

RESEARCH BRIEF • JUNE 2024

# Predicting Police Misconduct

*Based on BFI Working Paper 2024-62, “[Predicting Policy Misconduct](#),” by Greg Stoddard, University of Chicago; Dylan J. Fitzpatrick, University of Chicago; and Jens Ludwig, University of Chicago*

Police misconduct is partially predictable; also, many officers at risk of on-duty misconduct have elevated off-duty risk, suggesting a potential link between accountability and officer wellness.

In recent years, widely publicized cases of police force, particularly against Black Americans, along with new evidence of racial bias in policing and other criminal justice decisions, as well as declining trust in police, have raised important questions about how to improve policing. Compounding the sense of urgency is the increase in gun violence across the country since 2020, a pace that has slowed recently but is still far above pre-2020 levels.

How best to reform a \$100 billion industry that employs 700,000 officers and has advocates calling for everything from defunding to fortifying police departments? One answer looks to predicting police behavior; that is, to what degree

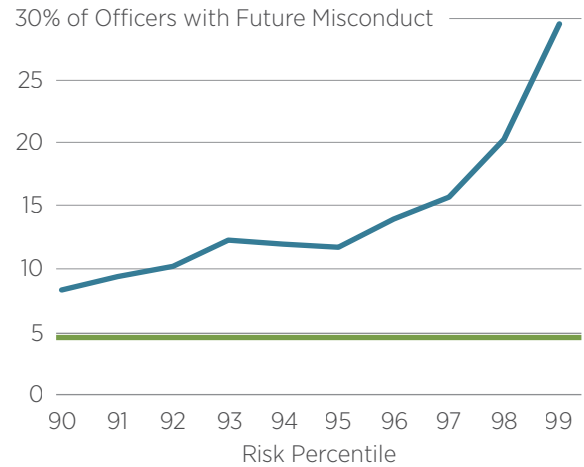
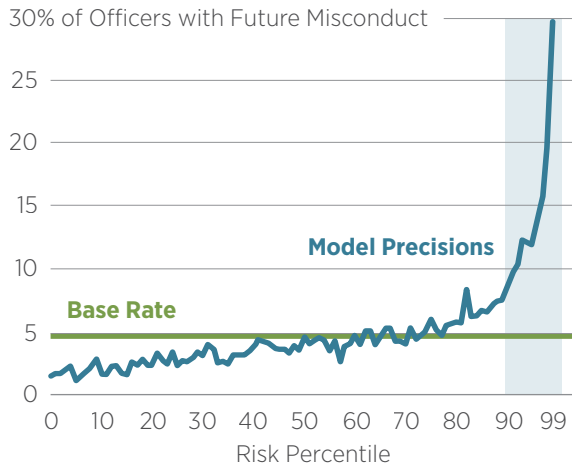
can we anticipate future misconduct and, thus, prevent it from occurring? Attempts to do so have largely come up short, in part because of inadequate or potentially unreliable data (which is collected and maintained by police departments) that, when applied to [algorithms](#), for example, give misleading cues about future behavior.

To address these and related questions, the authors study detailed data from the Chicago Police Department (CPD) from 2010-2018, obtained as part of an effort by the University of Chicago’s Crime Lab to help implement elements of a consent decree between CPD and the Illinois Attorney General’s Office. Specifically, the consent decree requires that CPD implement an early

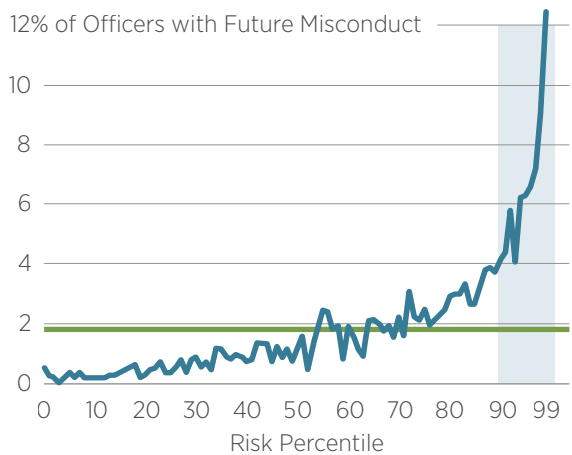
## BFI Blackboard

**Algorithm:** Simply put, algorithms are a set of instructions for a procedure or process that works for all procedures of that type. Algorithms are commonly used for calculations, data processing, and automated reasoning. Simple algorithms, for example, would be recipes, which provide specific instructions for a result. Similarly, a simple addition equation is an algorithm that takes two numbers, writes them vertically by aligning by place values, and then adds the numbers place wise.

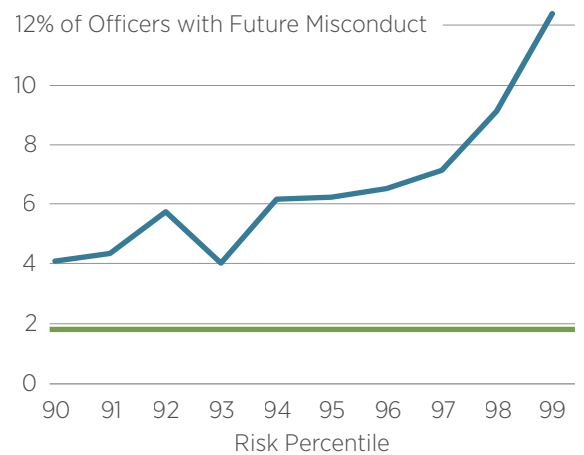
**Figure 1 - Rates of Chicago Police Misconduct, 2010-2018**



C) Predicting On-Duty Misconduct: Entire Population



D) Predicting On-Duty Misconduct: Top 10% by Risk



Note: Panel A shows the rate of future off-duty misconduct as a function of predicted off-duty risk percentile. Panel B zooms in to highlight misconduct rates among the top 10% of officers by predicted risk. Panels C and D similarly show rates of future on-duty misconduct. Panels B and D illustrate key data: Panel B shows that the top 1% of officers by estimated off-duty risk (approximately 120 officers) have future off-duty misconduct at a rate of 29.9%, which is roughly 6.2x the average rate in the department. Panel D shows the top 1% of officers by predicted on-duty misconduct risk engage in future on-duty misconduct at a rate of 12.3%, which is around 6.7x the base rate.

intervention system (EIS), which uses data to identify officers at elevated risk of misconduct. The authors apply different different statistical models to the data, including machine learning, to find the following:

- *Police misconduct is predictable.* The authors examined two types of misconduct: on-duty events (like sustained complaints of excessive force) and off-duty events (complaints of domestic violence, off-duty altercations, etc.), to find that the highest-risk officers are indeed at greatly elevated risk:
- Those in the top 1% of the predicted risk distribution are 6.7 times more likely for on-duty misconduct than the average officer, and 6.2 times more likely to have off-duty misconduct. (See accompanying figure.)

- However, the authors also confirm previous research which shows that only a modest share of officers are very high risk, so most other officers (who are not zero risk) account for a large share of total outcomes.

When the authors examine what predicts misconduct, they reveal an important fact:

- *An accumulated pattern* of prior events (even relatively minor ones) rather than a single serious prior event, is more telling of future egregious behavior. This holds even if a singular prior event is severe and, for example, results in a lawsuit and expensive payout. To reinforce: such an event is less predictive of future misconduct than a pattern of complaints, including unsustained complaints.

What to do with this information? The ability to accurately and fairly predict risk is only useful if we can then intervene to prevent misconduct. This work provides a method to develop effective interventions, and to value their contributions. The authors calculate the **marginal value of public funds (MVPF)**, defined as the public's willingness to pay for the policy divided by the net cost to government. With the assumption that a training intervention can reduce misconduct by 20 percent, a simple prediction model—e.g., ranking officers by past complaints—yields an MVPF value of infinity. If this sounds like the proverbial “free lunch,” it is: The savings to society from reduced misconduct (fewer lawsuit payouts and less investigation costs), accrue because the model itself is so low-cost to build and deploy.

And what of the police officers themselves? While a goal of these interventions is to minimize police misconduct, the benefits could also redound to

officers. Police morale has declined along with the public's trust in them, and the effects are real. Officers are reportedly leaving the profession in greater numbers; departments are finding it difficult to recruit; a recent survey of the Dallas Police Department found that a quarter of respondents had positive screening results for mental illness symptoms; finally, and glaringly, more officers die by suicide than in the line of duty.

But there is good news: An accumulating body of evidence suggests that interventions to address substance abuse, trauma, depression and anxiety are effective. However, most of that evidence involves studies of civilians rather than of police officers. This work provides hope that available preventive interventions, along with good data and predictive analytics, can assist the effort to prevent police misconduct—an outcome with positive results for society and for police officers themselves.

**Marginal value of public funds (MVPF):** The MVPF is designed to measure long-run policy effectiveness. It is calculated as the ratio of two numbers: the benefits that the policy provides, divided by the government cost. The numerator (benefits) captures the extent to which the policy improves the lives of beneficiaries (described by economists as individuals' “willingness to pay”), and the denominator reflects net government cost.

## READ THE WORKING PAPER

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[bfi.uchicago.edu/working-paper/2024-62](https://bfi.uchicago.edu/working-paper/2024-62)

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