

AI For Justice: Parole Outcomes Analysis

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2026 UCLA CAM REU: AI FOR JUSTICE WITH COMMUNITY PARTNER THE INNOCENCE
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1 Introduction

The California Board of Parole Hearings holds thousands of parole suitability hearings each year, many of them for people serving life sentences. At each hearing, a panel of commissioners decides whether to grant parole based on a number of factors, including criminal history, institutional behavior, release plans, and remorse for the offense². The remorse requirement creates a dilemma for people who claim innocence. To gain parole, they may feel pressure to express remorse for an offense they say they did not commit, but if they continue to claim innocence, the panel may interpret this as “lack of insight into the life crime” and deny parole on those grounds⁸. As of 2024, over 30,000 parole-eligible people were serving life sentences in California⁶. A 2019 study of incarcerated individuals found that about 6% reported having been wrongfully convicted of their controlling offense⁵. For these applicants, the remorse requirement is especially difficult, because it asks them to admit to a crime they say they did not commit in order to be released. Whether this dynamic affects parole outcomes has historically been difficult to measure. Our analysis provides some initial evidence that it does.

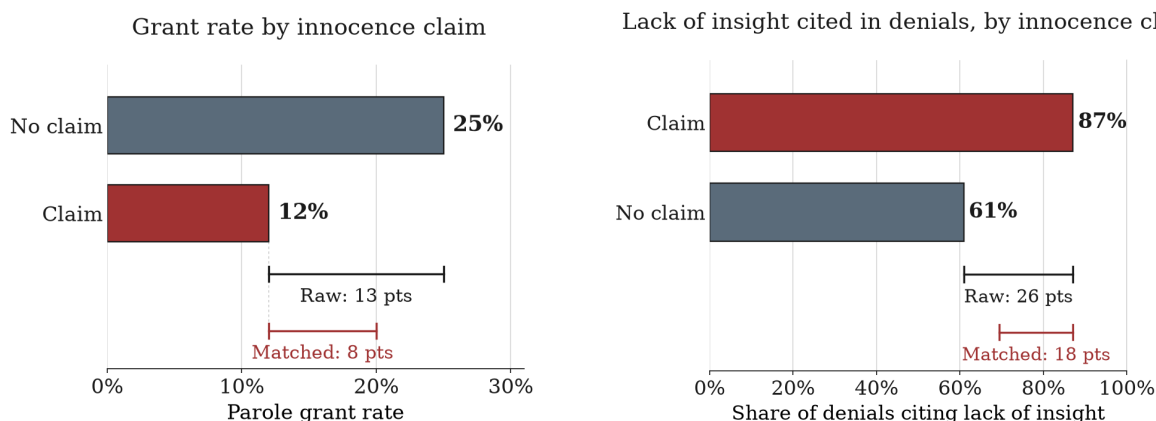
2 Methods

Parole suitability hearings produce long transcripts that are not compiled into an accessible dataset, so discussion of how the process treats innocence has been largely anecdotal. We used a large language model (Claude Sonnet 5) to extract structured data from a year of California parole hearing transcripts, covering 4,639 decided hearings, of which roughly 22% were granted. We compared the model’s extractions against human hand-coding on a sample of transcripts and found agreement of about 99%. We then used propensity-score matching to compare each hearing to similar hearings that differed mainly in the innocence-claim factor, which allowed us to estimate the association of innocence claims with parole grants while holding other measurable factors comparable⁷. We also used a likelihood-ratio test to check for interactions between case factors. This tests whether the effect of one factor is stronger or weaker depending on the presence of another factor. For example, we wanted to know whether a clean disciplinary record is more mitigating for an applicant with no criminal history, or whether the two effects simply add.

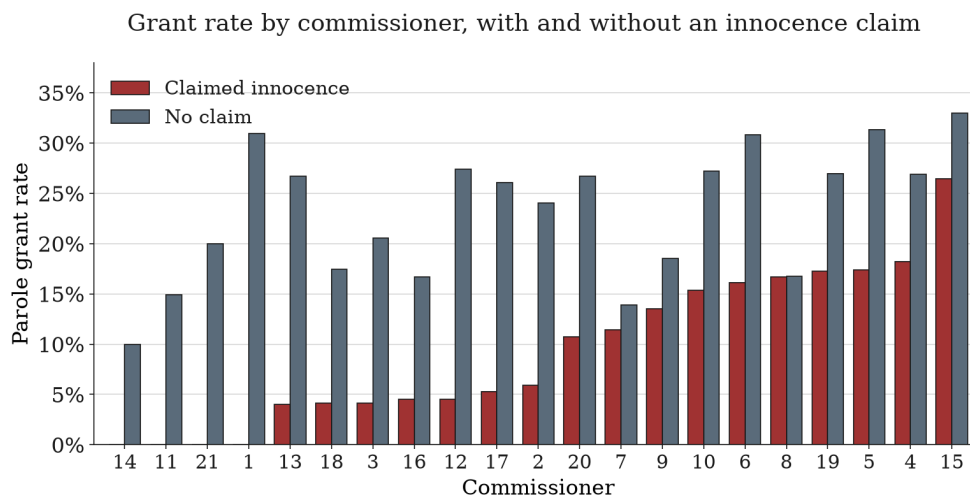
3 Results

Hearings where the applicant claimed innocence were associated with a raw grant rate of 12% in our raw data. Non-innocence claimants saw a 25% raw grant rate, over double that of innocence claimers. After matching, about 8 points of that gap remained, which suggests that less than half of the raw grant-rate gap between applicants who did and did not claim innocence can be attributed to correlated case characteristics. This is consistent with a penalty attached to the claim itself rather than to our other measured case characteristics.

Among denied hearings, panels cited lack of insight or minimization of the life crime in 87% of cases where the applicant maintained innocence, compared with 61% where they did not. After matching on comparable case characteristics, a gap of about 18 percentage points remained. The same pattern holds when considering granted hearings, where the raw gap is about 37 percentage points and the matched gap about 25. Insight is a standard part of the parole inquiry and is raised in a majority of denials regardless of what the applicant says about guilt, but it is invoked substantially more often when the applicant disputes it.

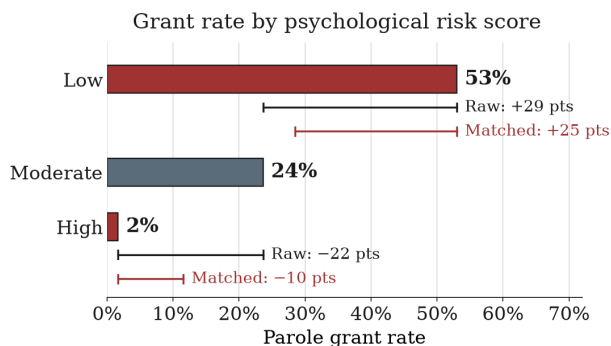


We found no evidence of an interaction between innocence claims and other case factors, meaning other factors are not more or less mitigating in the presence of an innocence claim, and vice versa. For example, our findings imply that having no criminal history is associated with the same change in outcome for applicants who do and do not claim innocence.

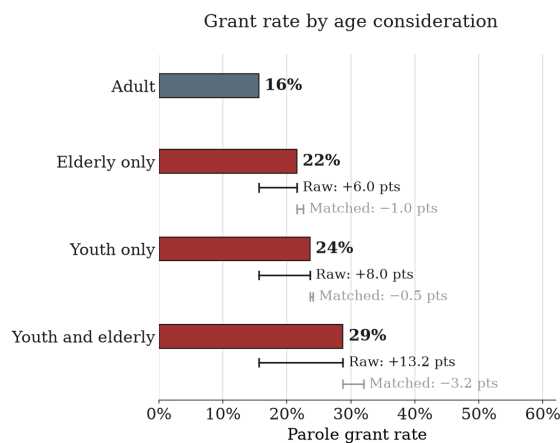


Of the 21 presiding commissioners who saw more than 150 hearings in our data, 4 of them did not grant any parole to any innocence-claiming applicants. Commissioners seem to treat innocence claims differently. In our data, Commissioner 1 granted parole to roughly 31% of non-innocence-claiming applicants while granting none of the applicants who claimed innocence. By contrast, Commissioner 8's raw grant rate is consistent between claiming and non-claiming applicants. Whether an innocence claim proves fatal to an application may depend in part on which commissioner hears it.

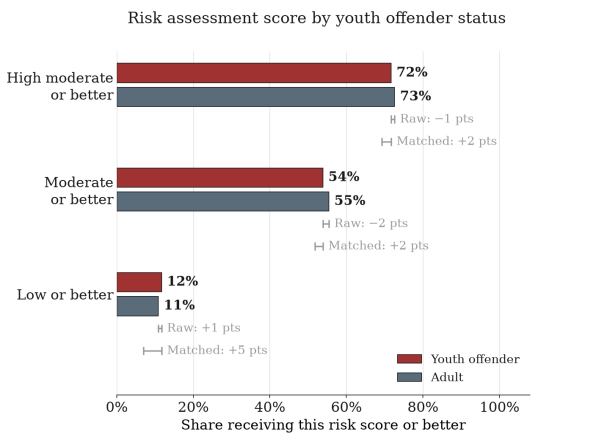
Several case factors showed an association with grant rate, the largest of which was the psychological risk assessment score. A high score on the psychological risk assessment was associated with a 2% raw grant rate with a roughly 10 percentage point lower grant rate than a moderate score after matching. Low scorers were associated with a roughly 25 percentage point higher grant rate than moderate scorers.



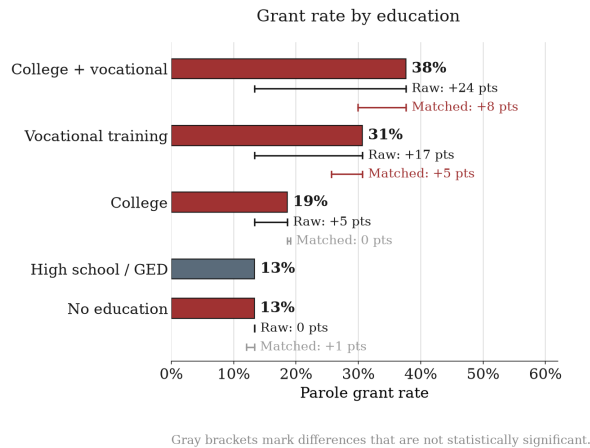
Youth and elderly parole considerations were associated with higher grant rates in our raw data, but neither showed a significant association with grant outcomes after matching. California created these provisions specifically to give eligible applicants a meaningful opportunity for release, and the legislature directs the Board of Parole Hearings to give great weight to youth and elderly parole considerations³. Our findings are consistent with no independent weight being given to these considerations. Psychologists are instructed to give extra consideration to youth offenders during the psychological risk assessment¹. Our data showed no significant raw or adjusted difference in risk assessment score between youth and non-youth offenders. These results are consistent with no extra consideration being given to elderly or youth parole applicants, neither through their risk assessment score nor at the time of hearing.



Gray brackets mark differences that are not statistically significant.

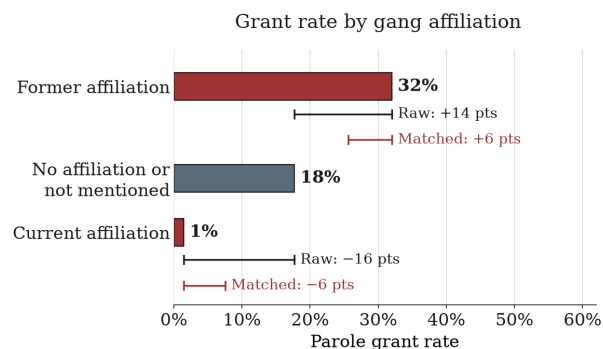
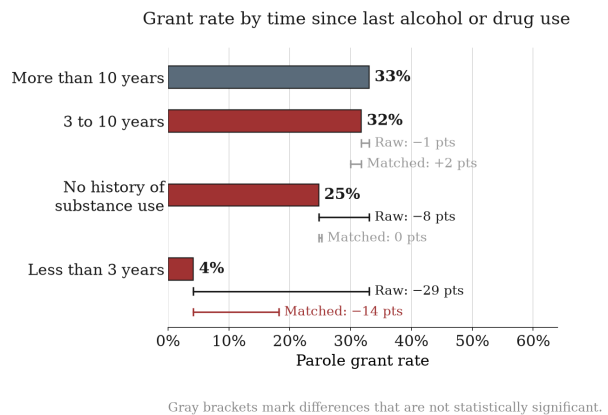
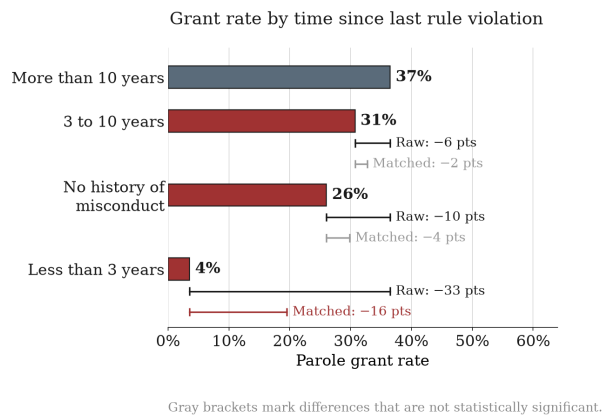


Gray brackets mark differences that are not statistically significant. Cuts are nested.



When compared to a high school level of education, vocational training was the only factor associated with a higher grant rate after matching, at about 9 percentage points. Applicants with college coursework, a high school diploma or equivalent, and no education at all had statistically indistinguishable grant rates once similar cases were compared, and the raw rate for applicants with no education matched that of high school graduates almost exactly. Vocational training may signal an applicant's ability to reintegrate through employable skills in a way that classroom education does not, which may explain these results.

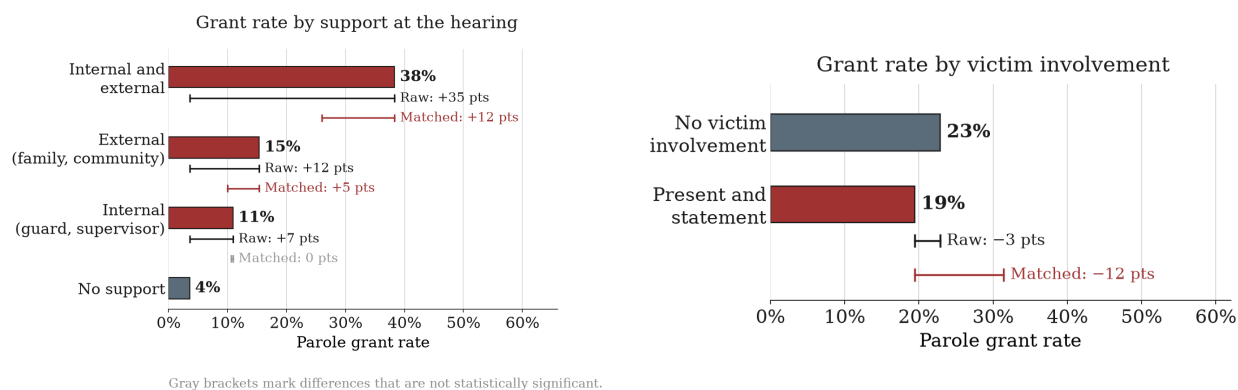
Substance use and conduct in prison showed similar associations with grant rates, even when unadjusted for one another. Both a rule violation and substance use within the past three years were associated with a raw grant rate of about 4%. Measured against applicants whose last incident was more than ten years ago, matching leaves a gap of 16 percentage points for recent misconduct and 14 points for recent substance use. Both factors show no adjusted difference in grant rate among 3–10 years, more than 10 years, and no recorded history of misconduct or substance use. Commissioners seem to weigh recency more heavily than history, with incidents older than three years leaving no measurable trace in grant outcomes.



Applicants who were affiliated with a gang at the time of their hearing had a 1% raw grant rate, compared with an 18% and 32% raw grant rate for applicants with no or former gang affiliation, respectively. After matching, former affiliation is associated with a 6 percentage point higher grant rate than no affiliation, while current affiliation is associated with a 6 point lower rate. This result is consistent with commissioners giving additional mitigating weight to former gang affiliation, as this may signal strong self-improvement in the applicant.

Applicants appearing without support (private attorney, positive letters from community members, laudatory chronos, etc.) had a 4% raw grant rate in our data. Support from within the institution alone showed no matched difference in grant rate from hearings with no support, while those with external support showed a 5 percentage point higher adjusted grant rate. Cases with both internal and external support attached to their file were associated with a 12 percentage point higher grant rate than cases with no support. These results are consistent with commissioners giving additional mitigating weight to cases with only external support relative to those with only internal support. This may be because external support is the strongest signal that the applicant has a stable support system outside of their place of incarceration.

Hearings where a victim or a victim's next of kin was present and issued a written or verbal statement showed a 3 percentage point lower raw grant rate than those with no victim involvement, but propensity matching widens this difference to 12 percentage points. This is consistent with a penalty attached to victim involvement that is hidden in our raw data by exceptional case characteristics among applicants whose victims were involved in their hearing.



4 Conclusion

If a subjective judgment such as lack of insight can support a denial, and if maintaining innocence contributes to that finding, then applicants who may have been wrongfully convicted face a process that can require a confession as a condition of release. This is in tension with the principle that a person should not have to admit guilt to obtain a benefit they could otherwise earn. Insight, though a reasonable standard, appears to operate differently, and less forgivingly, for applicants who maintain their innocence. These are initial findings from a single year of data, but they point to an issue worth taking seriously as parole practice and its review continue to evolve.

Full methods and complete results are reported in the accompanying technical report⁴.

References

- [1] Cal. Code Regs. tit. 15, § 2240: Comprehensive Risk Assessments; Subdivision (b). California Code of Regulations, 2021. <https://www.law.cornell.edu/regulations/california/15-CCR-2240>.
- [2] CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION. Parole suitability determinations. Cal. Code Regs. tit. 15, § 2402.
- [3] CALIFORNIA LEGISLATURE. Youth offender and elderly parole. Cal. Penal Code §§ 3051, 4801(c) (youth); § 3055 (elderly).
- [4] GOLBAHARY, C., JUSTICE, L., WU, C., AND NEEDELL, D. Analysis on California parole outcomes. *In preparation* (2026).
- [5] LOEFFLER, C. E., HYATT, J., AND RIDGEWAY, G. Measuring self-reported wrongful convictions among prisoners. *Journal of Quantitative Criminology* 35 (2019), 259–286.
- [6] NELLIS, A., AND BARRY, C. A matter of life: The scope and impact of life and long-term imprisonment in the United States. Tech. rep., The Sentencing Project, 2024.
- [7] ROSENBAUM, P. R., AND RUBIN, D. B. The central role of the propensity score in observational studies for causal effects. *Biometrika* 70, 1 (1983), 41–55.
- [8] SUPREME COURT OF CALIFORNIA. In re lawrence, 44 cal. 4th 1181 (2008); in re shaputis, 53 cal. 4th 192 (2011), 2008.