Who gets to vote? Racialized mental images of legitimate and illegitimate voters

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Word Count: 4,971 / 5,000

Abstract

When people support voter ID laws, who do they imagine they are keeping in and out of the voting booth? We investigated this question across three studies. First, using a traditional survey approach, we found support for voter ID laws was associated with beliefs that ID requirements reduce illegal voting by both Black and White people to the same degree. Because explicit surveys are vulnerable to social desirability concerns, in the following two studies we utilized an indirect measure, reverse correlation, to investigate mental images of those who try to vote illegally (Study 2), and mental images of those who should and should not get to vote (Study 3). The findings of these studies suggest that support for voter ID laws is associated with racially biased perceptions of illegal voters and who should get to vote. Critically, these biased perceptions may be underestimated by traditional explicit survey approaches.

Who gets to vote?

Racialized mental images of legitimate and illegitimate voters

The question of who gets to vote is fundamental to democracy. Yet, in the United States this issue has been contentious throughout history, with conflicts over voting rights centering on race. Following the US civil war, the fifteenth amendment prohibited states from disenfranchising voters “on account of race, color, or previous condition of servitude.” But, White Southerners’ fear of losing power led southern states to respond by passing laws, such as poll taxes, literacy tests, residency requirements, and grandfather clauses to stop Black voting. These laws had a devastating and cumulative effect, disenfranchising nearly all Black residents by 1910 (Berman, 2015; Davidson, 2009; Friedman, 2005).

The Voting Rights Act of 1965 made these tactics illegal. The law required states to obtain clearance from the federal government to ensure that voting laws did not have a disparate impact on Black voters. Gradually, more Black people began to vote.

Today, the contentious debate over who gets to vote has reemerged due to voter identification (ID) laws, which require people to present identification to cast a vote. Supporters of voter ID laws contend that these laws protect the voting process from fraudulent votes (e.g., McCarthy, 2016). This principled rhetoric in support of voter ID laws, however, is criticized by those who oppose these laws; arguing these laws are a means of racial voter suppression because minority voters tend to be poorer and are, therefore, less likely to have a valid form of identification compared to White Americans (e.g., Keyssar, 2012; Sobel & Smith, 2009). The rhetoric surrounding this debate has evolved to include discussions of voting among illegal immigrants; specifically, among Hispanic/Latinx individuals (Kessler, 2021; Smith, 2017). This

debate is playing out across state legislatures (e.g., Montellaro, 2021), in the Supreme Court (e.g., *Shelby v. Holder*, 2013), and within academic circles.

Although evidence of voter fraud – casting a vote when a person is not legally allowed to vote – is exceedingly rare throughout history (e.g., Ansolabehere et al., 2015), it remains unclear whether these laws have a disproportionate impact on racial minorities. Some research suggests that voter ID laws suppress minorities' votes (Hajnal et al., 2017); whereas other research finds that voter ID laws do not have a significant impact on voter turnout – regardless of the race/ethnicity of the voter (Grimmer et al., 2017). Even if voter ID laws do not reduce voter turnout, they place the undue emotional and financial burden on Black and Brown communities to mobilize in response to these laws (Valentino & Neuner, 2017). Thus, even in academic circles, the debate surrounding voter ID laws – and specifically who is impacted by these laws – is alive and well.

Although those who support voter ID laws often contend that these laws have nothing to do with racial attitudes (Highton, 2017), public discourse surrounding voter ID laws is fraught with them. For example, much of the discussion surrounding voter ID laws is that they are Jim Crow laws by another name (Keyssar, 2012). Yet, this discussion has progressed beyond White-on-Black prejudice to include a new “illegal immigrant” narrative whereby politicians and citizens alike suggest that illegal immigrants, primarily Hispanic/Latinx individuals, are seeking to cast votes in US elections (Smith, 2017). These racist narratives are also demonstrated in people's attitudes: prejudice against Black and Hispanic/Latinx Americans is associated with more support for voter ID laws (Banks & Hicks, 2016; Pérez, 2010; Wilson & Brewer, 2013). It stands to reason, therefore, that any non-White group may be perceived as a potential illegal

voter as non-White individuals are associated with being non-American (Devos & Banaji, 2005; Zou & Cheryan, 2017).

Building from these ideas, we hypothesized that attitudes toward voter ID laws are linked with racialized mental representations of voters. Those who are more supportive of voter ID laws may imagine illegal voters who are more representative of non-Whites. To test this question, we examined mental images of legal and illegal voters. One reason illegal voters may be perceived as non-White is because they are perceived as fundamentally less entitled to this right. To examine this second question, we explored perceptions of who *should* be allowed to vote.

Research Overview

The current research investigates our hypotheses across three studies. First, using a traditional survey approach, we investigated whether attitudes toward voter ID laws predicted beliefs that illegal voters were non-White. Then, because this explicit survey approach suffers from social desirability concerns, in the following two studies we utilized an indirect measure, reverse correlation, to investigate mental images of those who try to vote illegally (Study 2), and those who should and should not get to vote (Study 3). The findings suggest that racially biased mental images of illegal voters and those who should vote are associated with attitudes toward voter ID laws.

For exact study materials, please see Supplemental Materials.¹

Study 1 Method

Statistical Power and Participants

An *a priori* power analysis suggested we would need at least 325 participants to detect a small-to-medium effect ($f^2 = 0.03$) with adequate power ($1 - \beta = .80$) using a linear regression

¹ Images, data, and analysis code can be found here:
https://osf.io/gje3s/?view_only=631361851fb840c281f2d3512a0fe616.

model. To account for attrition, we recruited 450 participants on MTurk. We obtained a sample of 430 participants who had unique MTurk IDs, passed robot checks (CAPTCHAs), provided informed consent, passed an attention check (the first item in the survey; see Supplement)², and completed at least one dependent variable of interest.

The final sample included 151 women, 275 men, 1 another gender identity, and 3 no response. The average age was 36.97 ($SD = 11.15$). The racial/ethnic composition of the sample was as follows: 64.0% White; 21.4% Black; 4.0% Asian; 7.0% Hispanic/Latinx; 1.6% Native American or Pacific Islander; 0.9% multiracial; 0.5% another race/ethnicity; and 0.7% did not report. The political affiliation of our sample was: 44.7% republican; 16.0% independent; 37.9% democrat; 0.7% another party; and 0.7% did not report.

Procedure

First, participants were asked questions about whether they supported or opposed various policies about voting (1 = *Strongly Oppose*; 6 = *Strongly Support*). We included three items about voter ID laws that states are currently considering adopting or have already adopted: (1) “In order to vote in the U.S., people should have to bring a valid form of identification (such as a Driver's License).” (2) “In order to vote in the U.S., people should have to sign the ballot for proof of identification through signatures.” and (3) “In order to vote in the U.S., people should have to demonstrate U.S. citizenship.” We averaged these items together to create an index reflecting support for voter ID laws ($\alpha = .74$; $M = 4.62$, $SD = 1.14$). The other three items represented voter disenfranchisement policies which are illegal: (1) “In order to vote in the U.S., people should have to pass an English literacy test.” (2) “In order to vote in the U.S., people

² Including participants who failed the attention check does not substantive alter reported findings.

should have to demonstrate knowledge and understanding of the English language.” and (3) “It is acceptable to charge citizens a tax in order to vote.”³

Then, participants were asked several questions about the voting behaviors of several social groups: Asian people, Hispanic/Latinx people, Black people, White people, old people, young people, democrats, republicans, and political independents. Germane to the current research, we investigated participants’ beliefs about the voting behaviors of the racial/ethnic groups.⁴ The presentation of all social groups was random to avoid order effects.

In this block of questions, participants first saw questions regarding which group they thought voted illegally. This question stem was: “Most people who vote illegally are (social group).” (1 = *Strongly disagree*; 7 = *Strongly agree*). Then, participants were asked how likely it was that specific social groups lacked a valid ID to vote (0 = *Not at all likely*; 100 = *Extremely likely*; for analyses with these variables, see Supplement). Finally, participants then reported their agreement to several questions about whether requiring a voter ID would reduce different legal and illegal voting among the specified social groups (1 = *Strongly disagree*; 7 = *Strongly agree*). These items were: “Requiring a voter ID or voter registration card will reduce illegal voting.”, “Requiring a voter ID will reduce LEGAL voting among (social group).”, and “Requiring a voter ID will reduce ILLEGAL voting among (social group).” (presentation of all social groups was randomized).

Lastly, participants were asked to complete demographic items.

³ For scale descriptives and correlations across all studies see Supplement.

⁴ Initially, we identified Black and White people as our critical groups to investigate whether attitudes toward voter ID laws were associated with beliefs that illegal voters were Black, as opposed to White. To ensure that participants were not aware of our hypotheses, we included seven social groups that were not central to the current research: Asian people, Hispanic/Latinx people, old people, young people, democrats, republicans, and political independents. However, to investigate a broader question - whether attitudes toward voter ID laws were associated with beliefs that non-White individuals vote illegally - we analyzed all racial/ethnic groups. For analyses of our original question, see the Supplement.

Results

Table 1 presents correlations between the variables of interest.

Table 1*Correlations Between Variables of Interest, Study 1*

		Support voter ID	Asian illegal voters	Black illegal voters	Hispanic / Latinx illegal voters
Belief illegal voters are...	Asian	.20**	--		
	Black	.22**	.72**	--	
	Hispanic/Latinx	.35**	.54**	.54**	--
	White	0.07	.58**	.60**	.28**

Note. ** indicates $p < .001$. Because participants were not required to complete all measures, the sample sizes vary from 428 to 430.

Our primary question was whether attitudes toward voter ID laws were associated with beliefs that non-White individuals vote illegally. Due to high collinearity between beliefs that non-White individuals vote illegally (r 's range from .54-.72, p 's < .001), we investigated this question two ways. First, we averaged together perceptions that illegal voters are Asian, Black, and Hispanic/Latinx people to represent the perception that illegal voters are non-White. Second, we disaggregated this measure to investigate nuances between racial groups. To test the robustness of this relationship, subsequent analyses added party affiliation (1 = *republican*, 0 = *not republican*) and whether or not the participant identified as White (1 = *White*, 0 = *not White*) as covariates because both variables are known to be associated with support for voter ID laws (e.g., Wilson & Brewer, 2013). For all regression analyses, continuous variables were standardized for analyses (for results with all variables standardized, see the Supplement). Table 2 presents full regression results from both analyses. The results provide evidence that support for voter ID laws was associated with greater belief that most illegal voters were non-White (top-panel) and were Hispanic/Latinx specifically (bottom-panel).

Table 2

Predicting Support for Voter ID Laws from Beliefs About Who Votes Illegally, Study 1

		B	<i>p</i> -value	95% CI		B	<i>p</i> -value	95% CI	
Constant		0.00	0.956	-0.09	0.09	-0.15	0.099	-0.33	0.03
Illegal voters are...	non-White	0.38	< .001	0.27	0.49	0.32	< .001	0.21	0.44
	White	-0.16	0.006	-0.27	-0.05	-0.15	0.006	-0.26	-0.04
Republican						0.38	< .001	0.20	0.57
White						-0.03	0.772	-0.23	0.17
Constant		0.00	0.955	-0.09	0.09	-0.13	0.168	-0.31	0.05
Illegal voters are...	Asian	0.02	0.802	-0.12	0.16	0.01	0.867	-0.13	0.15
	Black	0.09	0.233	-0.06	0.23	0.06	0.402	-0.08	0.20
	Hispanic/Latinx	0.31	< .001	0.20	0.43	0.28	< .001	0.17	0.39
	White	-0.09	0.154	-0.20	0.03	-0.09	0.134	-0.21	0.03
Republican						0.36	< .001	0.17	0.55
White						-0.05	0.61	-0.25	0.14

We also investigated whether support for voter ID laws was associated with the belief that these laws would reduce both legal and illegal voting among non-White people. Again, we tested this question two ways: by averaging together non-White groups, and then by disaggregating this measure. Subsequent analyses controlled for party affiliation (1 = *republican*, 0 = *not republican*) and whether or not the participant identified as White (1 = *White*, 0 = *not White*). Table 3 presents full regression results. The results revealed that support for voter ID laws was associated with greater belief that voter ID laws would reduce illegal voting among non-White people (top-panel). When race/ethnicity was disaggregated, however, the results revealed that support for voter ID laws was associated with greater belief that voter ID laws would reduce illegal voting among Hispanic/Latinx people and White people (bottom-panel).

Given that support for voter ID laws was associated with the belief non-White people, specifically Hispanic/Latinx people, vote illegally, and that such voter ID laws would reduce illegal voting among non-White people, specifically Hispanic/Latinx people, one interpretation is that attitudes toward voter ID laws are more specifically racialized to the Hispanic/Latinx community than we originally anticipated. However, participants' responses on this survey may be influenced by social desirability. These findings may underestimate the extent to which support for voter ID laws are racialized and/or how they are racialized (for a related argument, see Petsko et al., 2020). In the following two studies we utilize an indirect measure, reverse correlations (Mangini & Biederman, 2004), to circumvent social desirability concerns.

Table 3

Predicting Support for Voter ID Laws from Beliefs These Laws Will Reduce Legal and Illegal Voting, Study 1

		B	p-value	95% CI		B	p-value	95% CI	
Constant		0.01	0.887	-0.08	0.09	-0.12	0.158	-0.28	0.05
Reduce legal voting among...	non-White	-0.07	0.220	-0.18	0.04	-0.06	0.283	-0.17	0.05
	White	-0.02	0.782	-0.14	0.10	-0.04	0.506	-0.16	0.08
Reduce illegal voting among...	non-White	0.49	< .001	0.37	0.62	0.46	< .001	0.34	0.59
	White	0.07	0.265	-0.06	0.20	0.08	0.236	-0.05	0.20
Republican						0.32	< .001	0.15	0.49
White						-0.03	0.717	-0.21	0.14
Constant		0.01	0.883	-0.07	0.09	-0.10	0.236	-0.25	0.06
Reduce legal voting among...	Asian	-0.01	0.858	-0.15	0.13	-0.02	0.767	-0.16	0.12
	Black	-0.04	0.570	-0.18	0.10	-0.03	0.652	-0.17	0.10
	Hispanic/Latinx	-0.04	0.510	-0.17	0.09	-0.04	0.572	-0.16	0.09
	White	0.04	0.523	-0.08	0.16	0.02	0.788	-0.10	0.13
Reduce illegal voting among...	Asian	0.05	0.515	-0.09	0.19	0.05	0.478	-0.09	0.19
	Black	-0.06	0.365	-0.20	0.08	-0.08	0.242	-0.22	0.06
	Hispanic/Latinx	0.49	< .001	0.37	0.61	0.47	< .001	0.35	0.59
	White	0.17	0.012	0.04	0.30	0.17	0.01	0.04	0.30
Republican						0.30	< .001	0.14	0.46
White						-0.05	0.537	-0.22	0.12

Study 2 Method

Reverse correlation is a data-driven approach that allows participants to generate images that can freely vary on many physiognomic dimensions, including race. The task uses a three-phase design. During the image generation phase (phase 1), participants were asked to select the image of the person who should be asked for ID before they vote. They were also asked to report their support for voter ID laws. From these data, we identified participants who had low support for voter ID laws and participants who had high support for these laws. In the second phase, we created *individual selected images* by averaging all selections for each participant. Importantly, type I error is controlled when individual images are rated (Cone et al., 2020), so we used the individual images in the final rating phase. In this phase, a separate sample – unaware of how these images were generated – rated these images on their perceived race.

Image generation phase

Participants. Because no formal *a priori* statistical power analyses exist for the image generation phase, we recruited 200 democrats and 200 republicans from CloudResearch to ensure our data represented diverse political perspectives and to account for attrition. Data were retained for participants who completed the entire reverse correlation task to ensure equivalent comparisons across images.

The final sample included 379 participants (218 women, 159 men, 2 did not report). The average age was 38.68 ($SD = 12.06$). And the racial/ethnic composition of the sample was as follows: 71.8% White; 13.7% Black; 6.9% Asian or Pacific Islander; 6.1% Hispanic/Latinx; 0.8% Native American; and 0.8% did not report.

Procedure. Participants first completed the reverse correlation task. As part of the cover story for this task, participants were asked to imagine they were Election Inspectors and their job

was to issue voting ballots to registered voters. As part of their job, participants were asked to check the credentials (such as checking the identification or voting registration) of approximately half of the voters to ensure they are citizens and can legally vote. On each trial, participants were asked to select the image of who should be asked for ID before they vote.

Participants were asked to complete 400 critical trials of the reverse correlation task. This task utilizes a single “base face” which for our research was a morph of a Black man, a Black woman, a White man, and a White woman (Brown-Iannuzzi et al., 2021). We added random visual noise to this base face to create 800 unique variants.

Next, participants reported their attitudes toward voter ID laws (the same items asked in Study 1; $\alpha = .71$; $M = 4.97$, $SD = 1.05$). Finally, participants completed demographic items.

Image processing phase

For all participants, we created individual-images using rcicr 0.3.0 (Dotsch, 2015) of who should be asked for ID by superimposing the averaged noise patterns of all selected images for a given participant onto the base face.

For illustrative purposes only (see Figure 1), we created group-images for those with the least support for voter ID laws (bottom 1/3 of participants; scores on support for voter ID ranged from 1-4.66; $n = 105$) and most support for voter ID laws (top 1/3 of participants; scores on support for voter ID ranged from 5.67-6; $n = 149$). Group-images reflect the average mental representation of who should be asked for ID to ensure they can legally vote at a given level of support for voter ID laws.

Figure 1

Average Images of Those Who Should Have Their IDs Checked for those with the least and most support for voter ID laws, Study 2

Image Rating Phase

Participants. An *a priori* power analysis suggested we would need at least 138 participants to detect a small effect ($f = 0.10$) with adequate power ($1 - \beta = .80$). To account for attrition, we posted the study for $N = 200$ on MTurk. We obtained a sample of 220 participants who had unique MTurk IDs, passed robot checks (CAPTCHAs), provided informed consent, and completed at least one dependent variable of interest.

The final sample included 118 women, 80 men, 1 another gender, and 21 did not report. Of those who reported, the average age was 42.79 ($SD = 13.26$). And the racial/ethnic composition of the sample was as follows: 68.2% White; 8.2% Black; 8.2% Asian; 2.3% Hispanic/Latinx; 0.5% Native American or Pacific Islander; 2.7% multiracial; 0.5% indicated another race/ethnicity; and 9.5% did not report.

Stimuli. Participants were asked to judge several different images. The stimuli were the individual-images generated from the image generation phase. We were interested in how

perceptions of mental representations may differ depending on whether image generators reported the least or the most support for voter ID laws.

To have a similar sample size for comparative purposes, we selected 20 images from participants who reported the least support for voter ID laws (scores ranged from 1 to 3) and 20 images from those who reported the most support for voter ID laws (6 out of 6). Because there were 100 participants who reported the most of support for voter ID laws (6 out of 6), we randomly selected 20 images from these participants.

Procedure. Participants were asked to judge the extent to which each pictured person represented the following races/ethnicities: Asian, Black / African American, Hispanic / Latinx, and White (1 = *Not at all representative*; 6 = *Extremely representative*). To avoid order effects, the order of all photos was random. Finally, participants completed some demographic items.

Results

When asked to generate a mental representation of those who should be asked for their ID to ensure they can legally vote, we hypothesized that those who were more supportive of voter ID laws would create images that were more representative of Black and Hispanic/Latinx people. These findings would suggest that support for voter ID laws was related to racial bias in mental representations of those who may try to vote illegally. To investigate our hypothesis, we conducted a mixed model with a random intercept and random effects for attitudes toward voter ID laws (least vs. most support) and perceived race/ethnicity (Asian, Black/African American, Hispanic/Latinx, and White).⁵ The results revealed a main effect of attitudes toward voter ID laws, $\chi^2(1) = 10.85, p = .001, \eta_p^2 = 0.002$, a main effect of perceived race/ethnicity, $\chi^2(3) =$

⁵ There is a convergence warning when fitting this mixed effects model in R. This is common for the lmer package for R. Following the advice of the authors of the package we fit the model with several optimizers. The results were practically the same for each optimizer indicating that the convergence warning is a false positive. Further, we note that the simpler random-intercept model, which does converge, yields equivalent interpretations.

719.31, $p < .001$, $\eta_p^2 = 0.77$, and these effects were qualified by an interaction between attitudes toward voter ID laws and perceived race/ethnicity, $\chi^2(3) = 1807.91$, $p < .001$, $\eta_p^2 = 0.05$ (for graph see Figure 2).

To decompose this main effect, we conducted pairwise comparisons with a Bonferroni adjustment for multiple comparisons. See Table 4 for contrast estimates. Compared to images generated by those with the least support for voter ID laws, images generated by those with the most support for voter ID laws were rated as more representative of Asian, Black, and Hispanic/Latinx people, but less representative of White people.

Overall, the pattern of results suggests that among those who are most supportive of voter ID laws, their mental images of those who may try to vote illegally are more representative of non-White racial/ethnic categories. To the extent that this finding is driven by racial bias, supporters of voter ID laws may perceive voting by Whites to be fundamentally more legitimate than voting by non-Whites. If so, then we may observe similar racial biases in their images of who should vote at all, a question we examined in the next study.

Figure 2

Graphing the Interaction Between Attitudes Toward Voter ID laws and Perceived Race/Ethnicity of Those Who Should Have Their ID Checked to Ensure They Can Legally Vote, Study 2

Note: Error bars represent 95% Confidence Intervals.

Table 4

Pairwise comparisons of perceived race/ethnicity for images generated by those with the least and most support for voter ID laws, Study 2

Perceived race/ethnicity	<i>b</i>	<i>p</i> -value	95% CI	
Asian	0.12	<.001	0.07	0.18
Black / African American	0.73	<.001	0.67	0.78
Hispanic / Latinx	0.23	<.001	0.17	0.30
White	-0.89	<.001	-0.94	-0.83

Note. All contrasts were created by subtracting the perceived race/ethnicity rating of images generated by those with the least support for voter ID laws from the ratings of images generated by those with the most support for voter ID laws.

Study 3 Method

In a final study, we extended upon Study 2 findings by examining visualizations of who should vote. This study used the same three-phase reverse correlation design to investigate mental representations of those who should and should not vote.

Image generation phase

Participants. We recruited 300 participants from CloudResearch limited to the United States. To ensure our data represented diverse political perspectives, we recruited 150 democrats and 150 republicans. Data were retained for participants who completed the entire reverse correlation task to ensure equivalent comparisons across images.

The final sample included 237 participants (118 women, 118 men, 1 another gender). The average age was 39.97 ($SD = 13.18$). And the racial/ethnic composition of the sample was as follows: 68.8% White; 15.6% Black; 8.9% Asian or Pacific Islander; 4.6% Hispanic/Latinx; and 2.1% Native American.

Procedure. First, participants completed the reverse correlation task. Again, participants were asked to imagine they were Election Inspectors. This time, however, they were told they would need to help manage crowds at the polling stations. They were told that sometimes polling stations can become overwhelmed by the number of people trying to vote and that this “can cause chaos and lead to a number of problems.” Therefore, it was their job to help manage the crowds by determining who can vote at their location. On each trial, participants were asked to choose which pictured person of two side-by-side images should be allowed to vote at their polling location. Importantly, participants were told that the person they “do not select will not be allowed to vote at your polling location.” Participants were asked to complete 400 trials. After

completing the reverse correlation task, participants reported their attitudes toward voter ID laws (the same items asked in the previous studies; $\alpha = .74$; $M = 4.94$, $SD = 0.97$).

For exploratory purposes, we included a feeling thermometer toward several social groups: people who vote illegally, Black people, White people, and Hispanic/Latino people. As this measure was not relevant to our key analyses, we do not discuss it here. Finally, participants completed demographic items.

Image processing phase

We created images using the R package *rcicr* 0.3.0 (Dotsch, 2015). For all participants, we created *individual selected images* of who should vote by superimposing the averaged noise patterns of all selected images for a given participant onto the base face. And, we created *individual non-selected images* of who should not vote by superimposing the averaged noise patterns of all non-selected images for a given participant onto the base face.

For illustrative purposes only (see Figure 3), we generated *group selected images* and *group non-selected images* for those with the least support for voter ID laws (bottom 1/3 of participants; scores on support for voter ID ranged from 1-4.65; $n = 65$), and most support (top 1/3 of participants; scores on support for voter ID ranged from 5.66-6; $n = 83$). Group selected images reflect the average mental representation of who should vote for participants at a given level of support for voter ID laws. Group non-selected images reflect the average mental representation of who should not vote, among participants at a given level of support for voter ID laws.

Figure 3

Average Images of Who Should Vote (Group-Images) and Who Should Not Vote (Anti-Group-Images) for those with the least and most support for voter ID laws, Study 3

Image Rating Phase

Participants. An *a priori* power analysis suggested we would need at least 138 participants to detect a small effect ($f = 0.10$) with adequate power ($1 - \beta = .80$). Because this study was a longer time commitment, we anticipated more attrition and posted the study for $N = 300$ on MTurk. We obtained a sample of 316 participants who had unique MTurk IDs, passed robot checks (CAPTCHAs), provided informed consent, and completed at least one dependent variable of interest.

The final sample included 151 women, 102 men, and 63 did not report. Of those who reported, the average age was 41.02 ($SD = 13.82$). And the racial/ethnic composition of the sample was as follows: 61.4% White; 6.6% Black; 6.3 % Asian; 2.5% Hispanic/Latinx; 0.3% Native American or Pacific Islander; 2.8% multiracial; and 19.9% did not report.

Stimuli. Because we were interested in how perceptions of mental representations may differ as a function of support for voter ID laws, we used individual images from participants who reported the most and least support for voter ID laws in the image generation phase.

We selected the images from the 21 participants who reported the least support for voter ID laws (scores ranged from 1 to 3.33 out of a possible score of 6). There were 55 participants who reported the most support for voter ID scores (support score = 6). In order to have a similar sample size for comparative purposes, we randomly selected 20 images from participants who reported the most support for voter ID laws. In total, participants rated 82 images.

Procedure. The procedure was identical to the Image Rating Phase of Study 2.

Results

We hypothesized that those who are more supportive of voter ID laws would create images of those who should vote that were more representative of White Americans.⁶ The analytic approach was the same as Study 2.⁷ The results revealed a main effect of perceived race/ethnicity, $\chi^2(3) = 568.41, p < .001, \eta_p^2 = 0.66$, which was qualified by an interaction between attitudes toward voter ID laws and perceived race/ethnicity, $\chi^2(3) = 1168.32, p < .001, \eta_p^2 = 0.03$ (for graph see Figure 4).

⁶ For analyses investigating the perceived race of those who should not vote, see the Supplemental Analyses.

⁷ There is a convergence warning when fitting this mixed effects model in R. The results were practically the same for each optimizer indicating that the convergence warning is a false positive. A simpler random-intercept model, which does converge, yields equivalent interpretations. Among seven optimizers, the maximum differences in negative log-likelihoods was 0.93 ($SD = 0.432$).

To decompose this main effect, we conducted pairwise comparisons with a Bonferroni adjustment for multiple comparisons. See Table 5 for contrast estimates. Compared to images generated by those with the least support for voter ID laws, images generated by those with the most support for voter ID laws were rated as more representative White people and less representative of Black people. No other contrasts were statistically significant. This suggests that when supporters of voter ID laws imagine who should vote, they primarily envision White voters. And, analyses in the Supplement suggest that when supporters of voter ID laws imagine who should be excluded from voting, they primarily envision Black voters.

Figure 4

Graphing the Interaction Between Attitudes Toward Voter ID laws and Perceived Race/Ethnicity of Those Who Should Vote, Study 3

Note. Error bars represent 95% confidence intervals.

Table 5

Pairwise comparisons of perceived race/ethnicity for images generated by those with the least and most support for voter ID laws, Study 3

DV: Perceived race contrasts

Perceived race/ethnicity	<i>b</i>	<i>p</i> -value	95% CI	
Asian	-0.04	0.307	-0.08	0.004
Black / African American	-0.48	< .001	-0.52	-0.44
Hispanic / Latinx	-0.04	0.309	-0.08	0.004
White	0.49	< .001	0.45	0.53

Note. All contrasts were created by subtracting the perceived race/ethnicity rating of images generated by those with the least support for voter ID laws from the ratings of images generated by those with the most support for voter ID laws.

General Discussion

We provide evidence that attitudes toward voter ID laws are related to racialized visualizations of who votes illegally and who deserves to vote. Using a traditional explicit survey approach, we found that more support for voter ID laws was associated with thinking illegal voters were non-White and primarily Hispanic/Latinx. We also found that support for voter ID laws was associated with belief that these laws would reduce illegal voting among non-White people and primarily among Hispanic/Latinx people. In Studies 2 and 3 we utilize an indirect measure, reverse correlations, to circumvent social desirability concerns. The findings of these studies suggest that supporters of ID laws not only assume that Asian, Black, and Hispanic/Latinx people are more likely to vote illegally, but also that White people should have privileged access to voting over Black people.

The current findings provide an important extension from previous research on attitudes toward voter ID laws. Although principles of election confidence, security, and protection are often invoked during these discussions, much of the previous work has connected support for voter ID laws to individuals' negative attitudes toward Black (Wilson & Brewer, 2013) and

Hispanic/Latinx people (Pérez, 2010). Although suggestive, these findings do not directly investigate *why* racial prejudice is associated with attitudes toward voter ID laws. Extending from previous research, the current work found evidence that support for voter ID laws was associated with racially biased perceptions of those who vote illegally. Critically, these racial biases extend to perceptions of who *should* get to vote at all. Together, these findings suggest that both mental images of who should and should not vote may underpin attitudes about voting restrictions.

Importantly, this research reveals that an indirect measure of mental images of those who may vote illegally and those who should vote may reveal broader racial biases than more direct measures. This finding is consistent with other research that finds mental representations of Arabs as assessed with an indirect measure are significantly more negative than self-reported attitudes toward Arabs (Petsko et al., 2020). Our findings also suggest the consequential impact of mental images on policy attitudes (Brown-Iannuzzi et al., 2017; 2021).

Limitations and Future Directions

The current research focused on the racialization of attitudes toward voter ID laws. We made this choice due to the history of voter disenfranchisement of Black Americans and recent rhetoric surrounding immigrants from Central and South America. An equally important question, however, would be to investigate how race may intersect with gender with respect to mental images of who should vote. The long history of suppressing women's right to vote in the US, and then only allowing White women the right to vote in 1920, suggests that there may be an important intersectional implication in people's mind regarding who should vote. Future research should investigate this possibility.

Conclusion

Voter ID laws have reignited an age-old debate about voter participation. Reasoning about these laws that, on the surface, appears principled may veil racial biases in the mind's eye.

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Supplemental Materials

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Support for Voter ID Laws: Histograms and Descriptive Statistics Across All Studies

We investigated the distribution of support for voter ID laws across all studies. Please see Figure S1 for histograms and Table S1 for descriptive statistics.

Figure S1

Histograms of Support for Voter ID Laws

Table S1

Descriptive Statistics of Support for Voter ID Laws

	Mean	Median	Mode	SD	Skew	Min	Max
Study 1	4.62	5.00	5.33	1.14	-1.24	1	6
Study 2	4.97	5.33	6.00	1.05	-1.19	1	6
Study 3	4.94	5.00	6.00	0.97	-1.05	1	6

Descriptive Statistics, Correlations, and Differences in Support for Illegal Voter Policies and Support for Voter ID Laws

As stated in the manuscript, three items assessed the support for voter ID laws, and three items assessed support for voter disenfranchisement policies which are illegal: (1) “In order to vote in the U.S., people should have to pass an English literacy test.” (2) “In order to vote in the U.S., people should have to demonstrate knowledge and understanding of the English language.” And (3) “It is acceptable to charge citizens a tax in order to vote.” (1 = *Strongly Oppose*; 6 = *Strongly Support*). Here we present the descriptive statistics for each item investigating support for illegal voter disenfranchisement policies (see Table S2).

Table S2*Descriptive Statistics for Support for Voter Disenfranchisement Laws.*

		Study 1	Study 2	Study 3
Pass Literacy Test	Mean	4.03	4.01	4.05
	Median	4	4	4
	Mode	5	6	6
	SD	1.652	1.745	1.67
	Skew	-0.568	-0.458	-0.448
	Min	1	1	1
	Max	6	6	6
Know English	Mean	4.18	4.23	4.15
	Median	5	5	5
	Mode	5	6	5
	SD	1.583	1.666	1.616
	Skew	-0.762	-0.683	-0.583
	Min	1	1	1
	Max	6	6	6
Poll Tax	Mean	3.24	2.09	2.48
	Median	4	1	2
	Mode	1	1	1
	SD	1.924	1.626	1.774
	Skew	0.039	1.197	0.814
	Min	1	1	1
	Max	6	6	6

Next, we averaged support for illegal voter disenfranchisement policies together (α 's > .725) and investigated whether this index correlated with support for voter ID laws. We found significant correlations among support for voter disenfranchisement policies with support for voter ID laws across all studies, $r_{study\ 1} = .54, p < .001$; $r_{study\ 2} = .52, p < .001$; $r_{study\ 3} = .47, p < .001$.

Finally, we investigated whether or not support for illegal voter disenfranchisement laws differed from support for voter ID laws. See Table S3 for complete results. Across all studies,

participants reported more support for voter ID laws than for illegal voter disenfranchisement laws.

Table S3

Investigating Differences in Support for Voter ID Laws and Voter Disenfranchisement Laws

	Support for Voter ID Laws		Support for Voter Disenfranchisement Laws		<i>t</i>	<i>df</i>	<i>p</i>	95% CI _{<i>MDif</i>}		<i>dz</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>						
Study 1	4.62	1.14	3.82	1.44	13.17	429	< .001	0.68	0.92	0.64
Study 2	4.97	1.05	3.45	1.35	24.71	376	< .001	1.40	1.65	1.27
Study 3	4.94	0.97	3.56	1.39	16.69	236	< .001	1.22	1.54	1.08

Study 1:

Predicting support for voter ID laws from the belief that Black people lack valid ID

Participants were asked how likely it was that specific social groups lacked a valid ID to vote (0 = *Not at all likely*; 100 = *Extremely likely*). These social groups were the same nine social groups used in the previous set of statements. The presentation of all social groups was random to avoid order effects.

We investigated the relationship between support for voter ID laws and the belief that non-White people lack valid forms of identification. To test this question, we ran two analyses. First, we averaged together perceptions that illegal voters are Asian, Black, and Hispanic/Latinx people to represent the perception that illegal voters are non-White. Second, we disaggregated this measure to investigate nuance between racial groups. To test the robustness of this relationship, a subsequent analysis added party affiliation (1 = *republican*, 0 = *not republican*), and whether or not the participant identified as White (1 = *White*, 0 = *not White*) as control variables. The results revealed that support for voter ID laws was not significantly associated with the belief that a specific group lacked a valid ID (see Table S4 for full results).

Table S4*Predicting support for voter ID laws from the belief certain groups lack valid ID, Study 1*

		B	p-value	95% CI		B	p-value	95% CI	
Constant		0.00	0.995	-0.10	0.10	-0.13	0.176	-0.32	0.06
Group that lacks ID...	non-White	0.02	0.752	-0.11	0.15	-0.04	0.594	-0.17	0.10
	White	0.09	0.182	-0.04	0.22	0.05	0.428	-0.08	0.18
Republican						0.50	< .001	0.31	0.69
White						-0.15	0.155	-0.36	0.06
Constant		0.00	0.995	-0.10	0.10	-0.13	0.171	-0.32	0.06
Group that lacks ID...	Asian	0.05	0.522	-0.11	0.22	0.05	0.509	-0.11	0.21
	Black	-0.09	0.253	-0.24	0.06	-0.11	0.16	-0.25	0.04
	Hispanic/Latinx	0.05	0.414	-0.08	0.18	0.01	0.842	-0.11	0.14
	White	0.10	0.167	-0.04	0.25	0.05	0.459	-0.09	0.20
Republican						0.50	< .001	0.31	0.70
White						-0.15	0.159	-0.36	0.06

Study 2: Details on Choosing Images Among Generators Who Had the Least Support for Voter ID Laws

Thirty-three participants reported the least support for voter ID laws with scores ranging from 1 to 3. Of these 33 participants, 17 participants reported a score of 3. Therefore, we selected the 16 images of participants who had the least support for voter ID laws (ranging from 1-2.67) and for the remaining four images we randomly select for participants from the group of 17 participants who reported a score of 3.

Study 3: Perceived Race/Ethnicity of Those Who Should Not Vote

In this study, participants were asked to imagine they were Election Inspectors. This time, however, they were told they would need to help manage crowds at the polling stations. They were told that sometimes polling stations can become overwhelmed by the number of people trying to vote and that this “can cause chaos and lead to a number of problems.” Therefore, it was their job to help manage the crowds by determining who can vote at their location. On each trial, participants were asked to choose which pictured person of two side-by-side images should be allowed to vote at their polling location. Importantly, participants were told that the person they “do not select will not be allowed to vote at your polling location.” In the manuscript, we analyzed the perceived race/ethnicity ratings of the selected images – those who should vote. Here, we analyze the perceived race/ethnicity ratings of the non-selected images – those who should *not* vote.

We conducted a mixed model with a random intercept and random effects for attitudes toward voter ID laws (least vs most support) and perceived race/ethnicity (Asian, Black/African American, Hispanic/Latinx, and White). The results revealed a main effect of perceived race/ethnicity, $\chi^2 = 582.88, p < .001, \eta_p^2 = 0.67$, which was qualified by an interaction between attitudes toward voter ID laws and perceived race/ethnicity, $\chi^2 = 1120.88, p < .001, \eta_p^2 = 0.03$ (for graph see Figure S2).

To decompose this main effect, we conducted pairwise comparisons with a Bonferroni adjustment for multiple comparisons. See Table S7 for contrast estimates. Compared to images generated by those with the least support for voter ID laws, images generated by those with the most support for voter ID laws were rated as more representative Black people and less representative of White people. No other contrasts were statistically significant. This suggests

that when supporters of voter ID laws imagine who should *not* vote, they primarily envision Black voters.

Figure S2

Graphing the Interaction Between Attitudes Toward Voter ID laws and Perceived Race/Ethnicity of Those Who Should Not Vote, Study 3

Note. Error bars represent 95% confidence intervals.

Table S7

Pairwise comparisons of perceived race/ethnicity for images generated by those with the least and most support for voter ID laws, Study 3

DV: Perceived race contrasts

Perceived race/ethnicity	<i>b</i>	<i>p</i> -value	95% CI	
Asian	0.13	> .999	-0.03	0.05
Black / African American	0.49	< .001	0.45	0.53
Hispanic / Latinx	0.00	> .999	-0.03	0.04
White	-0.44	< .001	-0.47	-0.40

Study Dropped from Manuscript:

Investigating Mental Representations of those who Lack Valid ID

Due to word count constraints, we dropped this study from the manuscript. We report the method and results from this study here.

Method

The disparate impact of voter ID laws depends on the assumption that Black voters are less likely than White voters to have valid ID – a possibility we investigate here. We hypothesized that everyone, regardless of their attitudes toward these laws, may imagine that those who lack appropriate voter ID are Black. If so, this would suggest that people on both sides of the debate are aware that voter ID laws may disproportionately impact Black Americans. Again, this study used a three-phase reverse correlation design to investigate mental representations of those who may lack a valid ID to vote.

Image generation phase

Participants. No formal statistical *a priori* power analyses exist for the image generation phase. We recruited 150 democrats and 150 republicans from CloudResearch to ensure our data represented diverse political perspectives and to account for attrition. Data were retained for participants who completed the entire reverse correlation task to ensure equivalent comparisons across images.

The final sample included 286 participants (148 women, 138 men). The average age was 39.81 ($SD = 11.91$). And the racial/ethnic composition of the sample was as follows: 73.4% White; 10.5% Black; 7.7% Asian or Pacific Islander; 7.3% Hispanic/Latinx; and 1.0% Native American.

Procedure. The procedure was identical to the previous studies, except the cover story and questions differed for the reverse correlation task. Participants were again asked to imagine they were Election Inspectors and that part of their job would be to check the credentials (such as checking the identification or voting registration) of voters to ensure they can vote. This time, however, they were asked to guess which voters wouldn't be able to provide the proper credentials and, thus, would be turned away from the polls. On each trial, participants were asked to select the image of the person who would not be able to provide the necessary credentials to vote. The remainder of the survey was identical to the previous studies.

Image processing phase

We created images using the R package *rcicr* 0.3.0 (Dotsch, 2015). For all participants, we created *individual-images* of who should be asked for ID to ensure they can legally vote by superimposing the averaged noise patterns of all selected images for a given participant onto the base face.

For illustrative purposes, we also split the data into three relatively equal groups sizes representing participants who had the least (scores on support for voter ID ranged from 1-4.66; $n = 75$), moderate (scores on support for voter ID ranged from 4.67-5.99; $n = 112$), and most support for voter ID laws (scores on support for voter ID were 6; $n = 99$). Then, because we were particularly interested in whether there would be a difference between those with the least and most support for voter ID laws, we generated *group-images* for these two groups (see Figure S3). Group-images reflect the average mental representation of those who cannot provide proper credentials to vote for a given level of support for voter ID laws (i.e., the average noise pattern of all selected images across all participants in a given group).

Figure S3

Average Images of Those Who Cannot Provide Proper Credentials to Vote for those with the least and most support for voter ID laws

Image Rating Phase

Participants. An *a priori* power analysis suggested we would need at least 163 participants to detect a small effect ($f = 0.10$) with adequate power ($1 - \beta = .80$). To account for attrition, we posted the study for $N = 300$ on MTurk. The sample consisted of 317 participants. Two rows of data had duplicated MTurk IDs, indicating a participant took the survey multiple times, and these rows were deleted from the data. One row of data did not have a MTurk ID and was deleted from the data. We again included CAPTCHAs as the first questions in the survey. Seven rows of data were deleted due to failing the CAPTCHAs. Seven participants failed to complete a single DV of interest and were deleted from the data.

The final sample included 108 women, 186 men, and 6 did not report ($N = 300$). The average age was 35.96 ($SD = 14.32$). And the racial/ethnic composition of the sample was as follows: 66.7% White; 19.7% Black; 4.3% Asian; 4.0% Hispanic/Latinx; 1.3% Native American or Pacific Islander; 1.3% multiracial; and 2.7% did not report.

Stimuli. Participants were asked to judge several different images. The stimuli were the individual-images generated from the image generation phase. We were interested in how perceptions of mental representations may differ depending on whether image generators reported the least, moderate, or the most support for voter ID laws (*Min Score* = 1; *Max Score* = 6). To have a similar sample size for comparative purposes, we selected 20 images from each of the following groups: image generators who had the least, moderate, and most support for voter ID laws. We selected 20 images from participants who reported the least support for voter ID laws (scores ranged from 1 to 3). There were 27 participants who reported moderate support for voter ID (scores at the median; 5.33 out of 6), so we randomly selected 20 images from these participants. There were 99 participants who reported the most of support for voter ID laws (6 out of 6), so we randomly selected 20 images from these participants.

Procedure. The image rating procedure was identical to the previous ratings studies. Participants were asked to judge the perceived race/ethnicity of the pictured person (1 = *Definitely African American*; 6 = *Definitely White American*). To avoid order effects, the order of all photos was random. Finally, participants completed some demographic items including age, gender, income, education, and race/ethnicity.

Data Reduction. We created an average perceived race ratings for each image type: individual-images from generators with the least support for voter ID laws ($\alpha = .94$), individual-images from generators with moderate support for voter ID laws ($\alpha = .94$), and individual-images from generators with the most support for voter ID laws ($\alpha = .93$).

Results

We hypothesized that participants, regardless of their attitudes toward voter ID laws, would generate mental representations of those who lacked credentials to vote that were

representative of Black Americans. To test this hypothesis, we conducted a one-way repeated measure ANOVA with generators' support for voter ID laws (least, moderate, most) as the within-subjects factor. Unexpectedly, the results revealed a significant main effect of generators' support for voter ID laws on perceived race ratings of their images, $F(2, 524) = 44.12, p < .001, \eta_p^2 = .13$ (for graph see Figure S4).

To decompose this main effect, we conducted pairwise comparisons with an LSD adjustment for multiple comparisons. Consistent with our hypothesis, when image generators imagined voters who may lack credentials to vote, the perceived race of images generated by those with the most (vs. least) support for voter ID laws did not significantly differ, $M_{dif} = 0.03, p = .098, 95\% \text{ CI } [-0.01, 0.07]$. Inconsistent with our hypotheses, the perceived race of images generated by those with moderate support for voter ID laws was perceived as more representative of White Americans than images generated by those with the least support for voter ID laws, $M_{dif} = 0.18, p < .001, 95\% \text{ CI } [0.13, 0.24]$, and images generated by those with the most support for voter ID laws, $M_{dif} = 0.22, p < .001, 95\% \text{ CI } [0.18, 0.27]$.

Figure S4

Graphing Perceived Race Ratings of Mental Representations of Those Who Lacked Appropriate Credentials to Vote

Note: Error bars represent 95% confidence intervals.

Discussion

Overall, the pattern of results is consistent with our hypothesis – those with the most and least support for voter ID laws imagined those who lacked credentials to vote were equally representative of Black Americans. This suggests that people are aware that voter ID laws may disproportionately impact a specific racial group. The finding that people who were both most and least support for voter ID laws imagined more Black voters without valid ID than people who were moderately supportive of voter ID laws was unexpected.

Survey Materials

Study 1

Survey Flow

1. Captchas
2. Consent
3. Support for Voter ID Laws
4. Illegal Voter Race
5. Legal & Illegal Voting
6. Demographics
7. Debriefing

Notes:

- Question names are indicated by bold font.
- Notes throughout the survey are indicated by italicized font and are bracketed by < >.

Survey Start

To ensure that you are not a bot, please complete the following two questions. Failure to complete these questions correctly may result in rejection of the HIT.

Captcha1 Please complete the question (captcha) below.

Captcha2

Below is a word written in all caps and in bold font. Please type this word in the space below.

CAT

<Consent form displayed>

Consent If you are 18 years of age or older and consent to participate, please click "I CONSENT" below. If you do not wish to participate, please close this browser.

o I CONSENT (1)

AttnCheck Welcome to the study!

First, we are interested in whether you actually take the time to read directions. To show that you read the instructions, please ignore the question below about how you are feeling and instead check only the "none of the above" option as your answer. Thank you very much.

Please check the emotion word that describe how you are currently feeling.

- ☐ Interested (0)
- ☐ Hostile (0)
- ☐ Nervous (0)
- ☐ Distressed (0)
- ☐ Enthusiastic (0)
- ☐ Determined (0)
- ☐ Excited (0)
- ☐ Proud (0)
- ☐ Attentive (0)
- ☐ none of the above (1)

Thank you for participating in this survey!

Please take your time and answer every question to the best of your ability. The responses you provide help researchers to better understand how people make decisions and respond to information. This survey will take 15 minutes. If you do not have the time to complete the survey now, please close the browser.

If you have time to complete the survey now, please continue to the next page.

This survey is about voting in the United States. You will be asked your opinions on voting policies, your opinions on social groups and voting, and you will be asked to complete some demographic information. Please remember that the survey is designed to protect your privacy and identity, so please respond honestly.

Below are some statements about political policies. Please determine the extent to which you support or oppose the following policies.

VoterID1 In order to vote in the U.S., people should have to bring a valid form of identification (such as a Driver's License).

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID2 In order to vote in the U.S., people should have to sign the ballot for proof of identification through signatures.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID3 In order to vote in the U.S., people should have to pass an English literacy test.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID4 In order to vote in the U.S., people should have to demonstrate knowledge and understanding of the English language.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID5 It is acceptable to charge citizens a tax in order to vote.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID6 In order to vote in the U.S., people should have to demonstrate U.S. citizenship.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

Below is a sentence (in bold font) with a blank at the end. Please fill in this blank with the social groups listed on the left below. Then, for each social group, determine the extent to which you agree or disagree with the sentence.

Most people who vote illegally are _____.

<Scale for the following 9 items. All items were randomly displayed to avoid order effects.>

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

IllegalVoter_B Black people.

IllegalVoter_W White people.

IllegalVoter_A Asian people.

IllegalVoter_H Hispanic/Latinx people.

IllegalVoter_Old old people.

IllegalVoter_young young people.

IllegalVoter dems democrats.

IllegalVoter reps republicans.

IllegalVoter and political independents.

Among legal voters, how likely are the following groups to lack valid ID to vote?

Not at all likely 0 10 20 30 40 50 60 70 80 90 100 Extremely likely

LackID_Black Black people

LackID White White people

LackID_Hisp Hispanic/Latinx people

LackID Asian Asian people

LackID_Old old people

LackID Young young people

LackID Dem democrats

LackID Rep republicans

LackID Ind political independents

ReduceIllegalVoting Requiring voter ID or voter registration cards will reduce illegal voting.

- ☐ Strongly disagree (1)
- ☐ Disagree (2)
- ☐ Somewhat disagree (3)
- ☐ Neither agree nor disagree (4)
- ☐ Somewhat agree (5)
- ☐ Agree (6)
- ☐ Strongly agree (7)

Below is a sentence (in bold font) with a blank at the end. Please fill in this blank with the social groups listed on the left below. Then, for each social group, determine the extent to which you agree or disagree with the sentence.

Requiring voter ID will reduce LEGAL voting among _____.

<Scale for the following 9 items. All items were randomly displayed to avoid order effects.>

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

ReduceLegalVote_B Black people.

ReduceLegalVote_W White people.

ReduceLegalVote_A Asian people.

ReduceLegalVote_H Hispanic/Latinx people.

ReduceLegalVote_Old old people.

ReduceLegalVote_young young people.

ReduceLegalVote_dems democrats.

ReduceLegalVote_reps republicans.

ReduceLegalVote_ind political independents.

Below is a sentence (in bold font) with a blank at the end. Please fill in this blank with the social groups listed on the left below. Then, for each social group, determine the extent to which you agree or disagree with the sentence.

Requiring voter ID will reduce ILLEGAL voting among _____.

<Scale for the following 9 items. All items were randomly displayed to avoid order effects.>

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

ReduceIllegalVote_B Black people.

ReduceIllegalVote_W White people.

ReduceIllegalVote_A Asian people.

ReduceIllegalVote_H Hispanic/Latinx people.

ReduceIllegalVote_Old old people.

ReduceIllegalVote_young young people.

ReduceIllegalVote_dems democrats.

ReduceIllegalVote_reps republicans.

ReduceIllegalVote_ind political independents.

We are now going to ask you some questions about you and your background.

Party What is your political party affiliation?

- ☐ Republican (1)
- ☐ Independent (2)
- ☐ Democrat (3)
- ☐ Other (4)

SocConserv Please indicate your political identity on social issues (e.g., abortion, gun rights, gay rights).

I am _____ on social issues.

- ☐ strongly liberal (1)
- ☐ moderately liberal (2)
- ☐ slightly liberal (3)
- ☐ in the middle (4)
- ☐ slightly conservative (5)
- ☐ moderately conservative (6)
- ☐ strongly conservative (7)

EcoConserv Please indicate your political identity on economic issues (e.g., taxation, government spending).

I am _____ on economic issues.

- ☐ strongly liberal (1)
- ☐ moderately liberal (2)
- ☐ slightly liberal (3)
- ☐ in the middle (4)
- ☐ slightly conservative (5)
- ☐ moderately conservative (6)
- ☐ strongly conservative (7)

Age How old are you? (Please type your response below in years)

Gender What gender are you?

- ☐ Male (1)
- ☐ Female (2)
- ☐ Another gender identity (if you'd wish to elaborate, please use the response box) (3)

Ladder

Think of this ladder as representing where people stand in the United States.

At the top of the ladder (rung 10) are the people who are the best off – those who have the most money, the most education, and the most respected jobs.

At the bottom of the ladder (rung 1) are the people who are the worst off – those who have the least money, least education, and the least respected jobs or no job.

The higher up you are on this ladder, the closer you are to the people at the very top. The lower you are, the closer you are to the people at the very bottom.

Relative to other people in the United States, where would you place yourself on this ladder?

- ☐ 1 Bottom of the ladder (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 Top of the ladder (10)

What is your yearly household income?

▼ Less than \$5,000 (1) ... \$175,000 or more (20)

Edu What is your highest level of education?

- ☐ Less than a high school degree (1)
- ☐ High school degree (2)
- ☐ Some college (no degree) (3)
- ☐ 2-year college degree (4)
- ☐ 4-year college degree (5)
- ☐ Masters level degree (for example M.S. or M.A.) (6)
- ☐ Doctorate level degree (for example PhD, MD, JDS) (7)

Race What is your race or ethnicity?

- ☐ White or Caucasian (1)
- ☐ Hispanic (2)
- ☐ Black or African American (3)
- ☐ Native American or Pacific Islander (4)
- ☐ Asian (5)
- ☐ Multiracial (more than one race) (6)
- ☐ Another race/ethnicity (7) _____

<Debriefing form displayed>

Survey End

Study 2 Phase I: Image Generation

Survey Flow

1. Consent & Instructions
2. Reverse Correlation Task
3. Attitude measures
4. Demographics
5. Debriefing

Notes:

- Question names are indicated by bold font.
- Notes throughout the survey are indicated by italicized font and are bracketed by < >.

Survey Start

<Consent form displayed>

Consent Click "I CONSENT" (below) to indicate that you are 18 or older and that you want to participate. If you do not want to participate, please close this browser.

☐ I CONSENT

Thank you for taking part in this survey.

We appreciate the time you are taking to complete this survey. It is because of individuals like you that we are able to conduct research. Our research group is a not-for-profit and the pay we offer reflects what we can afford to pay. We wish we could pay more. So, if you feel the pay is not commensurate with the predicted time to complete the survey (typically it takes participants 30-45 minutes, but you are allotted 90 minutes to complete the hit), please close the browser now. Thank you again!

Today, you'll be asked to imagine you are an Election Inspector and your job is to issue voting ballots to registered voters. As part of this job, you will need to check the credentials (such as checking the identification or voting registration) of the voters to ensure they can vote. Individuals who cannot provide these credentials will not be allowed to vote.

On each trial, you will be shown two photos. Imagine these are photos of people who would like to vote. The blurry nature of these photos protects their identities. Given that you will need to check the credentials of all voters, we want you to guess which voters wouldn't be able to provide this information. That is, of the two photos, which individual do you think would be most likely to be turned away from the polls. There is no right or wrong answer. Just use your "gut response" to answer this question. "Gut responses" about individuals are surprising accurate in predicting personality and behavior.

There are several trials of two photos. You are welcome to take short breaks whenever you decide.

To begin the task click ">>"

<On each trial, participants saw the following trial schematic. The presentation of the images on the screen was random. The trial order was not random. Participants completed 400 critical trials.>

Who do you think would NOT be able to provide the necessary credentials to vote?

Now, we are going to ask you some questions about political policies. Please determine the extent to which you support or oppose the following policies.

VoterID1 In order to vote in the U.S., people should have to bring a valid form of identification (such as a Driver's License).

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID2 In order to vote in the U.S., people should have to sign the ballot for proof of identification through signatures.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)

- o Slightly Support (4)
- o Support (5)
- o Strongly Support (6)

VoterID3 In order to vote in the U.S., people should have to pass an English literacy test.

- o Strongly Oppose (1)
- o Oppose (2)
- o Slightly Oppose (3)
- o Slightly Support (4)
- o Support (5)
- o Strongly Support (6)

VoterID4 In order to vote in the U.S., people should have to demonstrate knowledge and understanding of the English language.

- o Strongly Oppose (1)
- o Oppose (2)
- o Slightly Oppose (3)
- o Slightly Support (4)
- o Support (5)
- o Strongly Support (6)

VoterID5 It is acceptable to charge citizens a tax in order to vote.

- o Strongly Oppose (1)
- o Oppose (2)
- o Slightly Oppose (3)
- o Slightly Support (4)
- o Support (5)
- o Strongly Support (6)

VoterID6 In order to vote in the U.S., people should have to demonstrate U.S. citizenship.

- o Strongly Oppose (1)
- o Oppose (2)
- o Slightly Oppose (3)
- o Slightly Support (4)
- o Support (5)
- o Strongly Support (6)

How positively or negatively do you feel toward the following groups? (0 = extremely negatively; 100 = extremely positively).

Therm_VoteIllegal People who vote illegally

Therm_Hisp Hispanics / Latinos

Therm_Black African Americans / Blacks

Therm_White Whites

We are now going to ask you some questions about yourself. (There are 7 items total)

Age How old are you? (Please type your response below in years)

Gender What gender are you?

- ☐ Male (1)
- ☐ Female (2)

Income What is your annual household income?

- ☐ Less than \$25,000 (1)
- ☐ \$25,001 - \$50,000 (2)
- ☐ \$50,001-\$75,000 (3)
- ☐ \$75,001-\$100,000 (4)
- ☐ \$100,001-\$125,000 (5)
- ☐ \$125,001-\$150,000 (6)
- ☐ \$150,001-\$175,000 (7)
- ☐ \$175,001-\$200,000 (8)
- ☐ \$200,001-\$225,000 (9)
- ☐ \$225,001-\$250,000 (10)
- ☐ More than \$250,000 (11)

Edu What is your highest level of education?

- ☐ Less than a high school degree (1)
- ☐ High school degree (2)
- ☐ Some college (no degree) (3)
- ☐ 2-year college degree (4)
- ☐ 4-year college degree (5)
- ☐ Masters level degree (for example M.S. or M.A.) (6)
- ☐ Doctorate level degree (for example PhD, MD, JDS) (7)

PolParty What is your political party affiliation?

- ☐ Democrat (1)
- ☐ Independent (2)
- ☐ Republican (3)
- ☐ other (4)

Conserv How politically liberal or conservative are you?

- ☐ Very Liberal (1)
- ☐ Somewhat Liberal (2)
- ☐ Neither Liberal nor Conservative (3)

- ☐ Somewhat Conservative (4)
- ☐ Very Conservative (5)

Race What is your race or ethnicity?

- ☐ White or Caucasian (1)
- ☐ Hispanic (2)
- ☐ Black or African American (3)
- ☐ Native American or Native Alaskan (4)
- ☐ Asian or Pacific Islander (5)

<Displayed Debriefing form>

Survey End

Study 2 Phase III: Image Rating

Survey Flow

1. Captchas
2. Consent
3. Rating individual CIs
4. Demographics
5. Debriefing

Notes:

- Question names are indicated by bold font.
- Notes throughout the survey are indicated by italicized font and are bracketed by < >.

Survey Start

To ensure that you are not a bot, please complete the following two questions. Failure to complete these questions correctly may result in rejection of the HIT.

Captcha1 Please complete the question (captcha) below.

 A reCAPTCHA interface element. On the left is a square checkbox. To its right is the text "I'm not a robot". Further right is the reCAPTCHA logo, which consists of a blue circular arrow icon. Below the logo, the text "reCAPTCHA" is displayed, with "Privacy - Terms" in smaller text underneath.

CAPTCHA2

Below is a word written inside a blue box. Please type this word in the response box exactly as it is written - using upper case and/or lower case letters when needed.

WATER

<Consent form displayed>

Consent

If you are 18 or older and you would like to participate in this study, please click "I consent to participate."

If you would not like to participate, please close this browser or click "I do NOT want to participate."

- ☐ I consent to participate (1)
- ☐ I do NOT want to participate (2) *<These folks were automatically redirected out of the survey>*

Thank you for participating in this survey!

Please take your time and answer every question to the best of your ability. The responses you provide help researchers to better understand how people make decisions and respond to information. This survey will take 15 minutes. If you do not have the time to complete the survey now, please close the browser. If you have time to complete the survey now, please continue to the next page.

The purpose of this research study is to better understand how people perceive photos when they are visually distorted. People often have to make decisions based on distorted photos, for example, when looking at photographs with low resolution or in poor lighting. In this task, you will be shown a series of photos of people that are distorted so they look "fuzzy". You will be asked to make a series of simple judgments about the photos based on your "gut" reactions to these photos. Previous research suggests that people can make accurate gut-level judgments based on only a photo. So, just respond based on how the photos look to you.

You will see one fuzzy photo of a person at a time. For each photo, you will be asked to judge the race/ethnicity of the pictured person. There are a total of 40 photos. Please feel free to take breaks whenever you desire. Just keep this web page open.

<For each image, participants were asked the following questions. Image order was random to avoid order effects. Variables were named such that the first letter, L or H indicated whether the image generator had the least or most support for voter ID laws. The middle number was the ID number of the image generator. The last number was the perceived race rating: 1 = Asian, 2 = Black / African American, 3 = Hispanic / Latinx, 4 = White>

How representative is this person of the following races/ethnicities?

	Not at all representative (1)	Slightly representative (2)	Somewhat representative (3)	Moderately representative (4)	Strongly representative (5)	Extremely representative (6)
Asian	☐	☐	☐	☐	☐	☐
Black / African American	☐	☐	☐	☐	☐	☐
Hispanic / Latinx	☐	☐	☐	☐	☐	☐
White	☐	☐	☐	☐	☐	☐

We are now going to ask you some questions about you and your background.

Age How old are you? (Please type your response below in years)

Gender What gender are you?

- ☐ Male (1)
- ☐ Female (2)
- ☐ Other (3) _____

Edu What is your highest level of education?

- ☐ Less than a high school degree (1)
- ☐ High school degree (2)
- ☐ Some college (no degree) (3)
- ☐ 2-year college degree (4)
- ☐ 4-year college degree (5)
- ☐ Masters level degree (for example M.S. or M.A.) (6)
- ☐ Doctorate level degree (for example PhD, MD, JDS) (7)

Ladder Think of this ladder as representing where people stand in the United States.

At the top of the ladder (rung 10) are the people who are the best off -- those who have the most money, the most education and the most respected jobs.

At the bottom of the ladder (rung 1) are the people who are the worst off -- those who have the least money, least education, and the least respected jobs or no job.

The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to people at the very bottom.

Where would you place yourself on this ladder?

Click the number of the rung where you think you stand at this time in your life, relative to other people in the United States.

- ☐ 1 Bottom of the ladder (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 Top of the ladder (10)

Income What is your yearly household income?

- ☐ Less than \$25,000 (1)
- ☐ \$25,001 to \$50,000 (2)
- ☐ \$50,001 to \$75,000 (3)
- ☐ \$75,001 to \$100,000 (4)
- ☐ \$100,001 to \$125,000 (5)
- ☐ \$125,001 to \$150,000 (6)
- ☐ \$150,001 to \$175,000 (7)
- ☐ \$175,000 or more (8)

Race What is your race or ethnicity?

- ☐ White or Caucasian (1)
- ☐ Hispanic (2)
- ☐ Black or African American (3)
- ☐ Native American or Pacific Islander (4)
- ☐ Asian (5)
- ☐ Multiracial (more than one race) (6)
- ☐ Another (7) _____

<Debriefing form displayed>

Survey End

Study 3 Phase I: Image Generation

Survey Flow

1. Captchas
2. Consent & Instructions
3. Reverse Correlation Task
4. Attitude measures
5. Demographics
6. Debriefing

Notes:

- Question names are indicated by bold font.
- Notes throughout the survey are indicated by italicized font and are bracketed by <>.

Survey Start

To ensure that you are not a bot, please complete the following two questions. Failure to complete these questions correctly may result in rejection of the HIT.

Captcha1 Please complete the question (captcha) below.

Captcha2

Below is a capitalized letter in bold font and blue ink. Please type this letter in the space below.

Q

<Consent form displayed>

Consent Click "I CONSENT" (below) to indicate that you are 18 or older and that you want to participate. If you do not want to participate, please close this browser or click "I do NOT want to participate."

- ☐ I CONSENT
- ☐ I do NOT want to participate

Thank you for taking part in this survey.

We appreciate the time you are taking to complete this survey. It is because of individuals like you that we are able to conduct research. Our research group is a not-for-profit and the pay we offer reflects what we can afford to pay. We wish we could pay more. So, if you feel the pay is not commensurate with the predicted time to complete the survey (typically it takes participants 30-45 minutes, but you are allotted 90 minutes to complete the hit), please close the browser now. Thank you again!

Today, you'll be asked to imagine you are an Election Inspector and your job is to issue voting ballots to registered voters. As part of this job, you will need to help manage crowds at the polling station. Sometimes polling stations can become overwhelmed by the number of people who are trying to vote. This can cause chaos and lead to a number of problems. Your job will be to help manage the crowds by determining who can vote at your location.

On each trial, you will be shown two photos of individuals who would like to vote. The blurry nature of these photos protects their identities. Your job will be to determine which individual you should allow to vote at this location and which individual you should turn away. For each pair of photos, click on the photo of the person who should get to vote at your polling location. The person you do not select will be not be allowed to vote at your polling location. There is no right or wrong answer. Just use your "gut response" to answer this question. "Gut responses" about individuals are surprising accurate in predicting personality and behavior.

There are several trials of two photos. You are welcome to take short breaks whenever you decide.

To begin the task click the continue button.

<On each trial, participants saw the following trial schematic. The presentation of the images on the screen was random. The trial order was not random. Participants completed 400 critical trials.>

Who should get to vote?

Next you will see some statements about political policies. Please determine the extent to which you support or oppose the following policies.

VoterID1 In order to vote in the U.S., people should have to bring a valid form of identification (such as a Driver's License).

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID2 In order to vote in the U.S., people should have to sign the ballot for proof of identification through signatures.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID3 In order to vote in the U.S., people should have to pass an English literacy test.

- ☐ Strongly Oppose (1)

- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID4 In order to vote in the U.S., people should have to demonstrate knowledge and understanding of the English language.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID5 It is acceptable to charge citizens a tax in order to vote.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID6 In order to vote in the U.S., people should have to demonstrate U.S. citizenship.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

How positively or negatively do you feel toward the following groups? (0 = extremely negatively; 100 = extremely positively).

Therm_VoteIllegal People who vote illegally

Therm_Hisp Hispanics / Latinos

Therm_Black African Americans / Blacks

Therm_White Whites

We are now going to ask you some questions about yourself. (There are 7 items total)

Age How old are you? (Please type your response below in years)

Gender What gender are you?

- ☐ Male (1)
 - ☐ Female (2)
 - ☐ Another gender (please specify): (3)
-

Income What is your annual household income?

- ☐ Less than \$25,000 (1)
- ☐ \$25,001 - \$50,000 (2)
- ☐ \$50,001-\$75,000 (3)
- ☐ \$75,001-\$100,000 (4)
- ☐ \$100,001-\$125,000 (5)
- ☐ \$125,001-\$150,000 (6)
- ☐ \$150,001-\$175,000 (7)
- ☐ \$175,001-\$200,000 (8)
- ☐ \$200,001-\$225,000 (9)
- ☐ \$225,001-\$250,000 (10)
- ☐ More than \$250,000 (11)

Edu What is your highest level of education?

- ☐ Less than a high school degree (1)
- ☐ High school degree (2)
- ☐ Some college (no degree) (3)
- ☐ 2-year college degree (4)
- ☐ 4-year college degree (5)
- ☐ Masters level degree (for example M.S. or M.A.) (6)
- ☐ Doctorate level degree (for example PhD, MD, JDS) (7)

PolParty What is your political party affiliation?

- ☐ Democrat (1)
- ☐ Independent (2)
- ☐ Republican (3)
- ☐ other (4)

Conserv How politically liberal or conservative are you?

- ☐ Very Liberal (1)
- ☐ Somewhat Liberal (2)
- ☐ Neither Liberal nor Conservative (3)
- ☐ Somewhat Conservative (4)
- ☐ Very Conservative (5)

Race What is your race or ethnicity?

- ☐ White or Caucasian (1)
- ☐ Hispanic (2)
- ☐ Black or African American (3)
- ☐ Native American or Native Alaskan (4)
- ☐ Asian or Pacific Islander (5)

<Displayed Debriefing form>

Survey End

Study 3 Phase III: Image Rating

Survey Flow

1. Captchas
2. Consent
3. Rating individual CIs
4. Demographics
5. Debriefing

Notes:

- Question names are indicated by bold font.
- Notes throughout the survey are indicated by italicized font and are bracketed by < >.

Survey Start

To ensure that you are not a bot, please complete the following two questions. Failure to complete these questions correctly may result in rejection of the HIT.

Captcha1 Please complete the question (captcha) below.

Captcha2

Below is a word written inside a blue box. Please type this word in the response box exactly as it is written - using upper case and/or lower case letters when needed.

WATER

<Consent form displayed>

Consent

If you are 18 or older and you would like to participate in this study, please click "I consent to participate."

If you would not like to participate, please close this browser or click "I do NOT want to participate."

- ☐ I consent to participate (1)
- ☐ I do NOT want to participate (2) *<These folks were automatically redirected out of the survey>*

Thank you for participating in this survey!

Please take your time and answer every question to the best of your ability. The responses you provide help researchers to better understand how people make decisions and respond to information. This survey will take 15 minutes. If you do not have the time to complete the survey now, please close the browser.

If you have time to complete the survey now, please continue to the next page.

The purpose of this research study is to better understand how people perceive photos when they are visually distorted. People often have to make decisions based on distorted photos, for example, when looking at photographs with low resolution or in poor lighting. In this task, you will be shown a series of photos of people that are distorted so they look "fuzzy". You will be asked to make a simple judgment about several photos based on your "gut" reactions to these photos. Previous research suggests that people can make accurate gut-level judgments based on only a photo. So, just respond based on how the photos look to you.

You will see one fuzzy photo of a person at a time. For each photo, you will be asked to judge the race/ethnicity of the pictured person. There are a total of 82 photos. Please feel free to take breaks whenever you desire. Just keep this web page open.

To begin, click to the next page.

<For each image, participants were asked the following questions. Image order was random to avoid order effects. Variables were named such that the first letter, L or H indicated whether the image generator had the least or most support for voter ID laws. The middle was either Vote (for those who Should vote) or AntiVote (for those who should NOT vote) and the ID number of the image generator. The last number was the perceived race rating: 1 = Asian, 2 = Black / African American, 3 = Hispanic / Latinx, 4 = White>

How representative is this person of the following races/ethnicities?

	Not at all representative (1)	Slightly representative (2)	Somewhat representative (3)	Moderately representative (4)	Strongly representative (5)	Extremely representative (6)
Asian	☐	☐	☐	☐	☐	☐
Black / African American	☐	☐	☐	☐	☐	☐
Hispanic / Latinx	☐	☐	☐	☐	☐	☐
White	☐	☐	☐	☐	☐	☐

We are now going to ask you some questions about you and your background.

Age How old are you? (Please type your response below in years)

Gender What gender are you?

- ☐ Male (1)
- ☐ Female (2)
- ☐ Another gender identity (3) _____

Edu What is your highest level of education?

- ☐ Less than a high school degree (1)
- ☐ High school degree (2)
- ☐ Some college (no degree) (3)
- ☐ 2-year college degree (4)
- ☐ 4-year college degree (5)
- ☐ Masters level degree (for example M.S. or M.A.) (6)
- ☐ Doctorate level degree (for example PhD, MD, JDS) (7)

Ladder Think of this ladder as representing where people stand in the United States.

At the top of the ladder (rung 10) are the people who are the best off -- those who have the most money, the most education and the most respected jobs.

At the bottom of the ladder (rung 1) are the people who are the worst off -- those who have the least money, least education, and the least respected jobs or no job.

The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to people at the very bottom.

Where would you place yourself on this ladder?

Click the number of the rung where you think you stand at this time in your life, relative to other people in the United States.

- ☐ 1 Bottom of the ladder (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 Top of the ladder (10)

Income What is your yearly household income?

- ☐ Less than \$25,000 (1)
- ☐ \$25,001 to \$50,000 (2)
- ☐ \$50,001 to \$75,000 (3)
- ☐ \$75,001 to \$100,000 (4)
- ☐ \$100,001 to \$125,000 (5)
- ☐ \$125,001 to \$150,000 (6)
- ☐ \$150,001 to \$175,000 (7)
- ☐ \$175,000 or more (8)

Race What is your race or ethnicity?

- ☐ White or Caucasian (1)
- ☐ Hispanic (2)
- ☐ Black or African American (3)
- ☐ Native American or Pacific Islander (4)
- ☐ Asian (5)
- ☐ Multiracial (more than one race) (6)
- ☐ Another race/ethnicity (7) _____

<Debriefing form displayed>

Survey End

Dropped Study Phase I: Image Generation

Survey Flow

1. Consent & Instructions
2. Reverse Correlation Task
3. Attitude measures
4. Demographics
5. Debriefing

Notes:

- Question names are indicated by bold font.
- Notes throughout the survey are indicated by italicized font and are bracketed by < >.

Survey Start

<Consent form displayed>

Consent Click "I CONSENT" (below) to indicate that you are 18 or older and that you want to participate. If you do not want to participate, please close this browser or click "I do NOT want to participate."

- ☐ I CONSENT
- ☐ I do NOT want to participate

Thank you for taking part in this survey.

We appreciate the time you are taking to complete this survey. It is because of individuals like you that we are able to conduct research. Our research group is a not-for-profit and the pay we offer reflects what we can afford to pay. We wish we could pay more. So, if you feel the pay is not commensurate with the predicted time to complete the survey (typically it takes participants 30-45 minutes, but you are allotted 90 minutes to complete the hit), please close the browser now. Thank you again!

Today, you'll be asked to imagine you are an Election Inspector and your job is to issue voting ballots to registered voters. As part of this job, you will need to check the credentials (such as checking the identification or voting registration) of approximately half of the voters to ensure they are citizens and can legally vote. Research has shown that checking the credentials of voters can reduce illegal voting and voter fraud.

On each trial, you will be shown two photos of individuals who would like to vote. Imagine these photos are of people who voted in the last election, and some of them voted illegally. The blurry nature of these photos protects their identities. Your job will be to determine which individual you should stop and ask for ID before they vote. There is no right or wrong answer.

Just use your "gut response" to answer this question. "Gut responses" about individuals are surprising accurate in predicting personality and behavior.

There are several trials of two photos. You are welcome to take short breaks whenever you decide.

To begin the task, click ">>"

<On each trial, participants saw the following trial schematic. The presentation of the images on the screen was random. The trial order was not random. Participants completed 400 critical trials.>

Who should be asked for ID before they vote?

Next you will see some statements about political policies. Please determine the extent to which you support or oppose the following policies.

VoterID1 In order to vote in the U.S., people need to bring a valid form of identification (such as a Driver's License).

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID2 In order to vote in the U.S., people need to sign the ballot for proof of identification through signatures.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID3 In order to vote in the U.S., people need to pass an English literacy test.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID4 In order to vote in the U.S., people need to demonstrate knowledge and understanding of the English language.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID5 It is acceptable to charge citizens a tax in order to vote.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

VoterID6 In order to vote in the U.S., people need to demonstrate U.S. citizenship.

- ☐ Strongly Oppose (1)
- ☐ Oppose (2)
- ☐ Slightly Oppose (3)
- ☐ Slightly Support (4)
- ☐ Support (5)
- ☐ Strongly Support (6)

How positively or negatively do you feel toward the following groups? (0 = extremely negatively; 100 = extremely positively).

Therm_VoteIllegal People who vote illegally

Therm_Hisp Hispanics / Latinos

Therm_Black African Americans / Blacks

Therm_White Whites

We are now going to ask you some questions about yourself. (There are 7 items total)

Age How old are you? (Please type your response below in years)

Gender What gender are you?

- ☐ Male (1)
- ☐ Female (2)

Income What is your annual household income?

- ☐ Less than \$25,000 (1)
- ☐ \$25,001 - \$50,000 (2)
- ☐ \$50,001-\$75,000 (3)
- ☐ \$75,001-\$100,000 (4)
- ☐ \$100,001-\$125,000 (5)
- ☐ \$125,001-\$150,000 (6)
- ☐ \$150,001-\$175,000 (7)
- ☐ \$175,001-\$200,000 (8)
- ☐ \$200,001-\$225,000 (9)
- ☐ \$225,001-\$250,000 (10)
- ☐ More than \$250,000 (11)

Edu What is your highest level of education?

- ☐ Less than a high school degree (1)
- ☐ High school degree (2)
- ☐ Some college (no degree) (3)
- ☐ 2-year college degree (4)
- ☐ 4-year college degree (5)
- ☐ Masters level degree (for example M.S. or M.A.) (6)
- ☐ Doctorate level degree (for example PhD, MD, JDS) (7)

PolParty What is your political party affiliation?

- ☐ Democrat (1)
- ☐ Independent (2)
- ☐ Republican (3)
- ☐ other (4)

Conserv How politically liberal or conservative are you?

- ☐ Very Liberal (1)
- ☐ Somewhat Liberal (2)
- ☐ Neither Liberal nor Conservative (3)
- ☐ Somewhat Conservative (4)
- ☐ Very Conservative (5)

Race What is your race or ethnicity?

- ☐ White or Caucasian (1)
- ☐ Hispanic (2)
- ☐ Black or African American (3)
- ☐ Native American or Native Alaskan (4)
- ☐ Asian or Pacific Islander (5)

<Displayed Debriefing form>

Survey End

Dropped Study Phase III: Image Rating

Survey Flow

1. Captchas
2. Consent
3. Rating individual CIs
4. Demographics
5. Debriefing

Notes:

- Question names are indicated by bold font.
- Notes throughout the survey are indicated by italicized font and are bracketed by < >.

Survey Start

To ensure that you are not a bot, please complete the following two questions. Failure to complete these questions correctly may result in rejection of the HIT.

Captcha1 Please complete the question (captcha) below.

NotBot

Please copy and paste the following line in the text box below. Be sure the line pasted exactly (including any/all capitalization).

I am NOT a bot

<Consent form displayed>

Consent

Click on “I consent” to indicate that you are 18 or older and that you want to participate.

If you do not want to participate, please close this browser.

☐ I consent (1)

Thank you for participating in this survey!

Please take your time and answer every question to the best of your ability. The responses you provide help researchers to better understand how people make decisions and respond to information. This survey will take 15 minutes. If you do not have the time to complete the survey now, please close the browser. If you have time to complete the survey now, please continue to the next page.

The purpose of this research study is to better understand how people perceive photos when they are visually distorted. People often have to make decisions based on distorted photos, for example, when looking at photographs with low resolution or in poor lighting. In this task, you will be shown a series of photos of people that are distorted so they look "fuzzy". You will be asked to make a series of simple judgments about the photos based on your "gut" reactions to these photos. Previous research suggests that people can make accurate gut-level judgments based on only a photo. So, just respond based on how the photos look to you.

You will see one fuzzy photo of a person at a time. For each photo, you will be asked to judge the race/ethnicity of the pictured person. Please feel free to take breaks whenever you desire. Just keep this web page open. To begin, click to the next page.

<For each image, participants were asked the following question. Image order was random to avoid order effects.>

Does this person look like an African American or a White American?

- ☐ Definitely African American (1)
- ☐ Probably African American (2)
- ☐ Possibly African American (3)
- ☐ Possibly White American (4)
- ☐ Probably White American (5)
- ☐ Definitely White American (6)

We are now going to ask you some questions about you and your background.

Age How old are you? (Please type your response below in years)

Gender What gender are you?

- ☐ Male (1)
- ☐ Female (2)
- ☐ Other (3) _____

Ladder Think of this ladder as representing where people stand in the United States.

At the top of the ladder (rung 10) are the people who are the best off -- those who have the most money, the most education and the most respected jobs.

At the bottom of the ladder (rung 1) are the people who are the worst off -- those who have the least money, least education, and the least respected jobs or no job.

The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to people at the very bottom.

Where would you place yourself on this ladder?

Click the number of the rung where you think you stand at this time in your life, relative to other people in the United States.

- ☐ 1 Bottom of the ladder (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 (5)
- ☐ 6 (6)
- ☐ 7 (7)
- ☐ 8 (8)
- ☐ 9 (9)
- ☐ 10 Top of the ladder (10)

Edu What is your highest level of education?

- ☐ Less than a high school degree (1)
- ☐ High school degree (2)
- ☐ Some college (no degree) (3)
- ☐ 2-year college degree (4)
- ☐ 4-year college degree (5)
- ☐ Masters level degree (for example M.S. or M.A.) (6)
- ☐ Doctorate level degree (for example PhD, MD, JDS) (7)

Income What is your yearly household income?

- ☐ Less than \$5,000 (1)
- ☐ \$5,001-\$6,999 (2)
- ☐ \$7,000 to \$7,499 (3)
- ☐ \$7,500 to \$9,999 (4)
- ☐ \$10,000 to \$12,499 (5)
- ☐ \$12,500 to \$14,999 (6)
- ☐ \$15,000 to \$19,999 (7)

- ☐ \$20,000 to \$24,999 (8)
- ☐ \$25,000 to \$29,999 (9)
- ☐ \$30,000 to \$34,999 (10)
- ☐ \$35,000 to \$39,999 (11)
- ☐ \$40,000 to \$49,999 (12)
- ☐ \$50,000 to \$59,999 (13)
- ☐ \$60,000 to \$74,999 (14)
- ☐ \$75,000 to \$84,999 (15)
- ☐ \$85,000 to \$99,999 (16)
- ☐ \$100,000 to \$124,999 (17)
- ☐ \$125,000 to \$149,999 (18)
- ☐ \$150,000 to \$174,999 (19)
- ☐ \$175,000 or more (20)

Race What is your race or ethnicity?

- ☐ White or Caucasian (1)
- ☐ Hispanic (2)
- ☐ Black or African American (3)
- ☐ Native American or Pacific Islander (4)
- ☐ Asian (5)
- ☐ Multiracial (more than one race) (6)
- ☐ Other (7) _____

<Debriefing form displayed>

Survey End