more often than not, researchers both described and tested race-based cues that were tied to specific ideological and public policy positions (Clawson 2002; Domke 2001; Gilens 1996; Hurwitz and Peffley 2005; Peffley and Hurwitz 2002; White 2007).

Barack Obama's candidacy, election and subsequent reelection campaigns shifted focus in two important ways that distinguish it from the research on racial attitudes and race-based appeals that preceded it. First, this research focused more acutely on the relationship between race and individuals' perception of, and likelihood to (or actually vote for) an African American candidate, as opposed to voters' likelihood to support race-based policy initiatives (Banks and Bell 2013; Block 2011; Greenwald et al. 2009; Nevid and McClellan 2010; Malahy et al. 2010; Redlawsk, Tolbert, and Franco 2010; McIlwain and Caliendo 2014; Schaffner 2011; Tesler and Sears 2010). Second, research about race-based appeals more specifically began to identify and target the ways that both White and Black candidates mobilized race (Clayton 2010; Finn and Glaser 2010; Fraser 2009; McIlwain and Caliendo 2009; Sinclair-Chapman and Price 2008; Ware and Wilson 2009). Third, this research recognized the renewed salience of explicit race-based appeals (Enck-Wanzer 2011; Hutchings, Walton and Benjamin 2010; McIlwain and Caliendo 2011; Pyszczynski et al. 2010; Walker 2011).

To sum, there is persuasive evidence of the continued prevalence of race-based appeals; there is evidence that such appeals influence voters' policy support and perception of and likelihood to vote for political candidates; and there is evidence that such appeals have the ability to prime individual racial attitudes (either explicitly or unconsciously) or political ideologies that are strongly intertwined with racial attitudes. However, the literature both before and since Barack Obama's election all leave a particularly glaring hole: Little, if any of the work of which we are aware is able to address precisely what form, type, arrangement and amount of race-based appeals actually moves voters.

In our earlier work (McIlwain and Caliendo 2011), we suggested that a race-based appeal is identified by the presence of content that has the potential to prime racial beliefs. That is, we defined it by its *potential* to evoke race. We argue, however, that understanding race-based appeals as they are deployed and operate in an increasingly complex racial and political media environment necessitates that we begin to distinguish race-based content not merely by its potential, but by its actual propensity to evoke a response specifically connected with and derived from the racial content.

In one of a few studies that gets us closest to this, Valentino, Hutchings and White (2002) demonstrated that a racial image is only minimally effective in priming racial attitudes unless and until it is paired with a corresponding racial narrative. If their contention is correct, it remains entirely unclear and unknowable from the available research whether respondents' attention to the racial image or the narrative (or some combination of both) is what is driving the response to a message. Moreover, we are unable to identify details about what specifically about a racial image (skin color, tone, facial expression, racially coded spaces, etc.) individuals respond to more or less, and/or what particular aspects of a racial narrative evokes a particular feeling or other response. Whether in experimental lab designs, field experiments, or critical qualitative analyses of race-based appeals, we know that in almost every instance, voters or potential voters are exposed to messages that contain multiple potentially racial, ideological, partisan and other contextual cues.

#### Message Moments: Ad Content and Emotional Response

As Thorson (1991) describes, the theoretical and applied interest in understanding how media consumers respond emotionally to specific moments in advertisements—rather than looking at them in their entirety—dates back to research interests germinating at the dawn of both the fields of political science and communication. Marshall McLuhan (1964) referred to commercial advertisers as “frogmen of the mind” because of their drive to match viewers' psychological states with the content they listened to or viewed. Earlier, in the late 1930s, Paul Lazarsfeld patented, with then-head of CBS, the “Program Analyzer,” which was a technology used to measure audiences cognitive responses to momentary media messages in commercial advertisements (Fiske and Lazarsfeld 1945). Lazarsfeld's technological measure was preceded by Dysinger, Ruckmick and Peters (1933), who used galvanic skin response to understand children's and adults' attention and emotional responses to media messages. As Thorson describes, both the technology and the interest in understanding audience responses to commercial “moment” all but disappeared from both the scholarly and applied literatures in marketing and communication in the late 1970s and beyond.

In the commercial advertising literature, attention to ad moments have been used to understand audience attention to content, determining how brand positioning and placement within advertising messages mitigate avoidance of content central to brand identity (Teixeira, Wedel and Pieters 2010). This includes documenting and assessing attention to content size and placement, audio separated from or in conjunction with visual stimuli (Janiszewski 1998; Wedel and Pieters 2000), content duration and timing (Baker, Honea and Russell 2004; Fazio, Herr and Powell 1992; Stewart and Furse 1986; Stewart and Koslow 1989) and memory (Fazio et al. 1992; Wedel and Pieters 2000). One of the important conclusions drawn from research on time and timing across advertising moments is the finding that certain audience effects derive from cumulative message content. Woltman Elpers, Mukherjee and Hoyer (2004) found that with respect to humor, the intended “punch line,” if you will, is received by an audience as the result of cumulative buildup over the course of the advertisement. This, as with other research cited above, lends support to the

idea that when we examine only post hoc advertising responses, we miss much in terms of understanding the precise nature of effects that contribute to audiences retrospective evaluations.

Additionally, and more in line with our overall goals in this study, attention to messaging moments has been used by researchers to correlate moment-to-moment responses to advertising stimuli with post-exposure assessments such as consumer satisfaction (Hui, Meyvis and Assael 2014). Such studies mirror (at least in their goals) the interests of political communication scholars who have sought to understand message moments. One of the few efforts to examine political messaging moments in political advertisements comes from Tedesco (2000). This study assessed audience emotional responses to stimuli during political ads and tied them to assessments of candidate image that followed their viewing of the commercials. Most research in the area of politics, however, has considered messaging moments in the context of larger scale and longer messaging events, primarily political debates (Correll, Spencer and Zanna 2004; Kirk and Shrill 2011).

While we do not draw directly from this literature to drive specific hypotheses and research questions in this paper, we do start from the common presumption expressed in each of these studies: message moments matter if we want to understand the ultimate effect that such content may have on audiences. Particularly when it comes to race-based appeals, where so much ambiguity surrounds the relationship between racialized messages and how they influence audiences' perceptions of and likelihood to vote for candidates, it is incumbent on researchers to concentrate more time to specific moments and content markers within political advertising messages. We employ the most appropriate available technology to take a first step toward understanding audience responses to race-based content across the entirety of political ads.

### **Current Study**

We take advantage of moment-to-moment (MtM) technology to drill down into participants' feelings about candidates while they are exposed to political advertisements. We do so in the context of a 1x3 stimulus-posttest experimental design that allows us to compare attitudes toward the same two (fictitious) candidates across three conditions. Because participants have no prior knowledge of the candidates, their evaluations must be based solely on the stimuli they encounter during the experience. This design allows us to assess the effect of a candidate message and image apart from other confounding factors, though it necessarily sacrifices generalizability in favor of isolating elements that are of interest.

Participants in this study were presented with candidates in a biracial (White/Black) election between two men and assigned to one of three conditions: one in which the White candidate makes no racial appeal, one in which he makes an explicit racial appeal, and one in which he makes an implicit racial appeal. Each

condition includes the target advertisement from the White candidate, as well as an advertisement from the Black candidate (which is constant across all conditions and contains no race-based appeal).

Our hypotheses are derived from the extant literature:

H<sub>1</sub>: There will be no notable difference between respondents' evaluation of each candidate in the control condition;

H<sub>2</sub>: Respondents in the implicit condition will feel more favorably towards, and be more likely to vote for, the White candidate than those in the control condition; and

H<sub>3</sub>: Respondents in the explicit condition will feel more negatively towards, and less likely to vote for, the White candidate than those in the control condition.

Because of the scarcity of extant literature, we have more general and broad-based research questions when it comes to participants' momentary responses to each of the advertisements and their relationship to participants' overall favorability ratings and hypothetical vote choice. In this respect we are primarily interested to learn:

RQ<sub>1</sub>: Do respondents feel more negatively at the moment when racial cues present themselves in the ads?

RQ<sub>2</sub>: How does the mere presence of the Black candidates' image affect participants' responses?

RQ<sub>3</sub>: To what degree do participants MtM responses to the ads correlate with their overall ratings of, and propensity to vote for, the candidates?

RQ<sub>4</sub>: To what extent are MtM responses correlated with racial attitudes?

### Procedure and Measures

Candidates were recruited for participation through courses at a medium-sized Midwestern public university. They were not compensated for participation, though some instructors offered extra credit in their courses. They were encouraged to bring friends and family members so that the participant pool was not entirely comprised of college students. As a result, participant ages ranged from 18 to 57 (mean=24.48), and nearly one-fifth of the participants were adults who did not have a high school diploma. Fifty-four percent were female; 67% were White. There were more self-identified Republicans than Democrats, though a near-majority (47%) identified as independent or "other." The mean value of the political ideology measure is slightly to the left of "neither liberal nor conservative." A profile of the participants appears in Table 1.

[Table 1 about here]

After reading and signing an informed consent document, participants were, in groups of up to fifteen, provided a Dialsmith Perception Analyzer<sup>®</sup> response dial

and introduced to the experiment by a facilitator. All questions were displayed on a large screen at the front of the laboratory, and responses were recorded through the system, with participants moving the dials (using numerical cues on the device) to indicate answers to the questions.

Participants were shown two product commercials to familiarize them with the response dials. They are instructed to “use the dial to indicate your feelings toward what you see and hear. You may use the numbers to guide you, with 0 representing something you extremely dislike, 100 representing something you extremely like, and 50 representing a feeling of indifference (neither like nor dislike).”<sup>1</sup> These instructions were repeated immediately prior to each of the videos in the experiment.

After answering questions about each of the initial two commercial stimuli, participants were presented with the campaign advertisements.<sup>2</sup> Immediately after viewing both spots,<sup>3</sup> participants were prompted with questions designed to capture their evaluation of the candidates. The first item asks participants, “If you were able to vote in the election between David Jackson [the Black candidate] and Jim Herbert [the White candidate], for whom would you be most likely to vote based on what you know of the two candidates?” To be sure that the participants remembered which candidate was which, photos of the candidates (screen shots from the advertisements) accompanied their names on the screen. Participants were then asked to rate each of the candidates on a 101-point feeling thermometer.<sup>4</sup> In order to account for the possibility of variance among participants, we follow others (Kahn and Kenney 1999; Smith et al. 1999) by subsequently creating a measure of net support. We constructed a scale that reflects net individual-level support for Jackson (the Black candidate) by subtracting the feeling thermometer score for Herbert from the score for Jackson. Finally, participants were asked whether they believed that either, neither or both candidates made a racial appeal in the campaign ad that they viewed. Response options were on a four-point Likert

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<sup>1</sup> Participants were instructed to set their dial at 50 before each video began.

<sup>2</sup> The description of the text and visuals from each of the ads are detailed in the appendix.

<sup>3</sup> Candidate ads were presented to approximately half of the participants in random order. Previous tests of order effects with these stimuli resulted in no differences, but there were marginally significant differences among these participants such that those who saw Jackson’s ad last were more supportive of him (with respect to both vote choice and feeling thermometer) than those who saw Jackson’s ad before Herbert’s. The results were more likely to be present in the control condition than in the test conditions. This result raises concerns about a recency effect that must be probed in future studies.

<sup>4</sup> Borrowing from the American National Election Studies question, we altered the language of this question to read as follows: “We’d like to get your feelings toward David Jackson and Jim Herbert, the candidates who are running in the race, using something called a “feeling thermometer.” Ratings from 51 degrees to 100 degrees mean that you feel favorable and warm toward the candidate. Ratings from 0 degrees to 49 degrees mean that you don’t feel favorable toward him. You would rate him at the 50-degree mark if you don’t feel particularly warm or cold toward him.” Participants were asked to rate each candidate in turn. Images of the candidate accompanied both the stem portion of the question, as well as each individual thermometer prompt.

scale (“definitely,” “maybe,” “definitely not,” and “I’m not sure”). This measure was subsequently recoded as a dummy variable to capture the feeling that one, both or neither of the candidates possibly invoked race.

Measures of racial attitudes and beliefs were captured through the Symbolic Racism 2000 Scale (Sears and Kinder 1971; Henry and Sears 2002), the Explicit Racial Resentment Scale (Wilson and Davis 2011), and the Race (White/Black) Implicit Associations Test (Greenwald et al. 2009). Demographic indicators (age, race, party identification, political ideology, and level of education completed) were also collected.

### Results

On the whole, participants favored David Jackson, the Black candidate, over Jim Herbert, the White candidate. As indicated by the data presented in Table 2, nearly 60% of participants indicate preferring Jackson in a hypothetical vote, and Jackson’s feeling thermometer score is nine points higher than Herbert’s. While the majority of participants believed that both candidates invoked race in their advertisements, only 4% thought that Jackson alone did so, while more than one-third believed that only Herbert did.

[Table 2 about here]

Before we examine the potential effects of the experimental conditions, it is worth noting that Jackson’s ad contained no textual or visual references that could be considered to be racial. The only images that appear in Jackson’s ad are of the two candidates. Yet 58% of participants in this study believed that he invoked race in his ad, which is consistent with our previous findings (McIlwain and Caliendo 2011) that the mere presence of a Black candidate can be enough to trigger an accusation of “playing the race card.” We return to this finding below.

Table 3 breaks down participants’ evaluation of the candidates within each of the three experimental conditions. While it is consistent with the extant literature that Herbert would be punished for invoking race explicitly, that same literature predicts that invoking race implicitly should help him. These data, however, indicate that Jackson’s support is actually highest in the implicit condition, as measured by both vote choice and the feeling thermometer scores. Further, participants seem to recognize the racial message in the implicit condition, where twice as many participants believed that he alone invoked race as compared to the control condition. While slightly more participants believed that Herbert alone invoked race in the explicit ad as compared to the control, far more (71%) believed that both candidates invoked race in that condition.

[Table 3 about here]

As noted above, examining the difference-in-feeling-thermometer scores captures individual-level shifts, as opposed to aggregate trends. This measure controls for the



arbitrary notion of the scales by representing the gap between how each participant rated each of the candidates. The results here are consistent with the other findings: Jackson has a slight advantage in the control condition and enjoys a greater advantage in the two conditions where his White opponent invokes race. Unlike with the aggregate scores, however, when Herbert invokes race explicitly, Jackson's net advantage is greater than when Herbert does so implicitly, which is consistent with expectations. Contrary to expectations, however, the implicit appeal to race did not serve to advantage Herbert.

While these results raise some concern about the precision of the stimuli we created and used (or at least how these participants, in a post-Obama racial context, are perceiving the messages), we move forward with an examination of the MtM data to see if we can pinpoint where in the advertisement participants tended to feel more or less positively throughout the four spots. Before that, however, it is useful to explore whether there are any differences between the aggregation of the MtM ratings and the end-point questions designed to tap evaluation of the candidates. Indeed, one of the benefits of using MtM technology alongside traditional survey items is that we can estimate the degree to which the latter have been providing us with information about participants' evaluation of candidates after watching an advertisement—what we can call *reflective* responses—that is consistent with their *reflexive* responses as they are watching the ad.

The data here suggest that there are some meaningful differences between how people feel about the ads as they are watching and how they feel about the candidates after both ads have been viewed. The mean MtM for Jackson's ad correlates significantly and positively with his feeling thermometer scores ( $r=.282$ ,  $p=.002$ ) but not with Herbert's feeling thermometer or the difference-in-feeling-thermometer measure. Further, it does not correlate with vote choice or perception of whether either candidate invoked race. This is important, as participants across all experimental conditions were exposed to this ad. Neither does this average correlate with any of the treatment condition dummy variables.

The average MtM for Herbert's advertisements offer a slightly different story. While responses to his ad with no racial content do not correlate significantly with any of the evaluation variables or experimental conditions, the mean MtM for the implicitly racial ad is related to vote choice ( $r=-.347$ ,  $p=.044$ ), such that higher average MtM over the course of the spot is associated with a vote for Herbert. In this way, the implicit appeal has the desired effect. Average MtM for Herbert's explicit appeal does not correlate with vote choice (we would expect that he would be punished for explicitly invoking race). The MtM average for both of Herbert's test condition spots correlates with his feeling thermometer score. The relationship is positive for both ( $r=.419$ ,  $p=.008$  for the implicit spot and  $r=.537$ ,  $p=.012$  for the explicit spot), which means that those who felt positively about his ad as they watched ultimately had a positive evaluation of him (and vice versa).

It is worth noting that a participant's level of symbolic racism, implicit associations or explicit racial resentment did not factor into his or her feelings while watching any of the ads. In fact, those measures do not correlate significantly with any of the candidate evaluation variables in this study, with one exception: Participants who had higher levels of symbolic racism rated Jackson lower on the feeling thermometer than those with lower levels of symbolic racism ( $p=-.209$ ,  $p=.026$ ). This relationship holds for the difference-in-feeling-thermometer measure, as well ( $p=-.241$ ,  $p=.010$ ). Otherwise, evaluation of these candidates (at least in this context) appears to be unrelated to conscious and non-conscious racial bias.

Finally, we examine the MtM responses to highlight participant feelings at each second of the advertisement. We do this first by looking at participants' ratings at each moment and the corresponding ad content at those moments. We are particularly interested corresponding content at peak and trough moments in the ad, and we are interested in seeing how participants are responding at particular moments when racialized content is present.

Figure 1 shows the ad by Jackson, the Black candidate. Peak moments in the ad correspond to moments when Jackson, speaking live, is on the screen alone. Participants' responses begin to turn more negative when the Herbert's still image is present on the screen, from seconds twelve through thirty. Even though Jackson's image remains visible throughout the ad, responses after the introduction of Herbert's image, never return to the peak. We might surmise that given Jackson's positive evaluations when he alone is present on the screen, that his image alone does not serve as a racial cue, at least not one that is meaningful enough to warrant any significant change in respondents' feelings towards his image.

[Figure 1 about here]

Figure 2 features Herbert's control group ad, where there was no invoking of race. Here we see that Herbert opens the ad with peak moments corresponding to those moments that he appears alone. Then a noticeable plunge begins just after the moment that Jackson's image is introduced on the screen. This would suggest that content coming after the introduction of both Herbert, then Jackson's, image sparks the downward trend and, given the positive results above about the still image of Jackson alone, suggests that perhaps participants are responding negatively toward the narration during these moments of decline—narration that merely highlights the differences between the two candidates on the policy issue in question (education). Contrary to the precipitous decline, however, we know from earlier results that participants indicated the most similar level of support for both candidates in this condition.

[Figure 2 about here]

As previously mentioned, results in the implicit message condition run counter to our hypothesis that an implicit appeal would result in more favorable evaluations of

Herbert over Jackson. Rather, in this condition, it is Jackson who receives his highest ratings in terms of the feeling thermometer and vote choice. The MtM in Figure 3 demonstrates why this is likely the case. The decline begins after the introduction of Jackson's image, continues as the "us" in-group reference, paired with the image of a suburban public school, comes into frame. But we see another sharp decline when "like him," paired with the image of black kids playing at an inner-city school, comes to the screen. That these sharp declines take place at the point of implicit racial cues, combined with the fact that respondents rated Jackson most favorably in this ad and with the finding that respondents in this condition were most likely to say that Herbert, alone, "played the race card," suggests that race was perceived by these respondents. That is, race was explicit (conscious) rather than implicit (non-conscious).

[Figure 3 about here]

However, respondents' recognition of the racial cues in the implicit condition does not seem to result in similar feelings as compared to the explicit racist message. Figure 4 demonstrates the same sharp decline when multiple explicit statements accompany the racialized images. However, what is notable is that as the explicit language and imagery fades, and Herbert appears on the screen alone invoking a message about colorblindness, participants' ratings become more favorable. This suggests that Herbert's final message about "not judging people based on the color of their skin" proves to be not so much a redeeming moment for Herbert in terms of participants' feelings toward him. It does, however, both seem to redeem him enough to make participants say they would vote for him (his vote choice numbers are six points higher in this condition than in the implicit condition), and it certainly seems to work against Jackson, whose feeling thermometer and vote choice ratings decline in this condition compared to the implicit.

[Figure 4 about here]

When we move from looking at these specific moments across every second of each ad to considering them in a much more structured and comparative way, the picture about what seems to be going on comes into sharper focus. Table 4 presents statistical comparisons of these moments by way of paired-sample t-tests of five-second clusters around key points in each of the ads.

[Table 4 about here]

The first row compares MtM data just before Jackson's photo first appears in Herbert's control ad with MtM data immediately after Jackson's photo appears. There is virtually no difference between the two measures, suggesting that in the absence of racial language, signaling the race of a White candidate's opponent does not result in significant shifts in feelings about the ad. The second and third rows compare MtM ratings around Jackson's appearance in Herbert's implicit and explicit ads, respectively. While participants tended to feel more negatively after seeing

Jackson's ad in the implicit condition, the difference is not statistically significant. However, when Jackson's image appears in the explicit ad, there is a 3.5-point drop in average MtM ratings, which approaches conventional levels of statistical significance. We cannot know, of course, if participants are feeling more negatively about Herbert or about Jackson in the moment, but we do know that they are bothered by something at that point in the ad.

The fourth row of Table 4 tests the difference in means of MtM responses surrounding the first racialized image in Herbert's implicitly racial ad. Recall that the ad script is identical to the control ad, but the images are designed to draw differences based on race. In this case, an image of a suburban school is followed by the image of an urban school playground. Here we see that the downturn reaches the conventional level of statistical significance, indicating that participants were more troubled by the ad after these images appeared. Finally, we examine the change in MtM responses before and after Herbert mentions Jackson's "affirmative action in education plan" in the explicitly racial advertisement. There is a steep (5.4-point) downturn in feelings after that comment as compared to before it.

### **Discussion**

We attempt to sharpen the focus of the growing body of literature that has tested the effects of race-based campaign messages on evaluation of candidates by pinpointing what portions of an advertisement are driving such evaluations. We do so by taking advantage of moment-to-moment technology, which encourages participants to indicate their feelings fluidly as they are exposed to a stimulus and records those responses every second of the experience. The scholarly literature that has employed this method of data collection is scarce, so we had little to guide our expectations. Further, since this is a first cut for us, we offer modest interpretation of the findings.

There is limited support for the first hypothesis, which anticipated no notable difference between respondents' evaluation of each candidate in the control condition. Jackson enjoyed greater levels of support by both the vote choice and feeling thermometer measures. This is consistent with our previous findings with these stimuli (McIlwain and Caliendo 2011), and partly an artifact of trying to control as much content as possible while still approximating an actual campaign-related exchange of ideas. Specifically, while we held the policy issue at hand constant (education), it was necessary for us to have the candidates take different positions on that issue. Those policy differences could be responsible for overall differences in the evaluation of candidates (and differences in the control condition in particular).

The second hypothesis enjoys no support whatsoever. Jackson's support actually increases in the condition in which Herbert implicitly invokes race. We suspect that for a number of these participants, that the intended implicit appeal was recognized as being racial and, thus, worked explicitly. Finally, there is support for the third

hypothesis: When Herbert invokes race explicitly, he enjoys lower levels of support as compared to both the control group and the implicit condition.

Perhaps of more interest, however, is what we have learned from the MtM technology. We offered four research questions at the outset and have preliminary answers to all of them. Participants do, in fact, feel more negatively when they encounter a racial cue. First, as we found previously, an image of a Black candidate is often perceived as a racial cue. When Jackson's image comes on the screen during Herbert's ads, participants turned their dials to the left, indicating less favorability. As noted above, we cannot know whether they feel unfavorable because of Jackson's presence or because Herbert invoked the image while criticizing Jackson. Second, when the image of the inner-city school emerges, we again see dips in MtM responses. Similarly, and as expected, explicit racial language leads to less favorable feelings. We learned that there are real differences between how participants evaluate candidates after being exposed to the spots and how they are feeling as they are watching them. This suggests that MtM has much to offer; simply relying on post-hoc reflections of the candidates in experimental contexts might be ultimately most important to political scientists in particular, but it masks the nuance of participants' reactions in the moments that they are experiencing the ads. The latter has the potential to provide tremendous insight into the cognitive processing of participants, particular as we are able to combine these data with more physiologically based measures such as skin conductance, cortisol levels, electroencephalography, heart-rate variance or functional Magnetic Resonance Imaging. Finally, at least in the context of this experiment, attitudinal and belief-system racial constructs that have high levels of internal validity (i.e., implicit associations, symbolic racism and explicit racial resentment) are wholly unrelated to the way that participants experience the advertisements in the moment.

There is much more work to be done, of course. Because the relative novelty of the application of this technology to race-based messages, we stopped short of offering predictive models, which will be important to further map the effects of specific types of race-based appeals. Studies with various stimuli need to be conducted so that the limitations of these spots can be examined as possible determining factors to the findings here. And, as noted above, we must take full advantage of the availability of technology to record physiological measures of participants as they are encountering political campaign ads that contain race-based appeals so that we can begin to make connections between this area of study and the emerging work in social neuroscience related to the ways that individuals process race-based stimuli generally. We are hopeful that this early step provides a catalyst for others to continue to move forward with these important questions that will have significant implications for racial politics in the United States (and beyond).

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## Appendix. Textual and Visual Content of Stimuli

Experimental Group	Policy-Related Language	Election Statement	Race-Neutral Visuals	Racially Coded Visuals
Jackson control and test group	"crucial choice," "school choice," "tough standards," "right choice"	"You have a crucial choice in this election. I'm David Jackson, and I want to be your choice, because I'm the right choice."	Jackson, live footage and color still image; Herbert, black-and-white still image	None
Herbert control group	"differences between my opponent and me," "interests of the citizens of the first district," "grew up here," "grew up outside the district," "supports vouchers," supports public schools"	"Who is really equipped to fight for this district in Washington: Someone who's been outside it all his life, or someone who has been part of it for all of his?"	Herbert, live footage in park; Jackson, black-and-white still image	None
Herbert implicit test group	Same as control group	Same as control group	Same as control group	One color image of suburban school playground with nice equipment, one black-and-white image of playground with dilapidated equipment and Black kids playing basketball.
Herbert explicit test group	"Some people have said the differences between my opponent and me is the color of our skin. That's not the only difference. David Jackson's education plan is to take money away from folks like us, to fund inner-city school that look like him. Jackson says his so-called quota-based affirmative action in education plan is necessary to make the children in our two communities more equal. Jackson is a good man, and we both believe in equality. But does equality mean that it's fair to take money from one group and give it to another, just because of the color of their skin?"	"I'm Jim Herbert, and I'm running for Congress because I believe in an education policy that isn't just black and white."	Same as implicit group	Same as implicit group

### Table 1. Portrait of Participants

Gender	54% female 44% male 2% do not identify with either
Race	
African American	4%
Asian	12%
Caucasian	67%
Hispanic/Latino	4%
Mixed race/other	4%
Age (mean [s.d.])	(24.48 [8.64])
Education	
Some high school	11%
High school degree	11%
One year college	11%
Two years college	12%
Three years college	21%
Four years college (no degree)	18%
Bachelor's degree	4%
Some graduate work	8%
Graduate degree	4%
Party ID	
Democratic	24%
Republican	29%
Independent	28%
other	19%
Ideology (mean [s.d.])	(3.86 [1.05])

Note: Ideology is measured on a seven-point Likert scale where higher values reflect greater levels of conservatism.

## Table 2. Evaluation of Candidates

### *Vote Choice* (N=106)

Jackson	59.4%
Herbert	40.6%

### *Feeling Thermometer* (N=113)

(mean [s.d.])

Jackson	50.14 [22.85]
Herbert	41.01 [21.21]

### *Perception of Making a Race-based Appeal* (N=113)

Only Jackson did	4%
Only Herbert did	35%
Both candidates did	54%
Neither candidate did	7%

Note: Vote choice is a dichotomous measure. Feeling thermometers are 101-points scales where higher values indicate stronger support for the candidate. Perception of Making a Race-Based Appeal is created from two separate measures of whether each candidate was thought to have appealed to race. Participants ranked on a four-point scale, which was collapsed into a dichotomous measure: certainty that no race-based appeal was made, and belief that a race-based appeal was definitely or possibly made.

**Table 3. Evaluation of Candidates by Experimental Condition**

	<i>No Racial Messages (control)</i>	<i>Implicitly Racial Ad by Herbert</i>	<i>Explicitly Racial Ad by Herbert</i>	<i>significance</i>
<b><i>Vote Choice</i></b>				
Jackson	52.9%	67.6%	61.9%	Chi-square=1.896 p=.387 (N=106)
Herbert	47.1%	32.4%	38.1%	
<b><i>Feeling Thermometer (mean)</i></b>				
Jackson	45.70	56.03	50.43	F=2.352 (p=.100) (N=112) F=2.535 (p=.084) (N=112) F=2.912 (p=.059) (N=112)
Herbert	44.75	40.41	32.67	
Difference (Jackson – Herbert)	0.943	15.62	17.76	
<b><i>Perception of Making a Race- based Appeal</i></b>				
Only Jackson did	7.5%	0%	0%	Chi-square=13.179 p=.040 (N=113)
Only Herbert did	26.4%	51.3%	28.6%	
Both candidates did	56.6%	41.0%	71.4%	
Neither candidate did	9.4%	7.7%	0%	
<b><i>N</i></b>	53	39	21	113

Note: Vote choice is a dichotomous measure. Feeling thermometers are 101-points scales where higher values indicate stronger support for the candidate. Perception of Making a Race-Based Appeal is created from two separate measures of whether each candidate was thought to have appealed to race. Participants ranked on a four-point scale, which was collapsed into a dichotomous measure: certainty that no race-based appeal was made, and belief that a race-based appeal was definitely or possibly made. Statistical significance is calculated from crosstabulations for vote choice and perception of making a race-based appeal and from one-way Analysis of Variance for feeling thermometers.

**Table 4. Paired Sample T-Test Results of Moment-to-Moment Reactions Pre/Post Selected Moments in Advertisements**

Pair	Time/Content	Mean MtM	SD	N	Mean Diff	SD	SE	T	df	Sig.
1	Before/After Jackson Appearance in Herbert Control Ad	45.42/45.46	10.1/9.7	53	-.037	6.37	.87	-.04	52	.96
2	Before/After Jackson Appearance in Herbert Implicit Ad	49.01/47.8	10.9/9.7	39	1.19	5.58	.89	1.33	38	.18
3	Before/After Jackson Appearance in Herbert Explicit Ad	47.58/44.0	6.0/9.1	21	3.58	8.99	1.96	1.82	20	.08
4	Before/After Anti-Black Cue in Herbert Implicit Ad	44/41.5	12.5/15.3	39	2.16	5.52	.88	2.44	38	.01
5	Before/After Mention of Affirmative Action in Herbert Explicit Ad	38/33.6	14.6/20	21	4.39	9.54	2.08	2.10	20	.04

# Jackson Ad, No Race-Based Message

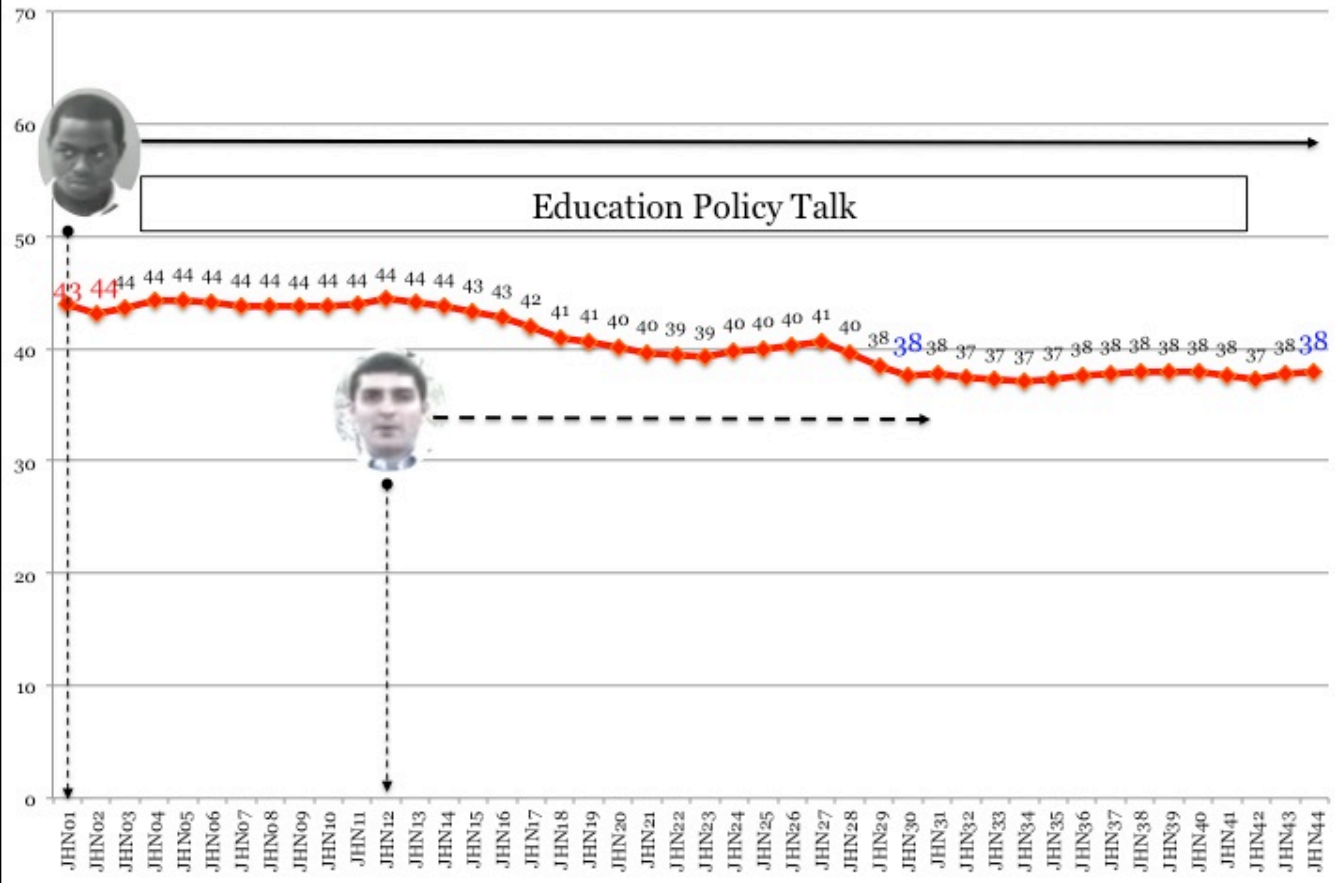


Figure 1. Moment-to-Moment and Corresponding Content in Jackson, No-Race Ad

# Herbert No Race-Based Message Ad

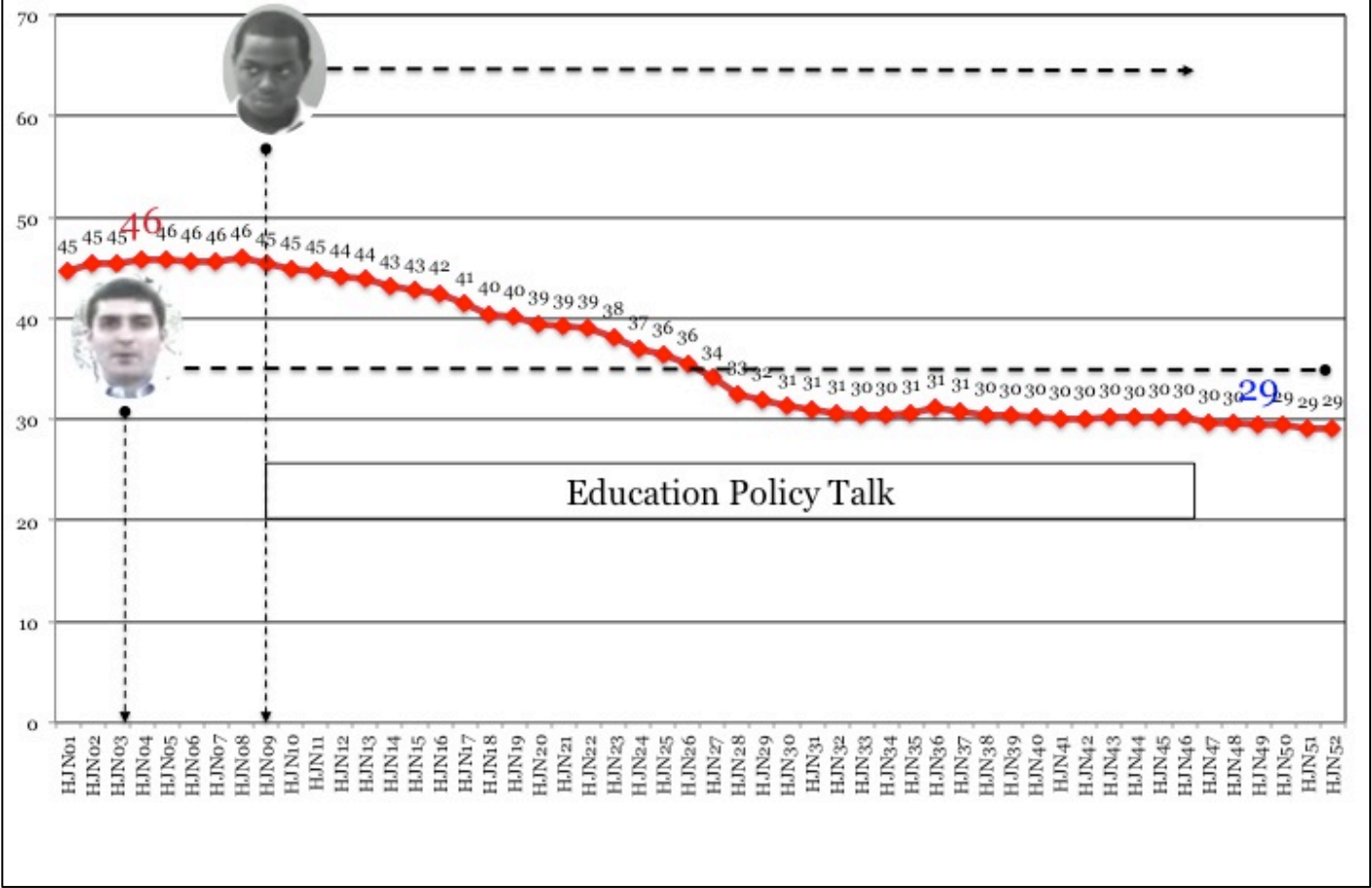
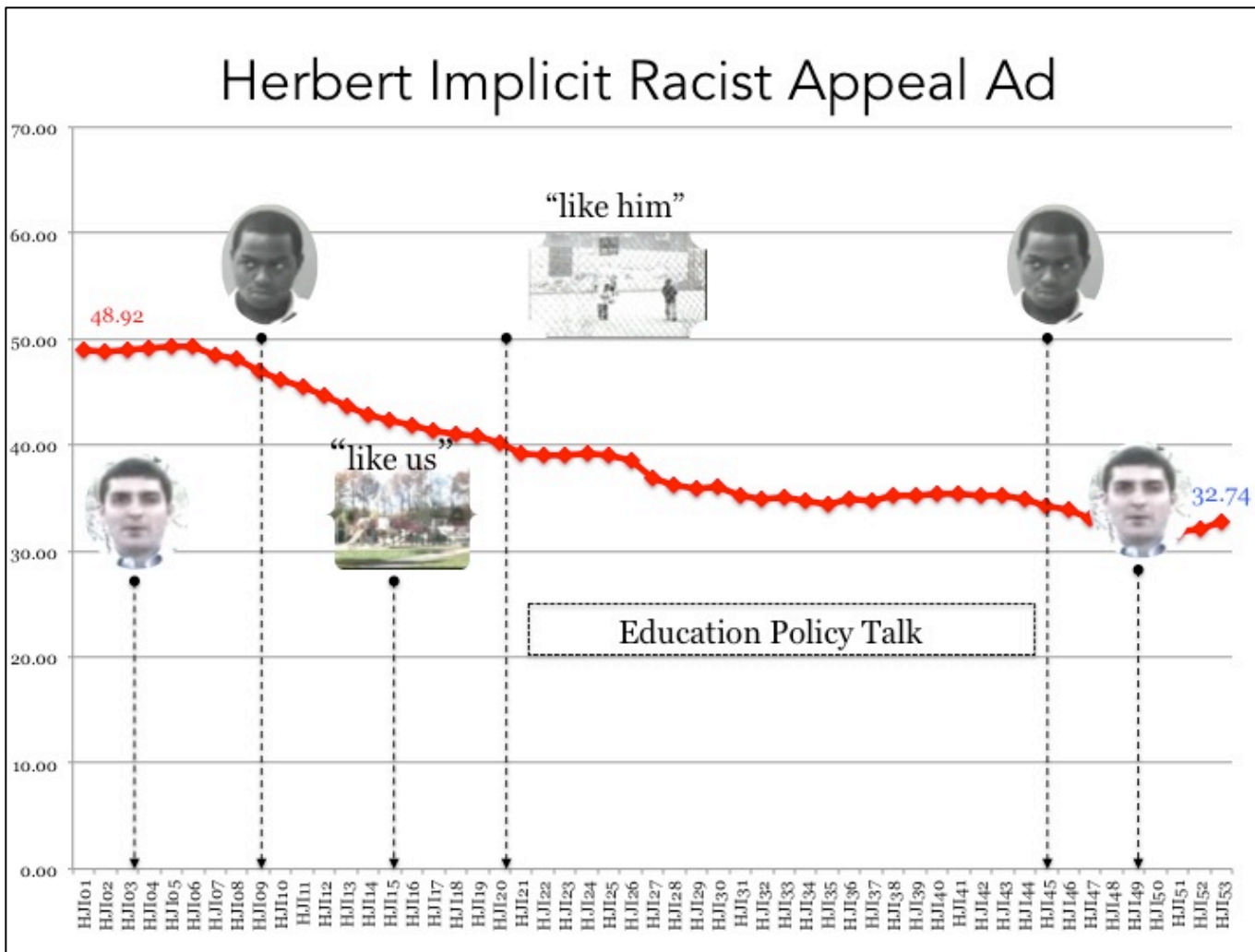


Figure 2. Moment-to-Moment and Corresponding Content in Herbert, No-Race Ad





**Figure 3. Moment-to-Moment and Corresponding Content in Herbert, Implicit Ad**

# Herbert Explicit Racist Ad

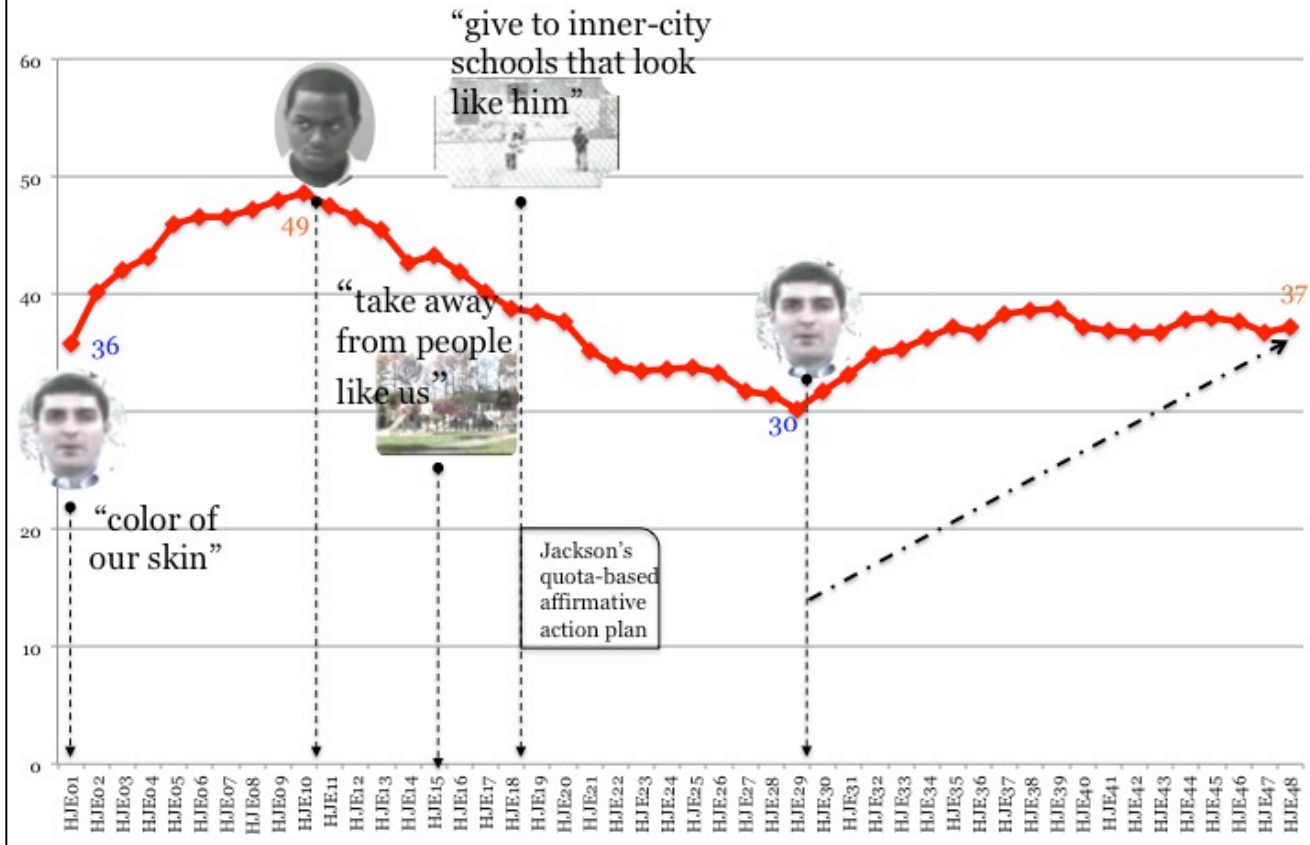


Figure 4. Moment-to-Moment and Corresponding Content in Herbert, Explicit Ad