

How Racial Biases Can Affect Vote-by-Mail Ballot Rejection

Evidence from California and Washington shows that non-White voters are disproportionately more likely to have their vote-by-mail ballots rejected – and that this problem may be rooted in the racial biases of election officials, rather than voter deficiencies.

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THE BOTTOM LINE

580,000+ Rejected Ballots Annually	4x Higher Rejection Rate for Non-White Voters	10x Higher Rejection Rate for Young Voters
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- **Vote-by-mail (VBM) now accounts for over a third of ballots cast nationally**, and in California, 89 percent of voters cast their ballots this way.
- **Signature verification is the single largest source of ballot rejection.** In California and Washington, non-matching signatures accounted for 59 and 64 percent of all rejected ballots in the 2024 general election respectively.
- **Non-White voters are disproportionately affected.** Studies using real election data from California and Washington find that non-White voters and young voters are significantly more likely to have their ballots rejected for signature discrepancies, late arriving ballots, and undeliverable ballots.
- **Personal biases can affect signature adjudication.** Controlled experiments suggest that the average person is more likely to be accepting of White appearing signatures than non-White appearing signatures, even when controlling for signature quality, complexity, etc. Participants in these experiments were also observed to be influenced by their personal racial beliefs.
- **Closing these demographic gaps in ballot rejection requires scientifically backed administrative reforms.** To this end, more research is needed on the effectiveness of different technologies, training materials, workflows, etc. on making ballot rejection more precise and less biased.

THE PROBLEM

Vote-by-mail was designed to make voting easier, and for most voters it does. But every general election, more than 500,000 mail ballots are rejected nationwide — and research suggests that *at minimum* 80 percent of these ballots belong to eligible voters.¹ This matters because in close elections, wrongly rejected ballots can make the difference between winning and losing. For example, in 2024, California's 13th Congressional District was decided by just 187 votes, in a race where more than 6,000 ballots were

¹ Street, A. 2024. “Errors and Calibration in Mail Ballot Signature Rejections.” *American Politics Research*, 52(5), 546-564.

flagged for missing or non-matching signatures.² The 2004 Washington gubernatorial election was decided by just 129 votes while simultaneously rejecting thousands of VBM ballots. Hundreds of state and local elections are decided by similarly thin margins every cycle, reminding us of the power and impact that even a single wrongfully rejected ballot can have.³

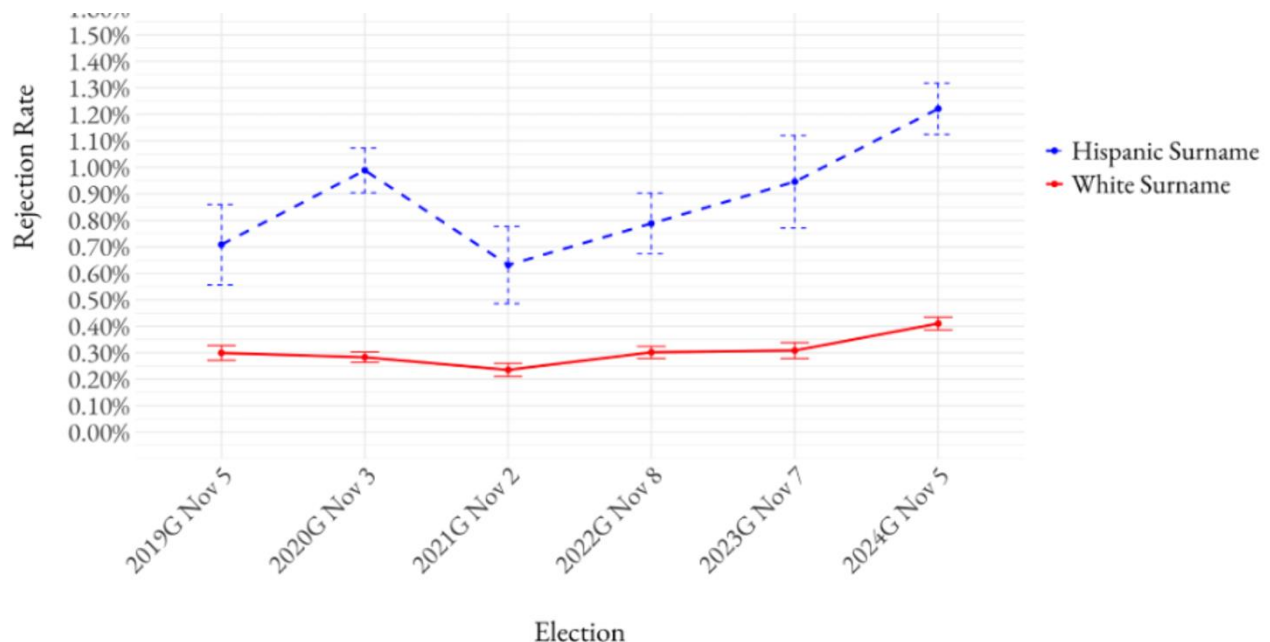
The most common reason ballots are rejected is a signature mismatch: an election worker's judgment call that the signature on a ballot envelope doesn't sufficiently resemble the signature on file. Unlike a missed deadline, signature verification is a subjective determination made in seconds, often with only minimal training compared to the 2 years required to be a certified forensic document examiner.⁴ Meanwhile, election skepticism is alarmingly high – especially among Republicans.⁵

WHAT THE RESEARCH FOUND

1. Racial disparities in VBM signature rejection

Being White is consistently found to be predictive of VBM rejection rates with White voters typically being rejected at a fraction of the rate of non-White voters.⁶⁷ An original county-by-county audit of Washington State found that Hispanic-surnamed voters were about twice as likely as White voters to have their ballots rejected for a signature mismatch statewide.

White and Hispanic Signature Rejection Rates in Washington, 2019–2024



² Joseph, Brian. 2025. “Ballot curing, by the numbers.” *Capitol Weekly*. <https://capitolweekly.net/ballot-curing-by-the-numbers>

³ Mears, Rebecca, and Zachary Geiger. 2024. “The Power of One Vote.” Center for American Progress. <https://www.americanprogress.org/article/the-power-of-one-vote/>

⁴ <https://abfde.org/certification/>

⁵ Dorn, Sara. 2024. “Over Half Of Americans Worried Non-Citizens Vote Illegally, Poll Finds— Despite Little Evidence.” *Forbes*. <https://www.forbes.com/sites/saradorn/2024/09/18/over-half-of-americans-worried-non-citizens-vote-illegally-poll-finds-despite-little-evidence/>

⁶ Shino, Enrijeta, Mara Suttman-Lea, and Daniel A. Smith. 2022. “Determinants of Rejected Mail Ballots in Georgia’s 2018 General Election.” *Political Research Quarterly* 75(1): 231– 243.

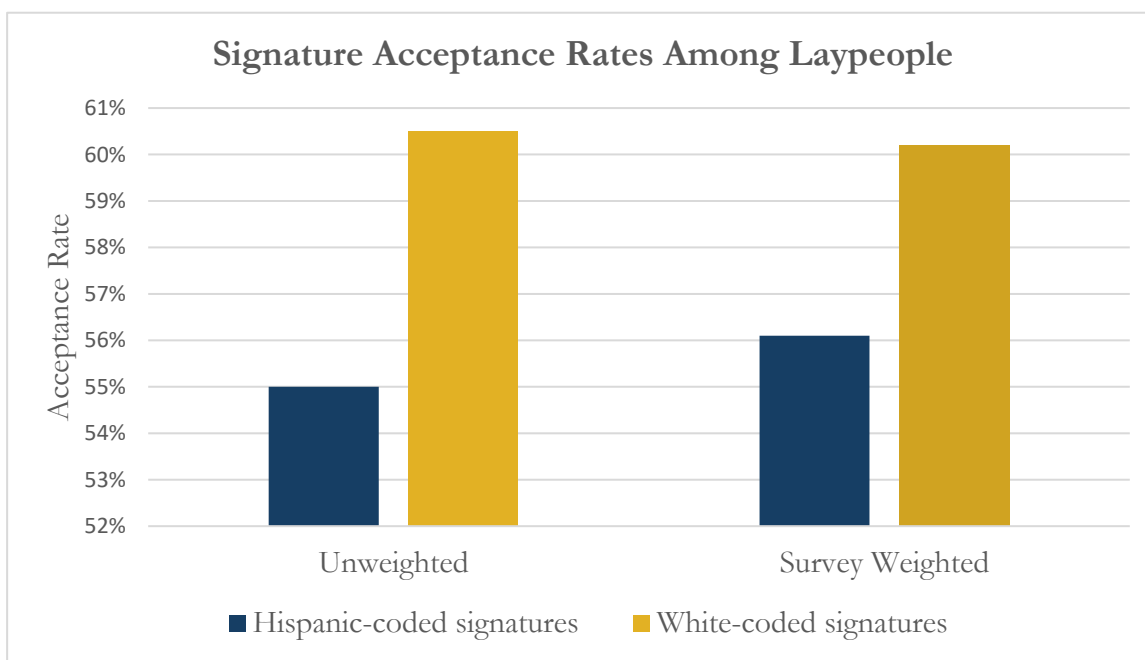
⁷ Baringer, Anna, Michael C. Herron, and Daniel A. Smith. 2020. “Voting by Mail and Ballot Rejection: Lessons from Florida for Elections in the Age of the Coronavirus.” *Election Law Journal: Rules, Politics, and Policy* 19(3): 289–320.

The gap was larger in some counties: **in Adams County, Hispanic voters were rejected at a rate more than four times higher than White voters between 2019-2024.** Critically, the racial gap in ballot rejection is much less pronounced when it comes to late ballots with Hispanic and White voters being rejected at more comparable rates in Washington. This contrast between signature rejection and late ballot rejection suggests that Hispanic voters are not submitting ballots incorrectly more often, but rather their signatures are being treated differently at the most subjective step of the process (signature verification).

2. Evidence the bias is administrative, not just voter behavior

To test whether the racial gaps in signature rejection could reflect evaluator bias rather than voter deficiencies, an original experiment was fielded to an online sample of Washington voters. In the experiment, participants were asked to play the role of an election worker and verify a series of handwritten signature pairs using the same task and prompt language that real signature verification workers use.

The design's strength lies in how the signature pairs themselves were constructed. Volunteers from a range of racial and ethnic backgrounds were randomly assigned to produce both signatures in a pair (one handwritten, one digital) for a name that was, separately and randomly, coded as either White (e.g., "Zachary Petersen") or Hispanic (e.g., "Santiago Cardenas"). Because the same person's handwriting could end up behind either a White-sounding or Hispanic-sounding name, any difference in acceptance rates couldn't be explained by real handwriting differences across racial groups. The signatures were, in effect, identical in every way except the name printed above them. Participants were never told the study was about race; they believed they were simply doing signature-matching work.



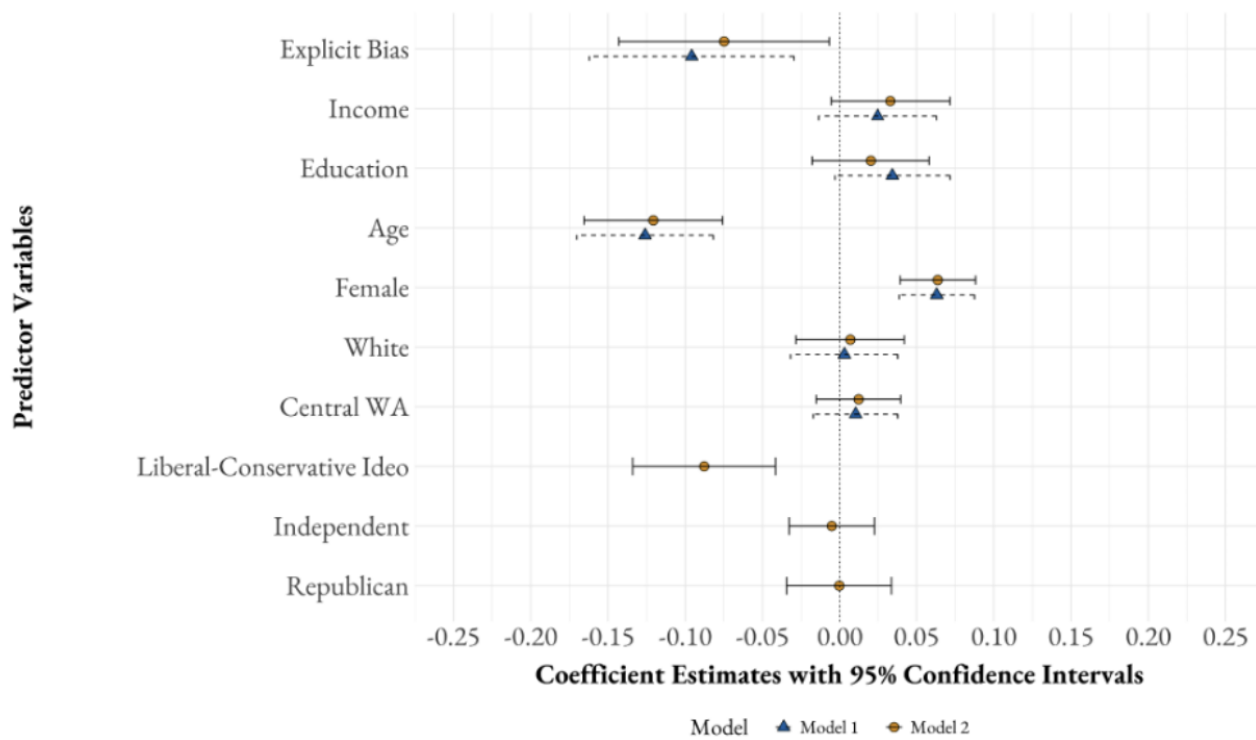
Because every signature pair was genuinely written by a single person, there was no such thing as a "correct" rejection. Any rejection was, by construction, an error, which is what makes the result a clean measure of bias. As the figure above shows, participants accepted Hispanic-coded signatures at a rate of

55.0 percent, compared with 60.5 percent for White-coded signatures, a 5.5-point gap that held up even after weighing the sample to match Washington's demographics, and was statistically significant in both cases.

The Role of White Ethnocentrism

This same study, which is published in *Political Research Quarterly* also found that among the sample of signature reviewers, personal racial beliefs were influencing decisions on signature acceptance/rejection. Prior to the signature verification exercise, participants were asked to rate different groups on a 0-100 scale with low scores reflecting cold, negative affect towards that group and high scores reflecting warm, positive affect. I constructed an explicit bias measure by subtracting respondents' feeling-thermometer rating for "Immigrants" from their rating for "Whites"— the former category often conflated with Hispanic identity and perceived non-citizenship (and thus potential fraud), and the latter synonymous with Americanness and full voting rights. By measuring attitudes toward "Immigrants" rather than Latinos or Hispanics, I capture a broader anti-immigrant sentiment that may be especially potent in the context of vote-by-mail signature review, where racialized names can trigger associations with undocumented status and concerns about electoral integrity.

In a model controlling for sociodemographic characteristics, explicit bias is significantly negatively associated with the acceptance of Hispanic-coded signatures ($p < 0.01$). Specifically, a one-unit increase in the bias measure corresponds to a 9.6 percentage-point drop in the mean Hispanic signature acceptance rate, indicating that evaluators with higher anti-immigrant sentiment are notably less likely to accept ballots bearing Hispanic names.



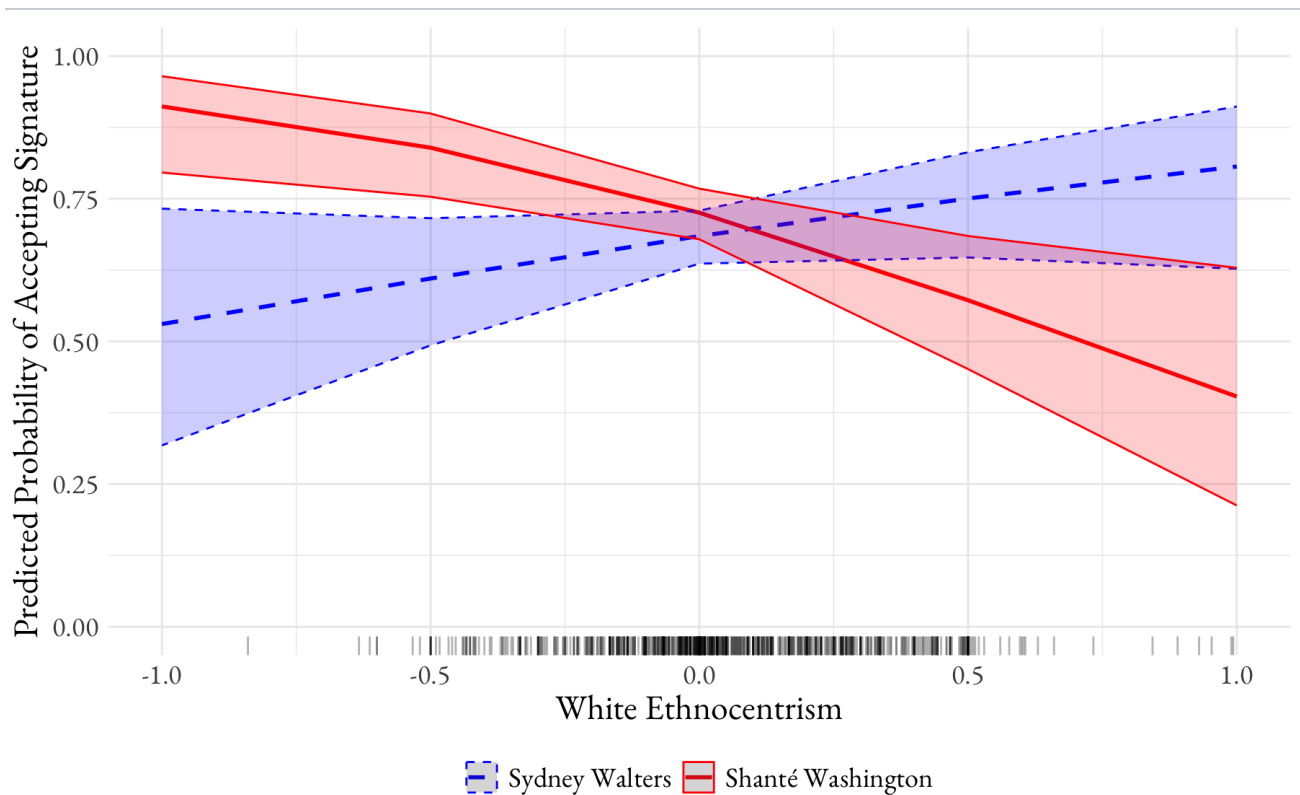
This figure also presents a second specification that adds controls for respondents' self-reported partisan affiliation (Democrats as the reference category) and political ideology (from "very liberal" to "very conservative"). Even with these additional covariates, explicit bias remains a significant predictor—reducing the mean Hispanic signature acceptance rate by 7.5 percentage points—demonstrating that the relationship is not driven by partisan or ideological differences.

In a separate experiment, 787 White undergraduate students were recruited and were similarly given the task of reviewing signature pairs except this time the signature pairs were pulled from the Center of Excellence for Document Analysis and Recognition (CEDAR) at the University of Buffalo. These authentic signatures were originally collected to develop machine-learning based signature verification technologies. Critically, only illegible signature pairs from this dataset were selected so that racialized names could be assigned to them. This is important because the key treatment is that participants are randomized so that they have a 50 percent chance of seeing a White name printed above the signature pair, indicating that the ballot belongs to a White voter, or seeing a Black/Latino name, indicating that the ballot belongs to a non-White voter. This way, the signature pair remains constant, and the only thing being manipulated is its racial connotation via the assignment of an ostensibly White, Black, or Latino name. Below is an example of a signature pair used in this experiment.



Signature 1: Shanté Washington/Sydney Walters

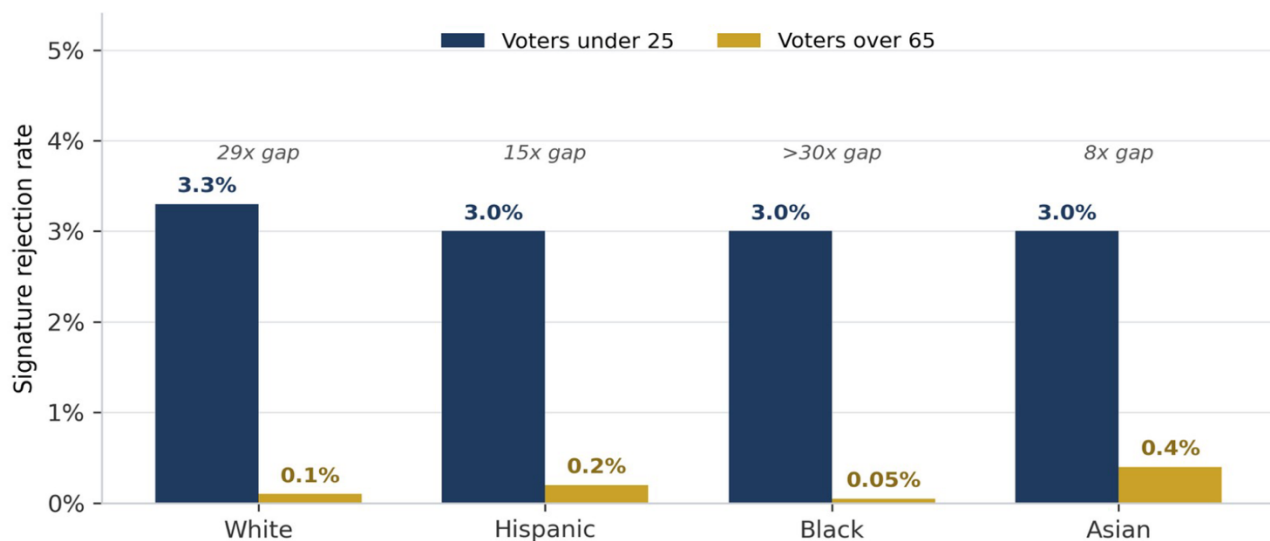
Prior to reviewing signatures, participants were also asked to rate different racial groups using a 0-100 scale with 0 being cold and negative, and 100 being warm and positive. By taking the relative difference of people's racial attitudes towards White people and non-White people (often referred to as "White Ethnocentrism"), it is possible to measure how individual racial attitudes correlate to acceptance rates for White and non-White signatures. The figure on the next page is a predictive probability plot that illustrates predicted signature acceptance rates of respondents at varying degrees of self-reported White ethnocentrism. At the bottom of the plot each tick mark represents a respondent and where they fall along the spectrum of White ethnocentrism. Most respondents exhibited a sort of racial agnosticism whereby they rated White and non-White people about equally, resulting in clustering near the middle of the x-axis. Observations on the right side had warmer feelings towards White people relative to non-White people and observations on the left side had warmer feelings towards non-White people relative to White people. The results show a clear pattern: pro-White attitudes are correlated with an increased likelihood to accept Sydney Walters' signature and a decreased likelihood to accept Shanté Washington's signature despite both signature pairs being exactly the same.



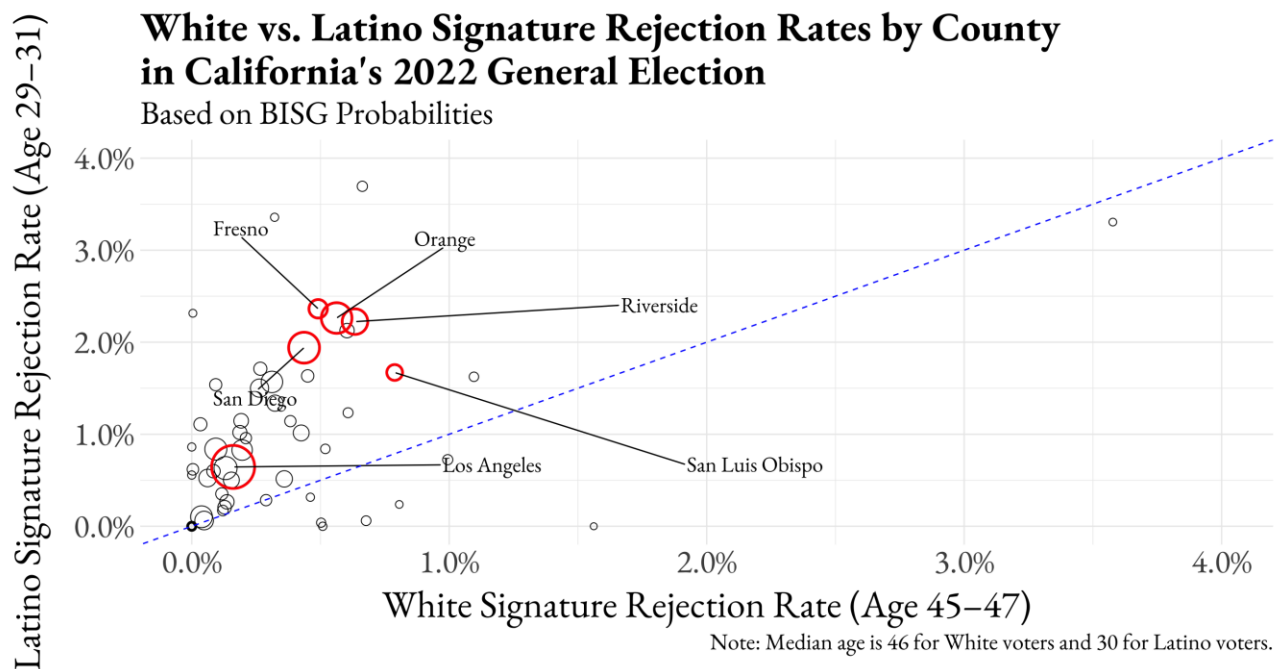
3. A steep, universal youth penalty in VBM signature rejection

Across every racial group examined in California's 2022 general election, voters under 25 were far more likely to have their signatures rejected than voters over 65. In Riverside County, for example, Latino voters under 25 were 15 times more likely to be rejected than Latino voters over 65.

Young voters of every racial group face steep signature-rejection penalties Riverside County, 2022 General Election



These age gaps are prudent because Latino voters, for example, tend to be much younger than White voters on average. The median age of a Latino voter in CA is 30, meanwhile, the median age of a White voter in CA is 46. To illustrate how these age dynamics play out, below is a scatter plot of signature rejection rates for Latino voters aged 29-31 vs. Whites aged 45-47. In nearly every county, Latino voters are rejected 2-5 times more often than White voters.



WHY THIS HAPPENS

1. **The process of signature verification is inherently subjective**, and it is not uncommon for two handwriting experts to disagree on the validity of a signature pair – let alone two election workers who at most receive a few hours of training before election day (as is the case in Florida).⁸ In the absence of clear, rule-based criteria, signature reviewers may rely on personal judgement that is shaped by implicit or explicit assumptions or stereotypes about handwriting, identity, or voter legitimacy. These subjective assessments can systematically disadvantage certain groups—particularly Asian and Latino voters—who are often stereotyped as foreigners. This bias is partly rooted in the pervasive association of “Whiteness” with “Americanness” which can result in heightened scrutiny of ballots linked to non-White or non-Anglo names.
2. In addition to the subjective nature of signature verification, **the task is often performed under pressure**, which limits the opportunity for careful, deliberate processing. For example, it is not uncommon for election workers to review VBM signatures past midnight and in North Carolina, Board of Elections Director Karen Brinson Bell has said that in her state, “many county board

⁸ Shino, Enrijeta, and Daniel A. Smith. 2026. “Validating Vote-by-Mail Ballots: The Subjective Nature of Signature Verification.” *Political Research Quarterly*.

members and staff will be working more than 24 hours straight”.⁹ Under these constraints, workers are more likely to rely on automatic, intuitive judgements that are driven by emotions, implicit biases, and heuristics rather than reasoned analysis. These cognitive shortcuts can further increase the likelihood of biased decision-making, especially in contexts where racial or ethnic cues are present.

3. **Third, the demographic composition of election administrators is skewed.** One study found that 95 percent of local election officials such as county clerks and commissioners identify as White. According to representative bureaucracy theory, the demographic characteristics of public officials can influence their decisions in ways that reflect the interests and perspectives of their own social group. In the context of signature verification, a predominately. White election workforce may bring a shared set of cognitive biases that disproportionately affect non-White voters.

WHY THIS COULD GET WORSE

Several developments could raise the stakes of ballot rejection further. The controversial SAVE Act, if signed into law, would unleash local election administrations to make even more discretionary decisions on voter eligibility. Many of these decisions will come down to determinations of the authenticity of signatures in registration forms, USPS-delivered mail ballots, and citizenship through the verification of passports and birth certificates. Most recently, President Trump signed an executive order directing the USPS to restrict mail ballot distribution to federally approved voter lists, a move that elevates the USPS to be a federal chokepoint in the mail voting pipeline, with the authority to determine which voters receive a ballot at all.¹⁰ California policymakers have a window now to strengthen curing and standardization practices before any of these changes take effect.

POLICY RECOMMENDATIONS

1. **Standardize signature-review procedures statewide.** Los Angeles, San Francisco, and Sacramento counties consistently post the state's lowest rejection rates and typically reject less than half of one percent of ballots. The Secretary of State's office should study and disseminate their verification protocols, software, and training practices as a model for other counties who consistently reject nearly two percent of all ballots.
2. **Diversify the elections workforce.** A workforce that reflects the communities it serves is associated with more equitable outcomes. Unfortunately, election officials in this country are overwhelmingly White.¹¹ Counties should explore broader recruitment for election workers and especially signature reviewers, including jury-style random-draft models already used in Nebraska.

⁹ <https://www.newsfromthestates.com/article/pilot-program-results-raise-questions-about-use-signature-verification-absentee-ballots>

¹⁰ Lopez, Ashley. 2026. “Trump signs a new executive order on voting. Experts say he lacks the authority.” NPR.

¹¹ Gronke, Paul, Paul Manson, Natalie Adona, and Jay Lee. 2024. “A Demographic and Professional Profile of the Frontline Workers of American Elections.” In *Local Election Administrators in the United States: The Frontline of Democracy*, eds. Paul Gronke, David Kimball, Thessalia Merivaki, Mara Suttman-Lea, Christian R. Grose, and Bridgett A. King. Cham: Springer Nature Switzerland, 21–56.

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3. **Expand automatic ballot curing.** Automatically mailing a replacement ballot to any voter whose signature is initially rejected has been shown to raise the odds a deficient ballot is ultimately counted by roughly 25 percentage points.¹² This is inexpensive relative to its impact and should be widely adopted.
 4. **Reassess whether signature verification is the right tool.** Decades of research have found no evidence of vote-by-mail fraud at a scale that could affect election outcomes, while signature mismatch demonstrably disenfranchises eligible voters and happens at a scale that can affect election outcomes (e.g. CA-13 in 2024). Simpler identity checks — such as printed name and date of birth, used in much of Europe — deserve serious consideration as a more democratic alternative.¹³

ABOUT THIS RESEARCH

This brief summarizes findings from the doctoral dissertation “The American Dilemma in Election Administration: How Street-Level Bureaucrats Racialize Voting” (Herndon 2026), which combines an analysis of California's full 2022 statewide voter file, an original audit of nine Washington State counties, and two survey experiments. The full dissertation, including methodology, county-level data, and statistical models, is available on request.

¹² Morse, Michael, Marc Meredith, and Liz Stark. 2026. “Reducing Lost Votes by Mail: Evidence on Vote Curing from Pennsylvania.”

¹³ Nyhuis, Dominic, Morten Harmening, Felix Muñchow, and Jona-Frederik Baumert. 2025. “Implementing the Mail Ballot: In Search of Best Practices.” *Election Law Journal: Rules, Politics, and Policy* 24(1): 18–33.