Descriptive Representation and Political Efficacy: Evidence from Obama and Clinton

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Existing theory suggests that individuals who share their identity with elected officials should have more positive attitudes toward government. However, the effect has not been well identified among African Americans, and the hypothesis is underexplored with respect to women. Thus, I examine the effects of Barack Obama and Hillary Clinton's successes on African American and female political efficacy, using Iowa Electronic Markets contract prices during the 2008 primary to proxy daily shifts in perceptions of Obama and Clinton's likelihood of winning. I combine this with daily political efficacy measures from the 2008 National Annenberg Election Study. African American efficacy increases with Obama's perceived probability of success, while white Democrats who prefer Obama are unaffected, suggesting that the effect among African Americans is driven by race (and not the success of a preferred candidate). Clinton's price is not correlated with women's efficacy, suggesting that descriptive representation's effects are less pronounced among women.

The predominant theory that descriptive representation improves a constituent's relationship with the state (Mansbridge 1999) has led to the study of how sharing a salient identity with one's representative positively affects attitudes toward government. In particular, political science has examined the effect of descriptive representation on political efficacy, a measure of trust and sense of influence that has been linked to important political outcomes, such as voter participation and engagement. In the United States, most empirical work on descriptive representation and attitudes has focused on the positive effect among African Americans. Results generally point to a positive correlation between black descriptive representation and African American political efficacy (Banducci, Donovan, and Karp 2004; Bobo and Gilliam 1990; Gay 2002), while there seems to be a more tenuous relationship among women (Dolan 2006; Lawless 2004). However, it is difficult to determine the direction of this relationship, since descriptive representation and attitudes are potentially endogenous to one another. We cannot discern, for example, whether black

efficacy improves because there is an African American representative in a district, or whether an African American gets elected because black constituents feel politically empowered.[1] I build on this body of literature by improving our empirical understanding of descriptive representation's importance for different groups.

Until the election of Barack Obama as the first African American US president, previous work studying the effect of descriptive representation on black political efficacy had been limited to lower levels of government. In a major advance in this area, Merolla, Sellers, and Fowler (2013) show that political efficacy among black constituents increased after Obama's election. While their findings deepen our understanding of descriptive representation by expanding focus to the presidency, it is difficult to specifically attribute these effects to Obama because they rely on data from just two points in time, before and after the 2008 election.

Contributing to our understanding of identity politics, descriptive representation, and voting behavior, I build on

1. There are some (natural) experimental estimates of descriptive representation's effects among racial minorities in the United States (Adida, Davenport, and McClendon 2015; Broockman 2014; Enos 2015; Henderson, Sekhon, and Titiunik 2016), but they mostly look at behavior, not attitudes.

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this previous work by identifying the precise effects of the first successful black and female presidential candidates on political efficacy among African Americans and women. Because perceptions and efficacy may be endogenous to one another at the individual level, I use fluctuations in the candidates' daily prices in an online political betting market (the Iowa Electronic Market) as the explanatory variable. The prices of bettors yield a market-based, daily estimate of the candidates' perceived probabilities of becoming president. These fluctuations are highly correlated with survey participants' daily perceptions of the likelihood of an Obama or Clinton victory, allowing me to use these IEM prices to predict NAES measures of political efficacy over time.

Lending credence to previous findings, results show that black political efficacy was indeed substantially more positive when Obama's probability of success was perceived to be higher, while the political efficacy of whites, even those supporting Obama, remained unaffected. I also find that both female and male political efficacy were unmoved by Clinton's success. The effects among African Americans are robust to controlling for over-time trends as well as individual-level covariates, and the findings hold when analysis is limited only to Democrats. They are also substantively unchanged using a two-stage least squares (2SLS) estimation in which IEM price is used to instrument responses to the daily NAES survey question about likelihood of victory. Results are robust to a series of placebo and robustness checks addressing alternative explanations and threats to the identifying assumption, namely, that there is no unobservable factor that simultaneously affects political efficacy and perceptions of success. These findings make a compelling case for the importance of descriptive representation for historically marginalized groups.

EMPIRICAL STRATEGY AND DATA

I employ two innovative strategies. First, I recast the treatment of interest as people's perception of either an Obama or Clinton victory, as opposed to conceptualizing treatment as Obama's victory. This allows me to examine daily variation in political efficacy as these attitudes relate to perceived success of either candidate. Second, I use the price of Obama and Clinton contracts in the IEM as a proxy for these daily perceptions of success. I use this proxy instead of the NAES-08 Online question asking respondents whether they believe Obama/Clinton will win. Using this endogenous survey measure would lead to uncertainty as to whether respondents indicated higher political efficacy as a function of their beliefs about either candidates' likelihood of victory, or whether having higher efficacy led respondents to be more optimistic when asked for predictions of either candidate's

success. The identifying assumption is that there is no unobservable factor that simultaneously affects black (female) political efficacy and perceptions of the likelihood of an Obama (Clinton) victory.

The dependent variable is constructed as a minimum-maximum index (0–1) of the first principal component from a principal component analysis of the four NAES-08 online survey questions measuring "Political confidence and efficacy" (Online Codebook). They asked the extent to which: *Elections (MB01) and parties (MB02) make government pay attention to people; The best candidates can win (MB03); Elections are conducted fairly (MB04)* (full wording in appendix, available online). These four questions are the NAES measures of attitudes toward government asked during my time period of interest, 10/2/2007 through 3/31/2008 (they were not asked in later waves, so I cannot extend analysis to the general election).[2] I combine these survey data with Obama's and Clinton's daily average IEM contract prices.[3] The IEM are real-money futures markets where any person is eligible to bet. Contract payoffs are determined by the outcomes of the 2008 elections. Daily candidate contracts were worth $1, so the daily average price is continuous from 0 to 1. Figure A1 in the appendix (figs. A1, A2 available online) plots Obama's and Clinton's average prices throughout the 2008 primary, demonstrating that prices reflect important events during the primary season affecting beliefs about which candidate would win.

I apply the equation below to the time-series cross section resulting from the above data in order to estimate effects of perceptions of the likelihood of an Obama or Clinton victory on political efficacy among different racial and gender subgroups.

$$\text{Political Efficacy}_{it} = \beta_0 + \beta_1 \text{AvgPrice}_t + X'_{it}\beta_2 \\ + \beta_3 \text{Daily Trend}_t \\ + \beta_4 \text{Daily Trend}_t^2 + \epsilon_{it}, \quad (1)$$

where Political Efficacy$_{it}$ is individual i's response on day t to one of the four NAES survey instruments measuring political efficacy. The term β_1 is the coefficient of interest measuring the effect of the public's perception of Obama'a or Clinton's success (as proxied by their daily average IEM prices) on day t. The term X'_{it} is a vector of individual-level controls (see table note for list). Each respondent's unique identifier is also included, as well as a dummy for whether

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2. Cronbach's alpha for four measures is 0.57, and 0.72 for first two components, which most closely resemble typical external efficacy measures. Results on each component in appendix (tables A5–A8).

3. I use the IEM because it has been shown to successfully aggregate dispersed information (Wolfers and Zitzewitz 2004), and the data are readily available online.
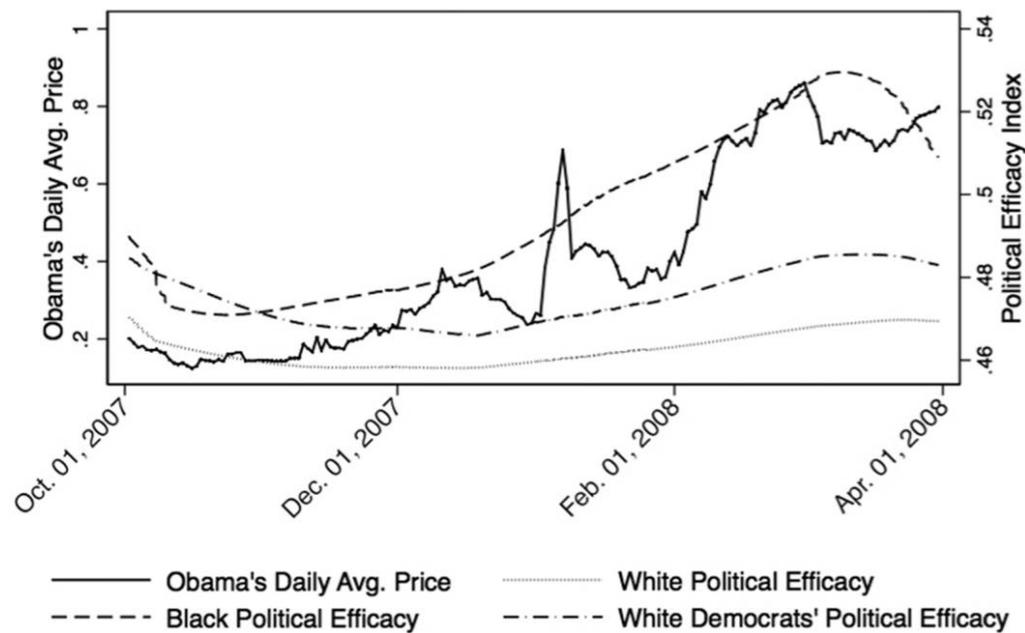
Figure 1. Obama's daily price and daily average political efficacy, by race

the response was given in wave 1 or 2, since the data are a panel. I also control for linear and quadratic daily time trends (β_3 and β_4) and include weights for number of observations per day (to avoid bias from days with very few observations, but results are robust to removing weights). Although the specification in equation (1) is preferred, results of a 2SLS specification are reported alongside these reduced-form results for all analyses. The first stage of this instrumental variable estimation is equation (1), where the dependent variable is instead the NAES question asking whether the respondent believed Obama (Clinton) would win the 2008 Democratic primary.

DISCUSSION OF RESULTS

Figure 1 shows the strong positive relationship between black political efficacy and Obama's daily average price, which contrasts starkly against the lack of correlation between his price and white political efficacy, even among Democrats. Table 1 reports all main results, starting with the naive regression, where the political efficacy index is regressed on survey reports of the perceived likelihood of an Obama or Clinton win. These results show a strong relationship between black respondents' daily beliefs that Obama would win and political efficacy. This relationship is not present for white responses, nor is there a relationship between women's self-reported perceptions of a Clinton victory and political efficacy. Model 2 shows a strong first-stage relationship between Obama's and Clinton's IEM prices and these survey reports of the likelihood of an Obama or

Clinton victory among all racial and gender subgroups. Model 3 shows clearly the significant, positive effect of public perceptions of an Obama win (as proxied by his IEM price) on black political efficacy. The fact that there is no such effect among white responses, even among white Democrats whose self-reported preferred candidate is Obama, indicates that this effect among African Americans is likely driven by descriptive representation, that is, Obama's race.[4] The 2SLS estimation (nodel 4) shows similar results, with the effect of perceptions of an Obama win on black political efficacy increasing in magnitude.

The positive effect of Obama's perceived success on black political efficacy is robust to a number of different specifications to address possible threats to the identifying assumption. First, as reported in table A1 in the appendix (tables A1–A8 available online, the results are robust to further isolating "shocks" to perceptions of Obama's likelihood of victory by using the difference between Obama's IEM price and Obama's average rating from multiple polls (from the website Real Clear Politics). Since the IEM is more volatile than a daily average over multiple polls, this

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4. There are fewer non-Obama-supporting black responses, but the coefficients are similar (just shy of significance) among this subsample (reduced form coefficient 1.21, p-value = .12). Furthermore, addressing concerns that the pool of white Democrats changes throughout the election, there is no effect among white Democrat Obama supporters even when observations are limited to reinterviews (using the panel structure) where Obama was the pretreatment preferred candidate (table A3).

Table 1. Effect of Perceived Obama/Clinton Win on Political Efficacy

	Political Efficacy Index (Naive Regression) (1)	Perceived Win (First-Stage) (2)	Political Efficacy Index (Reduced Form) (3)	Political Efficacy Index (2SLS) (4)
Black responses ($N = 2{,}283$):				
Survey reports: "Obama most likely to win"	.03** (.01)			
Obama IEM price		.59*** (.12)	.21*** (.07)	
"Obama win" (instrumented by IEM)				.21** (.09)
White responses ($N = 21{,}264$):				
Survey reports: "Obama most likely to win"	.00 (.01)			
Obama IEM price		.76*** (.04)	−.01 (.02)	
"Obama win" (instrumented by IEM)				−.01 (.03)
White Democrats, Obama preferred candidate ($N = 1{,}646$):				
Survey reports: "Obama most likely to win"	.02 (.01)			
Obama IEM price		.74*** (.10)	−.06 (.05)	
"Obama win" (instrumented by IEM)				−.08 (.08)
Female responses ($N = 14{,}112$):				
Survey reports: "Clinton most likely to win"	−.01 (.01)			
Clinton IEM price		.65*** (.05)	−.00 (.02)	
"Clinton win" (instrumented by IEM)				−.00 (.04)
Male responses ($N = 12{,}230$):				
Survey reports: "Clinton most likely to win"	.00 (.01)			
Clinton IEM price		.74*** (.05)	−.01 (.02)	
"Clinton win" (instrumented by IEM)				−.02 (.03)
Individual-level covariates (table note for list)	✓	✓	✓	✓
Linear and quadratic time trends	✓	✓	✓	✓

Note. Covariate controls: sex, age, education, household income brackets, metropolitan area, party ID, registered to vote, voted in 2004, evangelical Christian, individual respondent unique identifier across waves, state, wave, and religion. Linear and quadratic time trends included. Dependent variable in first stage coded one if respondent indicated Obama/Clinton was "Candidate most likely to win Democratic nomination," zero if indicated one of other eight candidates. Dependent variable, "Political efficacy index," is a minimum-maximum index (0–1) based on the first principal component of a principal component analysis (PCA) on MB01, MB02, MB03, MB04 from the NAES-08 online survey (full question wording in appendix). Min-Max index = (first principal component − minimum first principal component)/(maximum first principal component − minimum first principal component). Obama preferred candidate coded one if answered Obama to the question "Which candidate would you vote for this week in the Democratic primary?" Regressions are OLS (model 4 2SLS). Robust standard errors reported. Weights for number of observations per day included.

* $p < .10$.
** $p < .05$.
*** $p < .01$.

difference captures more short-run variation to people's perceptions of Obama's likelihood of victory. In addition, coefficients are consistent after sequentially dropping each month of data to address concerns that the findings are driven by isolated events correlated with Obama's success (fig. A2). Moreover, the results are robust to dropping all states that held elections on Super Tuesday 2008 (table A2). This addresses concerns that the results are driven by Obama's campaign efforts in early states instead of the proposed explanation that it was his race that led to higher black political efficacy. Finally, one could be concerned that this positive effect on black political efficacy is attributed to citizens seeing their preferred candidate succeed, rather than African Americans' political efficacy increasing due to Obama's race and descriptive representation. If this were the case, however, we would expect there to be (1) a similarly positive effect among white Democrats supporting Obama and (2) a negative effect on Republicans. I show that these effects do not exist (null result on Republicans in table A4).

Seminal theory on descriptive representation leads one to expect similar findings regarding the effect of Clinton on female attitudes (Mansbridge 1999). Despite these theoretical expectations, there is a null finding here that is in line with extant tenuous results among women (Cowley 2014; Dolan 2006; Lawless 2004). Interestingly, this null finding holds even when the sample is limited to older women, those female respondents belonging to women's groups, and women who strongly agree with questions about the benefits of female officeholders. Furthermore, the strong effect of Obama's price holds when the sample is limited to black women (results available upon request).

These results identify the effects of the first successful black and female presidential candidates on black and female political efficacy. While it is important to acknowledge that effects are specific to Obama and Clinton, the results move the literature forward in two ways. First, they demonstrate the significance of the first successful black presidential candidate for black political efficacy and indicate that, given the null effect on white attitudes, this effect was driven by Obama's race. Second, the lack of Clinton effect among women suggests that descriptive representation's positive impact depends on specific identity contexts.

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