

Can Your Face Win You Votes?
Experimental Tests of Candidate Appearance's Influence on Electoral Choice

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According to numerous studies, voters elect appearance-advantaged candidates at higher rates than their disadvantaged opponents—a finding that raises concerns about voter competence and the quality of elected officials. This worrisome finding, however, is observational, not experimental, and therefore vulnerable to alternative explanations, such as candidate effort influencing vote share and appearance ratings (e.g., through professional stylists). To determine whether this finding reflects a causal effect, we conduct two experiments. Just before elections for various offices, we randomly assigned voters to receive ballots with and without candidate photos. Simply showing voters the photos, we find, changes whom voters say they will vote for, leading them to vote disproportionately for the appearance-advantaged candidate. Since candidate effort (or other omitted variables) could not differentially influence voters in the photo conditions compared to voters in the control conditions, candidates' looks do appear to directly influence voters, confirming concerns about voter competence.

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Introduction

On what basis do voters decide? The answer bears directly on debates over citizens' competence and elections as instruments of democratic accountability. Confronted by evidence of ignorance, ideological innocence, and the paucity of issue voting (Converse 1964; Delli Carpini and Keeter 1996; Lenz 2012), scholars have looked to heuristics—simple rules of thumb—that haul voters onto the shore of rationality (Key 1968; Fiorina 1981; Popkin 1991; Lupia 1994). Voters undoubtedly do rely on informative heuristics, such as the state of the economy, party ties, and feelings about the incumbents. But how often do simple rules of thumb lead them astray from a more informed and appropriate choice (Kuklinski and Quirk 2000)?

One potentially worrisome heuristic is a candidate's appearance. Endorsing Mitt Romney for the 2012 Republican presidential nomination, Bob Dole declared, "So it looked to me like it would be either Romney or Newt [Gingrich] for the nomination, but... Romney *looks* like a president" (Laskas 2012, 88). Research shows that Dole may not be alone in evaluating candidates on whether they "look the part": candidates whose appearance in photographs is rated more competent or attractive by naïve raters¹ enjoy greater electoral success in actual U.S. Senate and House elections, as well as in elections abroad (Ballew and Todorov 2007; Banducci et al. 2008; Rosar, Klein, and Beckers 2008; Atkinson, Enos, and Hill 2009; Hall et al. 2009; King and Leigh 2009; Berggren, Jordahl, and Poutvaara 2010; Lawson et al. 2010; Mattes et al. 2010; Olivola and Todorov 2010; Spezio et al. 2012).

While these observational studies find that candidate appearance *correlates* with actual election results, these studies do not show that candidate appearance actually *causes* voters to change their minds in real-world elections. It surely is troubling for democracy if voters conflate physical appearance—stylish

¹ By this, we mean raters who neither know nor recognize the candidate.

hair or a strong jaw—and actual competence, but existing observational research cannot rule out several alternative explanations for the correlation between appearance and vote choice.

Do voters rely on such superficial heuristics when voting? Or is there an alternative explanation for the correlation between appearance and vote choice? Foremost among the possible alternative explanations is “candidate effort.” Candidates who put more effort into their campaigns or have more resources may be more likely to win and look better in their photos. They may look better because they can afford professional photographers, image consultants, \$600 haircuts, and the like. But the effects of such appearance improvements may be negligible: other facets of campaign effort—voter mobilization, appearances at events, outreach and communication, etc.—may instead drive voters’ choices. Campaign effort—whether by the candidate or her party—could thus make candidates’ looks appear to influence voters when they do not do so directly. Indeed, candidates who outspend their opponents do look better to naïve raters. Examining 2006 Senate races, Lenz and Lawson (2011, 584-5) find a 0.59 correlation between a candidate’s spending advantage and appearance advantage and a 0.56 correlation between incumbency and appearance advantage.² Moreover, after controlling for variables that might capture

² However, several results are inconsistent with the alternative explanation emphasizing the causal influence of campaign effort. Specifically, the effect of the candidate’s appearance holds when professional photographers took the pictures in a standard format (Klein and Rosar 2005; Antonakis and Dalgas 2009), and when one statistically controls for differences in image quality and other aspects of the pictures, such as visible light (Rosar, Klein, and Beckers 2008; Lawson et al. 2010). Additionally, appearance-advantaged candidates win in competitive races, where the candidates should be more comparable in quality and in resources (Antonakis and Dalgas 2009; Benjamin and Shapiro 2009). They also perform disproportionately

campaign effort, such as race competitiveness and candidate spending, Atkinson, Enos, and Hill (2009) find that candidate appearance has a small effect on vote share.

Given these mixed findings, how should we assess the possibility that the appearance-vote findings are spurious rather than causal? Sorting out causation here is hard. Statistically controlling for variables such as competitiveness, spending, or incumbency is appropriate only if these variables are causes of candidate appearance, not consequences. If appearance is in fact causally prior to spending—e.g., better looking candidates can raise more money, win endorsements based on looking the part (like Governor Romney), or are likely to have won previous elections (and so become incumbents)—then researchers should not control for these variables because they could be consequences of candidate appearance (i.e., post-treatment).³ Put differently, if candidates can raise more money or attract more volunteers because they are better looking, then controlling for such variables will bias estimates of the candidate appearance effect downward by incorrectly attributing part of the true effect of appearance to these variables.⁴ Given the possibility for complex causal relations among these variables, drawing firm inferences with observational data may be impossible.⁵

well in systems where legislators compete against members of the same party (Berggren, Jordahl, and Poutvaara 2010) and in non-partisan contests (Martin 1978; Banducci et al. 2008).

³ In general, researchers should not control for variables that intervene between the treatment and the outcome, in this case, between candidate appearance and vote share. For a general discussion, see King (1991, 1049-50).

⁴ When estimating the effect of challenger appearance, Atkinson et al. (2009) carefully try to avoid post-treatment bias by measuring district competitiveness at least one year before the general election, when the challenger's identity is less clear (using the *Cook Political Report*). Nevertheless, these experts may

For these reasons, our own approach is to test for the influence of a candidate's appearance on voters with two experiments rather than with observational studies. Our procedure was to interview individuals near the end of campaigning in elections in which they said they would likely participate—and ask for their voting intention. Crucially, however, we randomly assigned participants to one of two conditions: (1) a control group received a ballot designed to resemble the one actually used whereas (2) a treatment group received ballot that also showed candidates' photos next to their names. To evaluate whether appearance influences votes, we simply examine the difference in the voting intentions of the two groups for the appearance-advantaged candidates.

This research design sheds light on the appearance-vote relationship in a way that previous studies could not. It does so because random assignment rules out the alternative explanations. Since candidate effort—raising more money, shaking more hands, kissing more babies—cannot differentially influence voters in the photo condition, any effect we detect must be a result of viewing the photos. Of course, candidates' efforts to “improve” their appearance, as revealed through their photos, may contribute to any such causal effects.

already know the likely challengers and so may be influenced by their looks (making these ratings post-treatment).

⁵ Indeed, Atkinson et al. (2009, 236) do not interpret their regression coefficient for incumbent appearance as a causal estimate. They suggest instead that appearance-advantaged incumbents (as challengers in a prior election) disproportionately select into competitive districts, which would bias their estimate of incumbent appearance downwards. This downward bias and, more generally, the causal complexity of observational studies on appearance provide reasons to turn to experimental studies, such as ours.

We ran this experiment on 14 house races in the 2012 California congressional primary and 44 statewide races across 18 states in the 2012 general election. Using naïve raters' assessments of candidate appearance, we find that including candidates' photographs on the ballot does indeed lead participants to vote for appearance-advantaged candidates. Our research, therefore, provides experimental evidence for the conclusions reached by several previous observational studies. Using actual candidates in the midst of an election as stimuli, we find that a substantively significant percentage of our participants (9% in the general election races) voted differently than they otherwise would because they saw candidate photos. This was a large enough shift to change the outcomes of about 29% of primary races and about 14% of general election races. Looking the part, according to these estimates, can sometimes sway enough votes to win.

The rest of the paper proceeds as follows: First, we describe our research design more fully and present candidate-level results for House primaries in California. Second, we replicate these results in higher-salience, statewide general election races. Third, we consider alternative interpretations and assess the robustness of our findings. Fourth, we conduct individual-level analyses for both studies and show that candidate appearance most heavily influences low-information voters and matters more in the earlier stages of campaigns. This important nuance in our results helps us assess the ramifications of these studies for democratic competence and accountability.

Study 1: Appearance Advantage in the 2012 California House Primaries

Design and Procedures

Starting 10 days before the 2012 California primary, an Internet poll conducted by Survey Sampling International (SSI) interviewed 1,268 registered voters from 14 of California's 53 House districts. The sample adequately represents registered voters on age, party registration, and political ideology. Fifty-three

candidates ran in these 14 districts—11 females and 42 males.⁶ In terms of partisanship, there were 23 Republicans, 23 Democrats, and 10 no-party preference or other party candidates. Importantly, the survey's election results closely mirror the actual election results. (See the supporting information [SI], section 1.1, which also presents the surveys' demographics.)

As noted, we randomly assigned participants to one of two conditions. Those assigned to the control condition received a ballot identical to the one they would see in the actual June 5 election (a top-two primary ballot with all candidates listed, regardless of party). In the treatment condition, we gave participants the same choice of candidates but also displayed black-and-white photographs of the candidates' faces next to their names. See Figure 1 for an example.

[Figure 1 about here]

We measured the appeal of candidates' appearances in a separate survey by showing U.S. workers on Amazon's Mechanical Turk the candidate photos and asking, "How good of a congressperson do you think this person would be?" (See SI section 1.2 for survey details.) We use this general measure to sidestep the debate about which traits voters primarily respond to—e.g., competence (Todorov et al. 2005) or attractiveness (Banducci et al. 2008).⁷ Our measure, however, correlates more strongly with perceptions of facial competence (.61) and attractiveness (.60), than with perceptions of dominance (.19, see SI section

⁶ We also ran the experiment in six California State Senate races. We do not pool these races with the House primaries in the analysis because photograph quality was noticeably lower. Instead, we present these results in SI section 1.2. Including them in the main analysis leaves our key findings unchanged.

⁷ We make no claim about the particular aspect of a candidate's appearance that influences voters, only that our measure of appearance is correlated with multiple aspects of candidate appearance, and thus has convergent validity as a measure of a candidate's overall appearance advantage (or disadvantage).

2.3 for more detail). This general appearance measure predicts election outcomes as well as specific trait-based measures (Lawson et al. 2010). To obtain naïve ratings, we excluded ratings from California Mechanical Turk workers and from workers who reported recognizing the candidate (just 0.1% of 9174 ratings). We gave participants in the experiments five options for their evaluations of “how good of a congressperson do you think this person would be,” ranging from “much better than average” to “much worse than average.” Mean candidate ratings ranged from a low of 2.4 on the five-point scale (Jim Reed, a Democratic candidate from the 1st District) to a high of 3.5 (Mary Bono Mack, an incumbent Republican from the 36th District), with a mean of 2.9 and a standard deviation of 0.27. For the analysis below, we recode this measure so it captures *Appearance Advantage* within a district by subtracting from a candidate’s (e.g. Mary Bono’s) raw appearance rating the mean rating of all the candidates in her district. We rescale this variable to a 0-1 scale, but the results are robust to other coding procedures (see SI Section 1.5).

Our dependent variable is a candidate’s vote share in the treatment condition minus her vote share in the control condition (*Photo Condition minus No-Photo Condition Vote Share*). This measures the degree to which a candidate performs better or worse when voters see her face on the ballot. If appearance matters, candidates should receive an increasing vote share in the treatment condition as their *Appearance Advantage* grows. About 70% of participants reported an intended vote choice—congressional primaries have low salience—so we lose 30% of participants when we calculate the dependent variable. (The voting rate was similar across conditions.) We also exclude an additional 2% because they said they would not vote in the actual election, leaving us with 851 participants. (The results are similar in the full sample.)

Figure 1: Example of Control (Top) and Treatment (Bottom) Ballots in California Primary Experiment (Study 1)

Which primary candidate for The House of Representatives do you plan to vote for?

Bruce Margolin
Party Preference: Democratic
Occupation: Marijuana Legalization Attorney

Tim Pape
Party Preference: Democratic
Occupation: TV Editor

Christopher David
Party Preference: Republican
Occupation: Entrepreneur

Steve Collett
Party Preference: Libertarian
Occupation: Certified Public Accountant

Bill Bloomfield
Party Preference: None
Occupation: Small Business Owner


David William Steinman
Party Preference: Green
Occupation: Consumer Rights Advocate


Zein E. Obagi
Party Preference: Democratic
Occupation: California Business Attorney


Henry A. Waxman
Party Preference: Democratic
Occupation: United States Representative


Don't know yet


Which primary candidate for The House of Representatives do you plan to vote for?



Zein E. Obagi
Party Preference: Democratic
Occupation: California Business Attorney



David William Steinman
Party Preference: Green
Occupation: Consumer Rights Advocate



Christopher David
Party Preference: Republican
Occupation: Entrepreneur


Bill Bloomfield
Party Preference: None
Occupation: Small Business Owner


Steve Collett
Party Preference: Libertarian
Occupation: Certified Public Accountant


Bruce Margolin
Party Preference: Democratic
Occupation: Marijuana Legalization Attorney


Tim Pape
Party Preference: Democratic
Occupation: TV Editor


Henry A. Waxman
Party Preference: Democratic
Occupation: United States Representative

Don't know yet

Note: The ballots showed the same information as the California 2012 primary ballot, except of course for the photos.

This example is from district 33.

Before turning to the results, we note that this design may not tell us how much candidate appearance really matters in elections, only that it could matter. The experiment does have real-world features that lend it external validity—we conducted it close to Election Day with the actual candidates from voters’ districts on the ballots shown. On the other hand, by randomizing exposure to candidate appearance, the experiment may make appearance unusually salient, since U.S. ballots do not ordinarily include photographs of the candidates. After presenting the main results, we discuss reasons why our findings may either overestimate or underestimate the real-world appearance effect, focusing on questions about the salience of the photos and noncompliance. In that section, we also discuss alternative interpretations of the findings.

To reiterate though, the critical advantage of our experimental design over earlier observational studies is that it rules out omitted variables such as candidate effort or incumbent vulnerability as explanations; that is, appearance-advantaged candidates cannot win more votes in the photo condition through any means other than their looks.

Candidate-Level Results

Does showing voters photos of the candidates just before the election change votes? The data presented in Figure 2 show that it does. The vertical axis presents the difference in candidate vote share between the photo (treatment) and no-photo (control) conditions, while the horizontal axis places candidates according to their within-district appearance advantage. The positive trend in Figure 2 indicates that appearance-advantaged candidates—that is, those rated highly by the naïve Mechanical Turk raters—do receive more votes when voters see photos on the ballot.

[Figure 2 about here]

For example, incumbent Democrat Henry Waxman (CA-33) suffers from a considerable appearance disadvantage, scoring poorly on the relative appearance measure (0.13). When participants

saw the candidates' photos (which we show in the example ballot in Figure 1), support for him dropped by about 10 percentage points. In contrast, Waxman's most appearance advantaged opponent, an unknown Democratic candidate named Tim Pape, scored near the top of the appearance measure (0.81) and received almost a 15-point boost in vote share when voters saw the photographs in the multicandidate primary. Waxman also lost out to "no party preference" (NPP) candidate Bill Bloomfield, who scored well on the appearance measure (0.62) and received a 10-point boost in vote share in the treatment group. Bloomfield went on to lose only narrowly to the powerful incumbent Waxman in the general election.

Critically, this effect cannot result from Pape or Bloomfield exerting more campaign effort or strategically choosing to enter this race. Since we randomly assigned voters to the conditions, their campaigns—mostly absent in Pape's case anyway—could not have disproportionately influenced the treatment group.

This pattern holds on average across candidates, as the scatterplot in Figure 2 shows. The slope of the best-fit line through the data points is 0.21, indicating that if the most appearance-advantaged and appearance-disadvantaged candidates (across all districts) received equal vote share in the control condition, we would expect to see a 21-point difference in vote share in the appearance-advantaged candidate's favor in the photo condition. More typically, a one standard deviation increase in appearance advantage, coupled with the treatment ballot, yields a 5.4-point boost, an effect that could alter outcomes in several of these primaries. The bivariate regression analysis in Table 1 presents the estimated slope of the best-fit line in Figure 2 and shows that this 0.21 slope is unlikely to occur by chance alone (the 95% confidence interval [95% CI] for the estimate is 0.10 to 0.31).

[Table 1 about here]

This effect is robust across important categories of candidates. As Columns 2 and 3 in Table 1 show, appearance-advantaged incumbents and challengers both benefit from the treatment condition. The

next two columns show that appearance affects the fortunes of both viable and nonviable candidates, indicating that the photos did not simply serve to remind participants of real political information they had previously learned about prominent, photogenic candidates.⁸ Finally, Columns 6 and 7 show that appearance matters for both Democratic and Republican politicians: appearance-advantaged candidates from both parties fared significantly better in the treatment condition.

In addition, candidates' race and gender do not explain the appearance effect. Column 8 of Table 1 presents the appearance-advantage effect estimate controlling for candidate race, gender, and incumbency status.⁹ Interestingly, the photos appear to change the impact of these characteristics on voting intentions: incumbent and male candidates perform significantly worse, and white candidates significantly better on the photo ballot. Even so, neither the substantive nor the statistical significance of the appearance advantage effect changes when we control for these covariates.

We have presented candidate-level analyses in this section, as opposed to individual-level analyses, because doing so is straightforward, arguably conservative, and the norm in the literature. But the results also hold at the individual level, which we show in a later section.

⁸ The authors and a team of research assistants used endorsements, campaign finance data, previous office, and vote share in previous elections to classify candidates as viable or nonviable.

⁹ Ideally, we would address race and gender not with controls but by restricting the analysis to candidates matched on race and gender, but only three of the 14 races in Study 1 were so matched. We are, however, able to conduct this analysis in the second study.

Figure 2: Appearance-Advantaged Candidates in House Primaries Benefit in Photo Condition

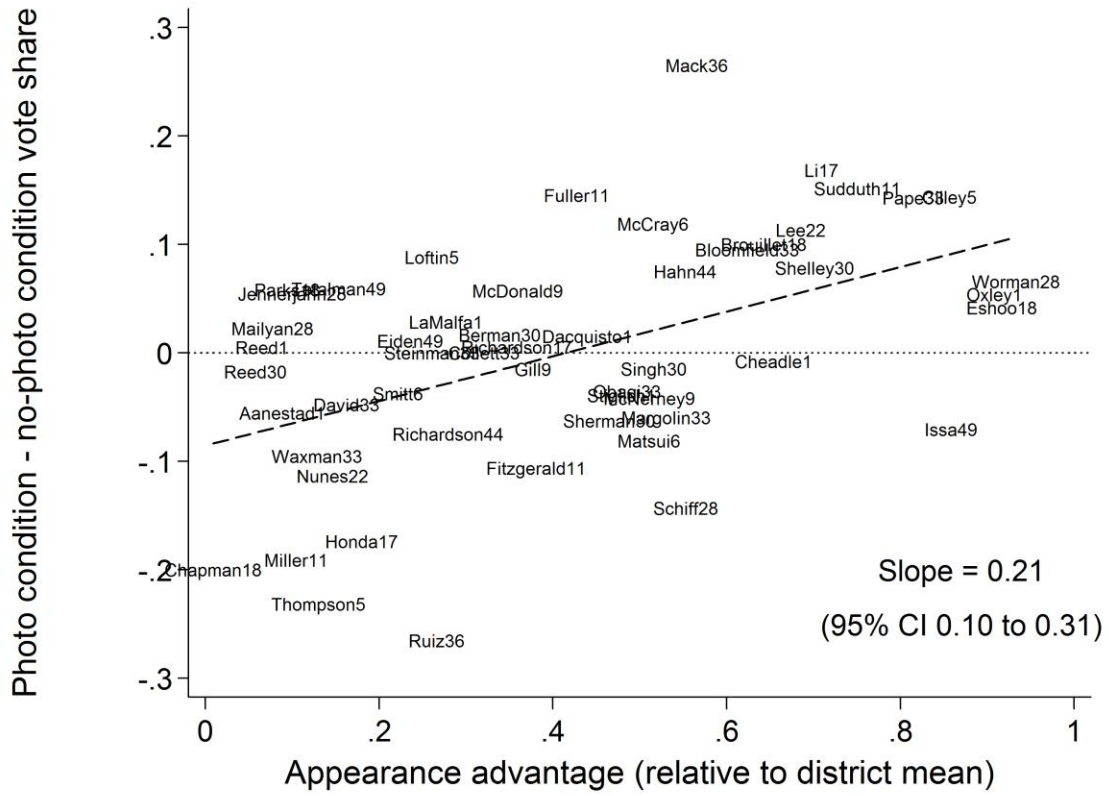


Table 1: Appearance-Advantaged Candidates in House Primaries Benefit in Photo Condition

Dependent variable: Photo condition minus no-photo condition vote share	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All	Challengers	Inc.	Non-viable	Viable	Dem.	Rep.	All with controls
Appearance advantage	0.21*** (0.05)	0.18*** (0.05)	0.30* (0.14)	0.14*** (0.06)	0.19*** (0.09)	0.25*** (0.08)	0.19*** (0.08)	0.15*** (0.05)
Incumbent								-0.09*** (0.03)
White								0.05 (0.03)
Male								-0.10*** (0.04)
Constant	-0.09 (0.03)	-0.06 (0.03)	-0.17 (0.07)	-0.03 (0.04)	-0.10 (0.04)	-0.15 (0.04)	-0.04 (0.04)	0.01 (0.05)
Candidates (N)	53	39	14	24	29	23	23	53
R ²	0.23	0.24	0.28	0.18	0.14	0.30	0.23	0.41

Note: This table shows candidate-level regressions (each column showing a separate model) with standard errors in parentheses. The column 1 regression simply shows the 0.21 slope of the best-fit line in Figure 2.

The number of participants in these regressions is 851, all of whom are registered voters. We do not

cluster the standard errors at the district level because, with only 14 clusters, clustering is unreliable

(Angrist and Pischke 2009, ch. 8), but we do cluster by candidate in the individual-level analysis shown in

SI section 4.5. *** p<0.01, ** p<0.05

Study 2: Appearance Advantage in the 2012 General Elections

The results from the primary study imply that candidates' looks can directly affect voters. Our experimental design enables us to reject the argument that candidate effort or other confounding variables fully account for previous observational findings of the appearance effect. However, because voters often pay little attention to primary campaigns and know little about the candidates, they may be more likely to rely on appearance as a low-information heuristic in this electoral setting. Would these results also hold in general election races? We examine this in Study 2.

Design and Procedures

In the three weeks prior to the general election on November 6, 2012, we recruited 2,235 participants across 18 states through Amazon's Mechanical Turk. We asked these participants about their likely vote choices in anywhere between one and nine statewide races, which ranged from higher-salience races (i.e., gubernatorial or senatorial) to downballot races (e.g., attorney general).¹⁰ We selected the states before running the study because they possess sufficiently large populations of Mechanical Turk workers.¹¹ The

¹⁰ Survey dates: October 17-November 2. Election Day was November 6. We also asked participants about a handful of multicandidate races and single-candidate judicial retention elections. Since analyzing races with only one or more than two candidates introduces complications, we relegate analysis of these races to the SI (see SI section 5.1). The results are consistent with the overall findings in the paper.

¹¹ Since Mechanical Turk does not allow requesters to specify the state of participants, we interviewed participants in all states. In those from smaller states, we told them we lacked races in their state and asked them to do their best voting in another state (to which we randomly assigned them). The out-of-state participants are potentially interesting, since they often know little about the candidates, though we

44 contests included: 15 U.S. Senate races; three for governor; four each for attorney general and state treasurer; three each for lieutenant governor and secretary of state; two each for commissioner of insurance; state auditor, and superintendent of public insurance; and one for agricultural commissioner; labor commissioner; public land commissioner; railroad commissioner; presiding judge court of criminal appeals; and university board of regents. (See SI section 2.1.1 for a list of races.) The candidates included 26 females and 62 males. Of the 2,235 participants in the study, we excluded four percent because they failed an attention test and an additional 10 percent because they reported not intending to vote, leaving us with 1,933 participants. (The results are similar in the full sample; see SI section 2.2.)

As in Study 1, we randomly assigned participants to one of two conditions: a standard ballot or a ballot with candidate photographs. Participants assigned to the control condition received a mock ballot that included the statewide races they would see on the actual ballot on Election Day. In the treatment condition, we gave participants the same ballot but added black-and-white candidate photographs. In both conditions, the ballot showed the candidate's party affiliation.

We then measured candidate appearance in a separate survey on Amazon's Mechanical Turk, asking participants "How good of an elected official (e.g. Sen. or Gov.) do you think this person would be?" (See SI section 2.3 for survey details). To obtain naïve assessments, we excluded ratings when participants reported recognizing the candidate. Participants rated the candidates on the same 1-5 scale as used in the previous study, and their ratings have a mean of 3.1 and a standard deviation of 0.32. We measure *Appearance Advantage* in the direction of the Republican candidate (Republican Appearance minus Democratic Appearance), rescaled to a 0-1 range (see Figure 3 for the ratings). Since all these

generally find similar effects among them. We exclude these respondents from the analysis here, but present the out-of-state results in SI section 5.2.

contests featured just two candidates—one Democrat and one Republican—we can conduct the analysis at the race-level as opposed to the candidate-level. Thus, our dependent variable is the Republican vote share in the photo condition minus the Republican vote share in the no-photo condition (*Photo Condition minus No-Photo Condition Vote Share*).

Race-Level Results

Even in general election races, voting intentions differed (in the aggregate) when the ballot included photos of the candidates' faces. Figure 3 plots the relationship between Republican appearance advantage (X-axis) and the difference between the Republican candidate's treatment vote share and control voter share (Y-axis). The slope of the regression line is 0.20, implying that the Republican candidate with the largest appearance advantage—Bob Corker in the Tennessee Senate race—is thus predicted to benefit 20 percentage points more than the most appearance-disadvantaged Republican—Steve Royal in the North Carolina State Treasurer race—when voters see candidates' faces on the ballot. Put in terms of a difference we are more likely to observe, a one standard deviation improvement in Republican appearance advantage, coupled with showing photographs to voters, would yield an expected 4-point boost in vote share for the Republican candidate. The estimated slope is significant (95% CI 0.05 to 0.35) in a bivariate regression (see Column 1, Table 2) and robust to a number of alternative specifications.

[Figure 3 and Table 2 about here]

As we noted earlier, a possible concern is that candidates' race or gender is the basis of the appearance advantage. To rule out this possibility, we estimate the bivariate model only for races in which the two candidates shared the same race and gender (Column 2, Table 2). If anything, the estimated effect of appearance advantage is larger in this subset of elections. A statistically and substantively significant effect also remains after controlling for candidate gender, race, and incumbency in our full sample (Column

3, Table 2).¹² The finding also holds in U.S. Senate and gubernatorial races (Column 4, Table 2), which tend to be more prominent, as well as lower-ticket races (Column 5, Table 2).

In sum, the effect of the photos is robust across a variety of specifications and types of races. It holds in lower-salience primary races and in higher-salience general election races. It confirms experimentally that, despite prior concerns about endogeneity, a candidate's appearance seems to have a direct influence on voters.

¹² Research has found differential effects of candidate appearance where one or both candidates are female (Chiao, Bowman, and Gill 2008; Poutvaara, Jordahl, and Berggren 2009). Unfortunately, we lack a sufficient number of races to shed further light on this topic (half of the races are male-male and the other half are mostly female-male races).

Figure 3: Appearance-Advantaged Candidates in Statewide General Elections Benefit in Photo Condition

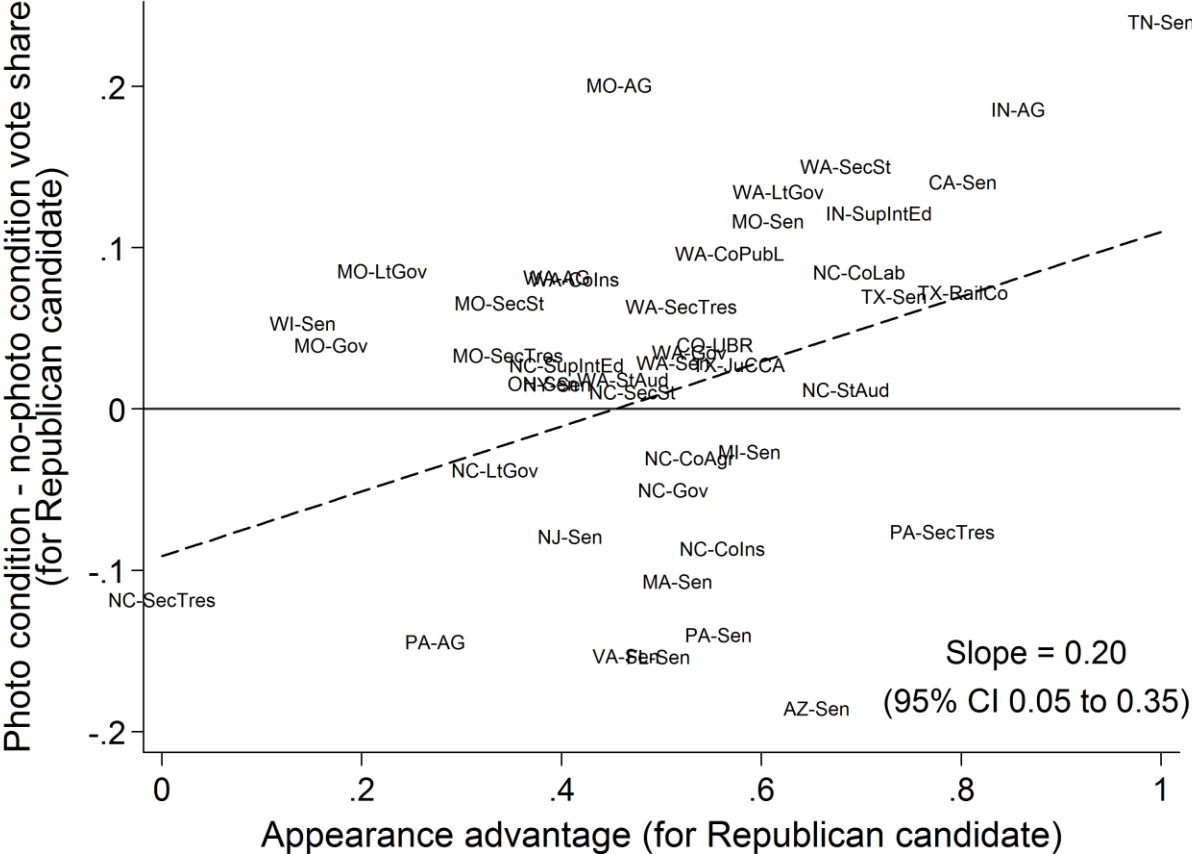


Table 2: Appearance-Advantaged Candidates in Statewide General Elections Benefit in Photo Condition

	(1)	(2)	(3)	(4)	(5)
Dependent variable: Photo condition minus no-photo condition vote share	All	Matched on race and gender	All with controls	Senate & Governor	Other
Appearance Advantage (for Republican)	0.20*** (0.07)	0.23 (0.13)	0.15 (0.09)	0.24 (0.14)	0.19** (0.08)
Incumbent			0.01 (0.02)		
Female Republican			0.05 (0.04)		
Female Democrat			0.01 (0.03)		
White Republican			-0.02 (0.10)		
White Democrat			0.02 (0.09)		
Constant	-0.09*** (0.04)	-0.11 (0.07)	-0.07 (0.13)	-0.13 (0.08)	-0.07 (0.05)
Candidates (N)	44	26	44	18	26
R ²	0.15	0.12	0.21	0.16	0.18

Note: This table shows candidate-level regressions (each column showing a separate model) with standard errors in parentheses. The number of participants in this analysis is 1,933. Dependent variable: photo condition minus no-photo condition vote share (coded so that higher values indicate greater Republican vote share). We do not cluster the standard errors at the state level because, with only 18 clusters, clustering is unreliable (Angrist and Pischke 2009, ch. 8), but we do cluster by participant and contest in the individual-level analysis shown in Tables 3 and 4. *** p<0.01, ** p<0.05, * p<0.1.

Alternative Interpretations and External Validity

In both studies, appearance-advantaged candidates tend to benefit when their photographs appear on the ballot, while appearance-disadvantaged candidates tend to lose support. Since the studies randomly assigned participants to the photo or no-photo condition, they demonstrate that candidate appearance can exert a causal effect on voters' choices, and are therefore inconsistent with the characterization of previous observational findings of appearance effects as largely or entirely spurious. Before reaching this conclusion, however, we consider alternative interpretations of our experimental results.

Do the Photographs Trigger Memories?

One alternative interpretation is that the photos trigger memories about the candidates. If candidates who exert greater effort in their campaigns also look better, then the photos could trigger positive memories about appearance-advantaged candidates and so could produce the experimental findings reported above even if voters did not actually judge candidates on their appearance. Attractive candidates tend to receive more media attention (Waismel-Manor and Tsfati 2011), which could exacerbate this potential bias. To assess this possibility, we asked participants in Study 2 factual questions specific to their states' races after the treatment, but the photos failed to increase recall of relevant facts. In fact, participants assigned to the photo ballot performed 0.7% worse on these questions than participants assigned to the control ballot ($p = 0.33$)—the opposite of what we would expect if the photographs cued memories of other information. As we noted above, we also find the appearance effect among nonviable candidates and downballot candidates. Since these candidates usually lack prominent campaigns, these findings help further rule out this alternative.¹³

¹³ Another interpretation of the finding is that candidate age—as discerned from the pictures—influences treated participants to change their votes. Previous studies, however, have found that controlling for age,

Overestimating or Underestimating the Appearance Effect?

Of course, actual ballots do not usually show candidate photos in the U.S. (though they do in some countries, such as Brazil). These experiments, therefore, do not necessarily tell us that appearance matters in the real world, only that it might matter. Are there reasons to think we are substantially overestimating or underestimating the “true” appearance effect?

There are arguments for both positions. The main reason we may be overestimating the effect is due to priming. When the ballot shows voters the pictures, they may more often cast their vote for the appearance-advantaged candidate simply because this makes the candidate’s looks more perceptually salient (i.e. at the top of voters’ minds) than it would be the case when voters normally go to the polls.

On the other hand, the main reason we could be underestimating the effect is noncompliance. By showing the photos to the treated group, we intended all treated participants to know how the candidates looked and all control participants not to know, which would constitute perfect compliance. In practice, however, some (even many) voters in the control group doubtless knew what the candidates looked like that because the campaign had already “treated” them. This is an instance of one-way noncompliance. And just as in a medical trial where some in the control group take the real drug instead of the placebo, such noncompliance would lead us to underestimate the treatment effect. The presence of this kind of noncompliance should lead the experimentally-induced appearance effect to diminish as Election Day approaches because, as a result of campaign and media coverage, the awareness and hence the influence of the candidates’ looks would have grown among the control group. Moreover, since general election

using various functional forms, leaves the appearance-vote relationship unchanged (Todorov et al. 2005; Lawson et al. 2010, 581).

campaigns are much more pervasive than primary campaigns, this compliance problem seems more problematic in Study 2.

Is the upward bias from priming appearance greater than the downward bias from noncompliance? Because we cannot measure either factor directly, we cannot definitively say. Nevertheless, we can indirectly observe the effects (or lack thereof) of both. Take noncompliance. As the campaign heats up, we would expect increasing numbers of control participants to know what candidates look like because the campaign is “treating” them. Consequently, candidate appearance should increasingly predict vote choice in the control group. Since we conducted Study 2 over 17 days, we can test this prediction. When we estimate the effect of appearance separately in the first half of the control group to take the survey and in the second half, this is precisely what we find. As we show in SI section 3.1, the effect of appearance in the control group increases significantly over time. Noncompliance in the control group therefore likely biases our estimate of an appearance-effect towards zero. To some extent, we can correct for this downward bias by estimating the photo-ballot effect earlier in the campaign, when noncompliance is less of a problem (i.e., the control group is not already voting based on appearance). In fact, when we re-estimate the effect shown in column 1 of Table 2 in the first half of the study, the estimate rises considerably, from 0.20 to 0.32 (see SI section 3.1 and 3.2, which discuss statistical significance).

We may also be able to assess indirectly the upward bias from priming appearance. If we are finding an appearance effect because people cannot resist voting for attractive candidates when they can see their photos, appearance should predict votes consistently in the treated group over time. In fact, however, whereas the appearance-vote relationship increases over time in the control group, it appears to decrease by about half in the treatment group, though this drop is not always statistically significant (see SI section 3.2). This decrease may occur because the campaigns inform voters about other aspects of the candidates, and so voters rely less on appearance as a low-information heuristic as Election Day

approaches. This suggests that we are finding more than just an irresistible response to the photographs, and so such a response may not be leading us to overestimate substantially the appearance effect in the real world. In light of these shifts in the magnitude of the treatment effect over time, we examined whether the importance of other variables, such as party or incumbency, also changed over time, but they do not.¹⁴

Substantive Significance: Can Appearance Change Who Wins?

If the effect we have documented reflected the influence of a candidate's appearance in elections (which it probably does not), what would be the implications? To assess this, we consider how election outcomes would have changed in the absence of the appearance effect. We do this by removing the predicted effect of appearance from candidates' actual vote share.¹⁵ In the primary elections (Study 1), the rankings of candidates change in four of the 14 districts (29%). In the 11 races with more than two candidates, the top two finishers change in two elections (districts 6 and 33 have different second-place finishers). In the general elections (Study 2), the winner changes in six of 44 races (14%). Even if we assume that we are overestimating the appearance effect by twofold in the general election, we find that the winner would change in four races. Thus, to the extent that advertising in close races can approach the salience of photographs on a ballot, we would expect a candidate's appearance to influence electoral outcomes.

¹⁴ We also tested for over time patterns in Study 1. Since we conducted Study 1 over fewer days and since primary campaigns usually pale in comparison to general election campaigns, we might not expect to see such patterns, which is what we find.

¹⁵ We estimate this by multiplying candidate appearance advantage by the appearance effect reported in Column 1 of Table 2, adding the constant to the outcome, and then subtracting that result from the candidate's actual vote share in the 2012 election.

The effects we find are similar in size to those Atkinson et al. find for Senate races between 1992 and 2006. They conclude, however, that the appearance effect is too small to change outcomes of any Senate races during that period, which seems inconsistent with our finding that some outcomes would change in the elections we examine. To investigate this disparity, we reanalyzed their data using a specification similar to that used for our experiments (see SI section 5.4 for details). In contrast with their result, we find that the appearance effect (estimated in the Senate data) is large enough to change the winner in 6.8% of the Senate races between 1992 and 2006. In races that the *Cook Report* deemed competitive (tossups) at least one year before the election, the winner changes in 17% of all races and 27% of races with an incumbent. We present these results in the SI (section 5.4) and discuss possible reasons for the difference in findings.

Candidate Appearance as a Low-Information Heuristic

The candidate-level analyses demonstrate that appearance-advantaged candidates experience greater success when we attach their photographs to the ballot. A natural follow-up question is, “Why?” Research in psychology finds that people rely on appearance most heavily when evaluating others they know little about; that is, they use appearance as a low-information heuristic (Zebrowitz 1997; Hassin and Trope 2000; Bar, Neta, and Linz 2006). Research in political science has only begun to investigate whether the same holds for voting based on appearance, but at least one study suggests that it does. Lenz and Lawson (2012) find that voters rely most on appearance when they watch a relatively high amount of television but know little about politics. To see if this pattern holds in the present studies, we conduct individual-level analyses on the experimental data. These analyses also provide important robustness checks for the candidate-level findings reported above.

Individual-Level Analysis for State-Level General Election Races

We begin with the state-level general election contests (Study 2). If voters use appearance as a low-information heuristic, we might expect the appearance effect to vanish among politically knowledgeable voters, who may know enough about the candidates to not fall back on appearance. We might also expect it to diminish among strong partisans (individuals identifying as "strong" Democrats or Republicans). Since the ballot showed party labels and the contests pitted one Democrat against one Republican, strong partisans can rely on party rather than appearance as a cue. Of course, decades of research consistently show that voters rely heavily on partisanship in their voting decisions (Campbell et al. 1960; Schaffner and Streb 2002).

To test these predictions, we estimate these models at the individual level to increase the precision of the estimates. Our dependent variable is whether participants *Vote Republican* in a given race (coded Republican 1, Democrat 0). As in the race-level analysis, we measure *Appearance Advantage* in terms of the Republican candidate (Republican Appearance minus Democratic Appearance) rescaled to a 0-1 range. We use a linear probability model (ordinary least squares) but the results are the same with probit estimation (see SI section 4.1).¹⁶ We cluster the standard errors at the election race and participant level (see SI section 4.1 for alternative specifications that yield similar findings). We measure general political *Knowledge* with a four-item scale and classify as highly knowledgeable participants who answered three or more items correctly (see SI section 4.2 for wording).

Table 3 shows the results. In column 1, we regress Republican vote choice on an indicator for the photo ballot (*Treatment*), Appearance advantage (for Republican), and the interaction between the

¹⁶ We use linear probability models because they are consistent under weak assumptions and the estimates are simpler to interpret, especially with interaction terms (Ai and Norton 2003).

treatment and appearance advantage (*Treatment x Appearance Advantage [for Republican]*). This interaction is the coefficient of interest—it tests whether candidate appearance predicts vote choices better in the treatment group than in the control group. Consistent with the candidate-level findings above, the interaction is positive and statistically significant. Its size, 0.20, implies that participants in the photo condition are 20-percentage points more likely to vote for the most appearance-advantaged candidates compared to the least advantaged one (95% CI 0.06 to 0.34).

[Tables 3 and 4 about here]

The next four columns of Table 3 test the low-information heuristic predictions. As expected, candidate appearance has a significantly higher effect for low-knowledge voters (Column 3) than high-knowledge voters, for whom the observed coefficient is zero (Column 4). Similarly, candidate appearance affects weak partisans and independents (Column 5) more than strong partisans (Column 6), though this difference (0.26 versus 0.18) is shy of statistical significance.

Because high-knowledge voters may also be strong partisans, we examine the impact of candidate appearance on vote choice for subsets of participants based on both variables. Among low-knowledge voters, we find that candidate appearance has a large and significant effect on both weak partisans and independents (Table 4, Column 1) and strong partisans (Column 2). Partisanship, therefore, does not seem to inoculate low-knowledge participants from the effect of a candidate's appearance.

In contrast, we find a smaller and statistically insignificant effect among high-knowledge participants who are not strong partisans (Column 3). While this suggests that political knowledge potentially protects all voters from the influence of candidate appearance, the effect is absent among those who are both highly knowledgeable and strong partisans. Among this group (Column 4), the sign of the coefficient of interest actually is negative. Taken together, then, these findings support the low-information

Table 3: Voters Favor Appearance-Advantaged Candidates at Higher Rates on the Photo Ballot

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: Vote Republican indicator variable	All participants	Matched on race and gender	Low knowledge	High knowledge	Weak/indep.	Strong partisan
Treatment	-0.09* (0.05)	-0.11 (0.07)	-0.20*** (0.07)	0.01 (0.06)	-0.17*** (0.08)	-0.05 (0.07)
Appearance advantage (for Republican)	-0.03 (0.06)	0.03 (0.14)	-0.06 (0.08)	-0.01 (0.10)	-0.00 (0.08)	-0.069 (0.08)
Treatment x Appearance advantage (for Republican)	0.20*** (0.07)	0.24*** (0.11)	0.39*** (0.11)	0.01 (0.08)	0.26*** (0.11)	0.18* (0.10)
Participants (N)	4,816	2,918	2,324	2,492	1,935	1,626
R ²	0.00	0.01	0.01	0.00	0.01	0.01

Note: This table shows individual-level regressions (each column showing a separate model). The

dependent variable is coded Republican vote 1 and Democratic vote 0. Constant not shown. Standard

errors clustered at the individual and race-level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Low-Information Voters are Most Susceptible to Candidate Appearance

	(1)	(2)	(3)	(4)
Dependent variable: Vote Republican indicator variable	Low knowledge & Non-strong partisan	Low knowledge & Strong partisan	High knowledge & Non-strong partisan	High knowledge & Strong partisan
Treatment	-0.18 *** (0.07)	-0.24 *** (0.10)	-0.10 (0.09)	0.13 (0.10)
Appearance advantage (for Republican)	-0.10 (0.11)	-0.05 (0.13)	0.00 (0.13)	-0.08 (0.08)
Treatment x Appearance advantage (for Republican)	0.35*** (0.07)	0.47*** (0.18)	0.09 (0.13)	-0.11 (0.09)
Participants (N)	1475	694	1351	932
R ²	0.01	0.03	0.00	0.01

Note: This table shows individual-level regressions (each column showing a separate model). The dependent variable is coded Republican vote 1 and Democratic vote 0. Constant not shown. Standard errors clustered at the individual and race-level in parentheses. ~~***~~ p<0.01, ~~**~~ p<0.05, ~~*~~ p<0.1.

heuristic interpretation of appearance effects. By implication, if voters were better informed about politics, they would not rely on candidate appearance.¹⁷

Individual-Level Analysis for U.S. House Primaries in California

In comparing general and primary elections, there are reasons to expect that partisan and high-knowledge voters would be more likely to rely on candidates' appearance in the primary context. While party labels clearly provide important cues in most general election races, they are significantly less valuable in primary contests, which usually feature multiple candidates from the same party. (Ten of the 14 races included in Study 1 did so.) Furthermore, voters know much less about congressional candidates than gubernatorial and senatorial candidates like those included in our general election study (Krasno 1997). In fact, knowledge is so low in congressional primaries that even politically knowledgeable voters appear largely ignorant of candidates' policy positions, except for what they can glean from the candidate's party (Ahler, Citrin, and Lenz 2014). Consequently, unlike decision-making in general elections, all voters in primaries, including politically knowledgeable strong partisans may be more likely to rely on candidate appearance in their voting decisions, because they know so little else about the candidates and cannot rely on party labels as a guide.

Consistent with this reasoning, voters in Study 1 appear about equally susceptible to candidate appearance regardless of partisanship and knowledge: both high-knowledge and low-knowledge voters who saw the ballot with photos voted for appearance-advantaged candidates more frequently. Similarly, we find that strong partisans (those who place themselves at 1 or 7 on the 7-point party ID scale) vote for

¹⁷ In SI sections 4.3-4.5, we find clearer evidence that strong partisanship can diminish the appearance effect, especially among high-knowledge individuals. We find this in downballot races (no Sen. and gubernatorial races) and when we substitute local for general knowledge.

appearance-advantaged candidates at a similar rate to independents and weak partisans when they see photos of the candidates. We present these findings in the SI (see section 4.4).

Across both studies, therefore, appearance matters for voters' choices. But voters also seem to rely on appearance less when they know more about politics. The apparent moderating effects of knowledge and (less consistently) partisanship in the higher-salience general election contests, combined with a more wide-ranging effect of candidate appearance in House primaries, supports the view that candidate appearance acts as a low-information heuristic that voters discard when they have are more informed or can use more reliable cues. If voters knew more about the candidates, we might not find that candidate appearance—a piece of information that may carry little signal—influences vote choices. As it is, however, we find that looks sometimes may matter enough to affect electoral outcomes.

Conclusion

This study took earlier research finding a sizeable correlation between candidates' appearances and their electoral fortunes as a starting-point, a result that understandably evoked familiar normative concerns about citizen competence and threats to democratic accountability. In response to such pessimism, scholars rightly raised questions about the genuineness of the appearance-choice connection, arguing that omitted variables may have generated a relationship that in reality is spurious. Given that candidate appearance correlates with so many other variables—candidate spending, incumbency, and incumbent vulnerability—it seemed plausible that candidate appearance was merely an effect rather than a direct cause of voters' behavior.

To overcome the indeterminacy of this argument about the meaning of the observational studies, we designed two experimental studies. These randomized experiments consistently supported the existence of a candidate appearance effect on voters' stated choices. When we exposed voters (in a treatment group) to photos of the candidates not long before Election Day, they reported intending to vote

for appearance-advantaged candidates at higher rates and appearance-disadvantaged candidates at lower rates more often than those (in a control group) shown a ballot without photographs of the candidates. Since candidate effort (or other omitted variables) could not differentially influence voters in the photo conditions compared to voters in the control conditions, we no longer have to worry about the plausible alternative interpretations. By introducing exogeneity into a morass of endogenous relationships, we determine that candidate appearance does seem to have a direct, causal influence on voters.

The effect of candidate appearance on voting in these experiments is robust. It holds up in primary and general election races, among incumbents and challengers, among viable and nonviable candidates, among Democratic and Republican candidates, among up-ballot races (senator and governor) and down-ballot races (e.g., attorney general), and in contests between candidates matched on race and gender. It also holds up in candidate-level analyses and in individual-level analyses. These effects show up even though voters are casting ballots for real-world candidates in their districts just before Election Day and even though the ballots provide other information, such as candidate party, incumbency status, and occupation. The effect is also large enough to change election outcomes.¹⁸ We also presented evidence that the effect is unlikely to be due to the photo condition triggering memories of candidates or from an irresistible tendency of participants to vote based on candidate looks when the ballot shows photos (priming). Finally, we show the findings with a Mechanical Turk sample and a demographically representative sample of registered voters in California (via SSI).

¹⁸ We would expect a similar effect on election outcomes wherever appearance is similarly salient in the electoral campaign. The effect may be smaller in contexts where appearance is less prominent and other candidate information more readily available.

Some scholars argue that voters generally possess the cues necessary to reach “as-though informed” decisions (Popkin 1991; Lupia 1994; Lupia and McCubbins 1998). Our results present evidence that this certainly is not always the case: candidate appearance, an arguably uninformative cue, can influence voters' choices and electoral outcomes. Since merely showing photographs of candidates' faces produces changes in voting intentions, our findings raise questions about the quality of voters' heuristics and, more broadly, about citizens' ability to hold politicians democratically accountable.

This, of course, all assumes that appearance is not a rational heuristic. So we should ask, do looks provide valid information about candidates' abilities? Although some studies find small correlations between attractiveness and IQ scores (e.g., Zebrowitz et al. 2002), most researchers conclude that the inferences about competence people draw from faces fail to correspond with reality (Cohen 1973; Alley 1988; Kalick et al. 1998; Hassin and Trope 2000), though none investigate candidates for political office.

Simply because voters rely on appearance when voting, we note, in no way implies that candidate appearance is generally informative about candidate competence. People routinely make costly decisions based on facial inferences even when those inferences are shown to be uninformative, such as when lending money online (Ravina 2012), eliminating competitors on a television game show (Belot, Bhaskar, and Van De Ven 2012), playing incentivized trust games (Wilson and Eckel 2006), and incentivized public goods games (Andreoni and Petrie 2008).¹⁹ Research on the beauty wage premium in the labor market reaches similar conclusions (e.g., Fletcher 2009). Summarizing years of his own and others' research on the beauty premium, Daniel Hamermesh (2011) concludes that it results from taste-based discrimination,

¹⁹ Other examples include students evaluating their professors' teaching (Hamermesh and Parker 2005) and economists electing officers to the American Economic Association (Hamermesh 2006), though the costliness of those behaviors is questionable.

which he calls lookism, writing, “We have met the enemy and he is us” (Hamermesh 2011, 122). Finally, voters say they place little weight on appearance in their voting decision (see SI section 5.1). Of course, research on candidate appearance is still in its early stages and our design cannot demonstrate why candidate appearance matters, only that it does.

The notion that candidates’ looks should not matter pervades popular conversation about politics. From Bill Clinton’s 2012 stump speech charging that Mitt Romney predicated his campaign on “looking like a president” (Nelson 2012) to the kerfuffle over President Obama’s comments about California having the “best looking attorney general,” opinion leaders contend that we shouldn’t judge our politicians based on how they look. According to our findings, however, this normative ideal fails to describe voters’ behavior, especially among those with little other information to go by.

More optimistically, our findings also point to a remedy. In the general election, political knowledge—and, to a lesser degree, partisan attachment—protected voters from this superficial tendency to use looks as a cue (though in primaries, where information is generally scarce, they did not). Opinion leaders who truly believe that appearance should not matter can potentially alleviate this tendency through campaigns that inform voters about valid dimensions of candidate quality. Appearance will likely cease to matter only when most voters possess more substantive guides to their choices.

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