The Hidden Fallacies of Evidence Based Policing

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ABSTRACT - This article explores the challenges of applying Western criminological theories, especially Evidence-Based Policing (EBP), in the Indian context, revealing limitations due to cultural and contextual differences. It examines the biases introduced by predictive policing models and how cognitive fallacies influence decision-making in crime prevention. By evaluating both historical and modern crime theories, the article calls for a more balanced, adaptable approach that integrates evidence-based practices with practical insights. It advocates for developing tailored policing theories that address the unique needs and complexities of India's diverse communities.

Keywords- Evidence Based Policing (EBP), Broken Windows Theory, Community Policing,

I.   INTRODUCTION

Much of the criminological theory studied in India originates from ideas developed in other countries. We often adopt criminological principles from Western countries, usually with some delay, and implement them in our context without thoroughly assessing their relevance or effectiveness.

For example, 'Plea Bargaining' was incorporated into the Criminal Procedure Code in 2005, inspired by its success in countries like the USA. However, it has largely failed in India, despite occasional seminars and repeated encouragement from judges and senior police officials to use it as a solution to the backlog of court cases.

Similarly, the idea of 'Community Policing' has been embraced by most states, with various innovative initiatives launched under this concept. However, many of these programs primarily focus on public engagement and improving the police's image (organizational or individual), rather than implementing strategies that address the specific needs of the community. As a result, most so-called 'community policing' initiatives remain 'Command Policing,' where objectives are set in a top-down manner, with little consideration for the preferences of the local community.

The 'Broken Windows Theory' has often been cited as a guiding principle behind anti-human trafficking operations[1]. However, the theory itself connects visible signs of public disorder and urban decay to crime rates in cities, making it less relevant to complex issues like human trafficking[2]. Interestingly, this theory bears a resemblance to an older British-era policing approach in India, which emphasized enforcing special and local laws and handling "petty cases"

through summary trials. Officers were motivated to rigorously enforce laws related to public behavior (such as vagrancy, littering, and creating nuisances) under the belief that strict management of these minor offenses would lead to a reduction in more severe crimes. In many respects, the 'Broken Windows Theory' represents old ideas repackaged for modern policing in India.

In recent years, a new approach called 'Evidence-Based Policing' (EBP) has gained traction, with many police officers showing interest in its principles, even if not fully implementing its practices. While policing traditionally involves gathering evidence for successful prosecution in criminal investigations, 'Evidence-Based Policing' is actually a subset of 'Evidence-Based Policy Making.' Rather than relying on personal ideologies or subjective beliefs, evidence-based policy making emphasizes the use of statistical analysis and scientific evaluation to inform policies. This requires thorough impact assessments, such as identifying and examining proper counterfactuals[3], accurately measuring outcomes, and understanding the statistical significance of findings to determine if they can be generalized to other contexts. The ultimate goal is to develop a solid 'theory of change.'

Policing, like other government functions, involves numerous decisions at various levels, including recruitment, training, resource management, public engagement, and crime prevention. Policies implemented by political leaders, bureaucrats, or police executives significantly influence the investigative process. Therefore, Evidence-Based Policing demands that these policies be rigorously tested and validated against empirical evidence. However, this approach is not without its challenges.

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[1] "*Broken Windows Theory & Human trafficking in Rachakonda*", The Pioneer, Hyderabad, 24.4.2019

[2] *Wilson, James Q; Kelling, George L (Mar 1982), "Broken Windows: The police and neighbourhood safety", The Atlantic*

[3] Counterfactual thinking involves creation of possible alternatives to events that have already occurred.

For instance, the Madhya Pradesh Police has highlighted its success[4] in securing death penalties in several rape/murder cases[5], while the Telangana Police has showcased its achievements in prisoner rehabilitation, education, and reform[6], which have led to reduced jail occupancy[7]. Both narratives are seen as successful crime control strategies, yet they represent different approaches. The question arises: can both be entirely true at the same time? The level of mutual exclusivity or compatibility between these approaches can only be determined by analyzing proper counterfactuals for each.

Research on post-release criminal behavior, including factors like hygiene, sunlight, exercise, and vocational training, while controlling for relevant variables, could contribute significantly to making sentencing theories more evidence-based. However, conducting experiments in policing is often challenging due to legal restrictions, human rights concerns, and political considerations. Relying solely on past data tends to reinforce our preconceived notions of change. This is why an officer known for prosecuting offenders to the fullest extent of the law might adopt a reformist approach if transferred to the prison department. Ultimately, the approach in Madhya Pradesh aligns with the neo-classical theory of crime and punishment, whereas the Telangana model is rooted in positivist ideas[8] of justice—two fundamentally distinct worldviews.

II.   REVIEW OF LITERATURE

Sherman's (1984) *Minneapolis Domestic Violence Experiment* showcased the power of experimental research to guide effective police interventions, laying the groundwork for more rigorous evidence-based methodologies in policing.

Weisburd and Eck (2004) state that EBP emphasizes using scientific evidence to identify effective crime reduction methods, drawing on theories like deterrence, which focuses on punishment, and routine activity, which targets crime-prone areas.

Weisburd and Neyroud (2011) advocate for combining EBP with problem-oriented policing (POP), focusing on addressing specific crime issues through research-driven interventions.

Lum and Koper (2017) highlight that tools like randomized controlled trials (RCTs), systematic reviews, and meta-analyses offer a strong empirical basis for policing

strategies, stressing the importance of ongoing evaluation and adaptation based on measurable results.

Lum and Koper (2017) acknowledge that despite the support for EBP, it faces challenges, particularly the implementation gap. While research may identify effective strategies, applying them in real-world policing is often hindered by organizational inertia, cultural resistance, and resource constraints. Additionally, turning research into practical, actionable steps for law enforcement remains a major obstacle.

III.   OBJECTIVES OF THE STUDY

1. To evaluate the effectiveness and relevance of adopting Western criminological theories, such as Evidence-Based Policing (EBP), in the Indian context.
2. To analyze the challenges and biases inherent in implementing predictive policing models and technological solutions in India.
3. To examine the role of cognitive biases and confirmation fallacies in shaping policing strategies and crime prevention policies.
4. To propose a balanced, adaptable approach to policing that integrates evidence-based practices with practical, context-specific insights.

IV.   RESEARCH METHODOLOGY

Research Design

A qualitative research design was employed to explore the challenges of applying Western criminological theories, particularly Evidence-Based Policing (EBP), in the Indian context.

Data Collection Methods

Literature Review: A comprehensive analysis was conducted of academic journals and policy reports on EBP and criminology in India.

Interviews: Semi-structured interviews were carried out with police officials, criminologists, and policymakers to gather insights on EBP implementation and predictive policing challenges.

Focus Groups: Discussions were organized with diverse community members to understand their perceptions of policing practices.

Sampling Strategy

Purposive Sampling: Participants were selected based on their experience in law enforcement, criminology expertise, and involvement in community policing.

Data Analysis

Thematic Analysis: Interviews and focus groups were transcribed and analyzed to identify themes related to EBP challenges in India.

Comparative Analysis: Historical and modern crime theories were compared to assess their relevance and limitations in the Indian context.

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[4] https://thewire.in/law/madhya-pradesh-death-sentence-pocso-law-convicted-rapists

[5] "*Madhya Pradesh tops Death Sentence List*", www.ndtv.com, 29.10.2018

[6] https://thewire.in/rights/the-successful-reformation-of-prisons-in-telangana

[7] "*Jail occupancy in Telangana below normal*", Deccan Chronicle, 26.8.2018

[8] Positivism places responsibility of crime outside the individual- to social, biological or psychological influences.

Ethical Considerations

Informed consent was obtained from participants, ensuring confidentiality and the right to withdraw. Ethical approval was sought from the relevant institutional review board.

Limitations

The study recognized the subjective nature of qualitative research and the challenge of generalizing findings across India's diverse communities.

THE PROBLEM WITH OUR WORLD VIEWS

People don't solely rely on associative thinking, as Pavlov suggested, nor do they limit themselves to logical deduction. Instead, they often infer through causal analysis, whether consciously or intuitively. Sometimes, intuitive beliefs evolve with deeper thought, but at other times, they become even more rigid. In fact, moral conclusions, much like political beliefs or deeply held values, tend to solidify with increased deliberation, even when faced with contradictory evidence. Firm moral or political stances often don't require rational justification.

Reducing extremism by challenging the illusion of explanatory depth[9] is effective only when people's views are based on consequentialist[10] thinking, rather than sacred values. This raises the question: why do governments, activists, or officials often adopt positions rooted in sacred values rather than evaluating the causal consequences of policies? The reason is twofold: not only might causal analysis yield unwelcome results, but sacred values also render outcomes irrelevant.

Believing based on limited evidence is characteristic of human cognition, serving as both its strength and weakness. We assess what's probable based on prior experiences, focusing only on evidence that better supports one conclusion over another—this process is known as inductive reasoning. However, our beliefs are not absolute truths but are merely probabilistic[11]. Philosopher Karl Popper argued that the problem with induction is that it asks how to justify theories, even though induction itself doesn't offer justifiable grounds. Instead of seeking justification, Popper emphasized the importance of identifying and correcting errors.

While inductive reasoning plays a significant role in everyday thought, it also makes us prone to errors due to various cognitive biases. We don't always evaluate

evidence before forming a theory; instead, we often interpret evidence through the lens of pre-existing theories, formed from previous experiences. Thomas Kuhn, in his influential 1962 work *The Structure of Scientific Revolutions*, demonstrated that established theories are crucial for conducting inquiries fundamental to scientific exploration. To understand reality, we need a conceptual framework that guides our observations. Successful discoveries affirm inductive reasoning, while errors highlight the impact of confirmation bias.

People are inclined to favor beliefs that resonate with them, especially when the cost of holding an incorrect or irrational belief is minimal[12]. However, they might abandon these beliefs if the associated cost becomes too high.

Creative methods of avoiding counterfactuals underscore the importance of evidence. If we expect our beliefs to be accepted as true, we must provide justification. When our beliefs align with the evidence, we should be prepared to reconsider them in light of contradictory information. Therefore, every assertion should have an evidentiary threshold where belief transitions into disbelief, or vice versa. In some cases, particularly with certain types of deeply held beliefs, crossing this evidentiary threshold can be nearly impossible, as no amount of contrary evidence can overcome the confirmation bias.

To counteract our inductive biases, we need to actively seek out evidence that challenges our beliefs and approach such evidence with seriousness when it arises. History is filled with examples of individuals who maintained strong convictions and an unwavering belief in their own judgment. These individuals develop bold theories, implement policies, criticize dissent, and spread their ideas with fervor. For such "experts," altering their worldview in the face of conflicting evidence is an incredibly difficult task.

CRIME, BIG DATA AND THEORIES ON CRIME REDUCTION

One of the major challenges historically faced by social sciences like criminology has been the inability to measure social phenomena with the precision seen in the physical and biological sciences. This difficulty is further compounded by the complex nature of quantifying crime[13] itself. However, with the rise of communication technology, the Internet, and tools like Google, it has become possible to measure human interactions and behaviors in ways that were previously unimaginable. Today, Big Data is actively monitoring, measuring, and predicting human actions, particularly in the economic marketplace. Web searches, online media, and e-commerce activities generate vast

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[9] People feel they understand complex phenomena with far greater precision, coherence, and depth than they really do; they are subject to an illusion—an illusion of explanatory depth.

[10] Consequentialism holds that the consequences of one's conduct are the ultimate basis for any judgment about the rightness or wrongness of that conduct. Thus, from a consequentialist standpoint, a morally right act is one that will produce a good consequence.

[11] Karl Popper (1959), '*The logic of Scientific Discovery'*, Routledge Classics, 2002

[12] Bryan Caplan, '*The myth of the rational voter'*, Princeton University Press, 2007

[13] Crimes may not be reported, if reported they may not be registered, if registered they may not be registered accurately!

amounts of information on people's intentions and behaviors. Although this advancement raises concerns about privacy and rights, it also presents a remarkable opportunity to observe and analyze real-time behaviors of large populations. Such data can be used to allocate resources more effectively since people's online behaviors often reveal more about them than direct interactions.

Predictive tools like PredPol and CompStat aim to position police forces in areas where crime is most likely to occur. However, since these predictions rely on data generated by police activities, there's a risk of creating a feedback loop[14]—more policing in a particular area generates more arrest data, which in turn leads to predictions of higher crime in that area. This can result in the reinforcement of policies like "zero tolerance" or "stop and frisk,[15]" which emerged from the "broken windows" theory. These models often overlook high-impact financial crimes that affect countless families, as they aren't adequately captured by such predictive tools, potentially making policing more biased rather than equitable. This concern has led police departments, like the LAPD, to reconsider their use of predictive policing models[16].

The notion of attributing crime to societal factors has been part of criminological discourse since the 18th century but gained significant traction in the latter half of the 20th century. This perspective shifted the focus from punishment to prevention by addressing the "root causes" of crime and emphasizing the rehabilitation of offenders. These theories often reduced the emphasis on personal responsibility, attributing criminal behavior to factors such as challenging childhoods or stressful life circumstances.

In the United States, while murder rates had been declining steadily since 1933 and were halved by 1961, the positivistic legal reforms of the 1960s were followed by a sharp increase in murder rates, which doubled by 1974[17]. Similarly, Britain experienced comparable trends following similar policy changes[18].

The sudden reversal of long-term crime trends in both continents is unlikely to be attributed to slow-evolving socio-cultural factors. Instead, it seems more directly tied to legislative, judicial, and executive decisions that, in a relatively short period, reduced conviction probabilities, lowered punishment severity, and restricted citizens' ability to defend them, even prosecuting victims for using weapons in self-defence.

Gun control laws, while emotionally charged, have often not aligned with the evidence. Studies showed that in the UK[19], gun-related crimes increased by 40% within two years after handguns were banned. Similar findings were observed in the US, where gun control laws had little impact on professional criminals[20], and studies across various countries demonstrated no clear positive correlation between strict gun control and murder rates.

The "root causes" theory of crime has also been challenged by evidence. For example, in both the US and UK, crime rates increased even as poverty rates—often cited as a primary cause of crime—were decreasing. Furthermore, riots were more prevalent in cities where income disparity between races was lower. Over time, higher incarceration rates corresponded with declining crime rates, as observed in the US, Australia, and New Zealand, highlighting that imprisoning a small but disproportionately criminal segment of the population can reduce overall crime.

An example from the undivided state of Andhra Pradesh demonstrates the impact of incarcerating high-risk individuals. During the early 1990s, "Range Crime Control Squads" targeted known dacoit gangs and executed long-pending warrants, leading to a significant drop in the number of dacoits, from 1,033 in 1991 to just 132 in 2014. This example illustrates that timely imprisonment of high-risk offenders effectively reduces crime rates, suggesting that the certainty and swiftness of punishment matter more than its severity.

The "Broken Windows" theory has often been cited as a crime control strategy. India's 2nd Administrative Reforms Commission endorsed this theory and recommended its application[21]. However, Steven D. Levitt argued that other factors were responsible for the dramatic decline in crime rates in New York City during the 1990s[22]. While New York pioneered new police strategies and experienced a 73.6% drop in homicide rates between 1990 and 2000, Levitt contended that the most significant factor was a 45% increase in police personnel during this period. Additionally, crime rates declined across the US, not just in New York, suggesting that broader trends, rather than

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[14] Steven Henshaw, "*Homicides in Reading rise, other crimes down*", Reading Eagle, August 30, 2015

[15] The 'stop-and-frisk', in New York City, is the practice of temporarily detaining, questioning and searching civilians on the street for weapons and other contraband. The program became the subject of a racial profiling controversy. The vast majority, 90% in 2017, of those stopped were African-American or Latino, most of whom were aged 14–24. Furthermore, 70% of all those stopped were later found to be innocent.

[16] https://www.latimes.com/opinion/editorials/la-ed-lapd-predictive-policing-20190316-story.html

[17] James Q. Wilson & Richard J. Herrnstein, '*Crime & Human Nature*' (New York: Simon & Schuster, 1985), p 409

[18] Joyce Lee Malcolm, '*Guns & Violence: The English Experience*' (Cambridge, Massachusetts: Harvard University Press, 2002), pp 164-165

[19] Peter Hitches, '*A Brief History of Crime*', (London: Atlantic Books, 2003), p.151

[20] Joyce Lee Malcolm, *Guns & Violence*, p. 168

[21] The Second Administrative Reforms Commission (ARC) was constituted on 31.08.2005 for preparing a detailed blueprint for revamping the public administrative system & its 15 reports were submitted between June 2006 & April 2009

[22] Levitt, S. D. (2004). *Understanding why crime fell in the 1990s: Four factors that explain the decline and six that do not*. Journal of Economic Perspectives, 18(1), 163

unique policing strategies, contributed to the overall decrease in crime.

Levitt also proposed that the legalization of abortion following the 1973 Roe v. Wade decision played a significant role in the declining crime rates. He argued that as children who were most at risk of becoming criminals were not born, the overall crime rate began to fall in the early 1990s.

In contrast, Steven Pinker offered a counterargument[23], suggesting that legal access to abortion may have encouraged unprotected sex, resulting in an increase in children born to vulnerable groups. He argued that crime decline was more likely influenced by factors such as improved governance, smarter policing, and the civilizing effects of trade and globalization, rather than solely by the impact of legalized abortion.

In summary, while Big Data and predictive models offer new insights into crime prevention, they also pose risks of reinforcing biases and overlooking more complex criminal behaviors. Additionally, many theories on crime causation and prevention, such as the "root causes" approach or the "Broken Windows" theory, have been challenged by empirical evidence, emphasizing the need for a nuanced understanding of crime and its various determinants.

WAY FORWARD

We live only once, and looking back, our past often provides post-hoc justifications for what we believe. It's a significant challenge to design well-controlled experiments to validate theories; it's much simpler to extract evidence from history to support a theory and justify future policies. This is seen in the use of 'evidence-based policing,' which sometimes serves to rationalize investment in costly, often vendor-driven, technological solutions without thoroughly assessing their effectiveness.

Consider the case of body-worn cameras. Research[24] indicates that these cameras haven't consistently or significantly impacted police and citizen behavior or public perceptions of police. While they have been linked to a reduction in complaints against police, it's unclear if this is due to improved officer conduct or citizens being less likely to lodge complaints when aware they're being recorded. The study[25] also found little evidence to show whether these cameras increased citizen satisfaction with police interactions, despite their intended role in enhancing accountability.

Often, standard practices in maintaining public order are adopted without scrutinizing their effectiveness. In India, for instance, police have imposed around half of the world's known network shutdowns during serious public disorder or terrorist incidents. A study revealed that such information blackouts sometimes pushed agitators to resort to violent methods that don't require as much coordination or communication.

In 2019, the Delhi government announced plans to install 300,000 CCTV cameras within 50 days[26], aiming to combat crime across the city, including schools. Similar initiatives were seen in other cities like Chennai, which planned a camera every 50 meters[27], and Gurugram where the Haryana government approved Rs 25 crore for CCTV installation. While CCTV cameras can be beneficial in monitoring traffic and solving crimes, installing them city-wide is costly, and studies show they have limited effectiveness in preventing violent crimes. Contrary to popular belief, CCTVs do not serve as a crime deterrent; they are more useful for identifying culprits after a crime occurs.

Similarly, facial recognition technology, though hailed by the Telangana police as a pioneering tool in India, has faced criticism worldwide due to high failure rates and concerns about potential misuse. In July 2019, the National Crime Records Bureau proposed creating an Automated Facial Recognition System to assist police in identifying suspects, missing persons, or unidentified bodies. While this technology holds potential, studies have shown that facial recognition algorithms often produce biased and inaccurate results, especially for women, younger people, and marginalized groups, partly due to unrepresentative data sets used for training.

In terms of investigations, India is often dubbed the "narcoanalysis capital of the world," where pseudoscience-backed 'truth serum' interrogations by behavioral science teams are commonplace. Additionally, high-profile cases have employed 'brain fingerprinting,' a technique using electroencephalography to detect whether specific crime-related information is stored in a person's brain. This technique, which aims to elicit a "P300 response," remains unproven and potentially unreliable.

The point is not to abandon one's belief system as each time new contradictory evidence emerges. Long-standing belief systems, supported by a lifetime of experience, deserve a healthy degree of skepticism toward opposing facts. Established policing principles, honed over decades, shouldn't be discarded hastily. Policing insights develop through experience, and the absence of clarity often leaves

[23] Steven Pinker, '*The Better Angels of our nature*', Penguin Books, 2011

[24] https://www.washingtontimes.com/news/2019/apr/2/police-body-cameras-fail-deliver-irrefutable-evide/

[25] Jan Rydzak, Global Digital Policy Incubator, Stanford University working paper on
'*Of Blackouts and Bandhs*: The Strategy and Structure of Disconnected Protest in India', 2017, https://ssrn.com/abstract=3330413

[26] https://www.business-standard.com/article/news-ani/3-lakh-cctv-cameras-to-be-installed-across-delhi-in-50-days-sisodia-119062300306_1.html, accessed on 15.7.19

[27] https://www.thehindu.com/news/cities/chennai/coming-cctv-units-every-50m/article25644792.ece, accessed on 15.7.19

one vulnerable to fads. Thus, while we should be cautious of rigid adherence to tradition despite contrary evidence, we must equally resist the temptation to embrace novelty for its own sake. The strength and adaptability of our reasoning should be guided by the context, general knowledge, and existing information, allowing us to make sense of new data. Cultivating habits that avoid drawing conclusions from incomplete or unrepresentative evidence, and critically assessing counterfactuals, will help align policing practices with evolving needs, all while steering clear of unproven solutions and trends.

'Evidence-Based Policing' should encourage us to conduct experiments, investigate real-world issues, and explore practical applications. It should also help identify gaps in current theories. Embracing skepticism, practicing humility, staying receptive to contradictory evidence, understanding statistical complexities, formulating 'middle-range' theories across various aspects of policing, and designing experiments to test their validity are essential for the future of effective policing.

V.   CONCLUSION

This article concludes that while Evidence-Based Policing (EBP) offers valuable insights, its application in India requires a more nuanced and context-driven approach. Rigidly adopting Western criminological theories without adapting to local realities can lead to ineffective practices. Predictive models and technological tools, though promising, must be critically evaluated to avoid reinforcing biases. The way forward lies in integrating evidence-based practices with practical experience, fostering adaptability, and embracing skepticism toward unproven trends. Ultimately, effective policing in India demands a balance between empirical evidence, cultural awareness, and the flexibility to address complex, evolving challenges.

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