Role of Artificial Intelligence in Crime Detection and Control: Enhancing Policing Strategies an Effectiveness

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Abstract

This study explores the impact of Artificial Intelligence (AI) technologies on modern policing, with a focus on crime detection and operational efficiency. Drawing on data from 159 police officers familiar with AI applications, researchers examined perceptions across five key areas: AI technologies, crime detection and control, policing effectiveness, ethical/legal/social implications, and public trust. Using SPSS for analysis, regression results showed that AI tools significantly enhance crime detection and prevention ($\beta = .48$, $p < .001$), supporting Hypothesis 1. AI also improves operational efficiency ($\beta = .318$, $p < .01$), confirming Hypothesis 2. However, mediation analysis indicated that public trust does not mediate the relationship between ethical concerns and crime detection ($p > .95$), supporting Hypothesis 3. Moderation tests found no significant influence of either ethical concerns ($p = .437$) or public trust ($p = .398$) on the relationship between AI use and crime detection. These findings suggest that while AI technologies independently enhance crime-fighting capabilities and policing strategies, public trust and ethical concerns currently do not significantly alter these relationships. Results highlights the need for transparent governance, ethical oversight, and policy development to support long-term integration. Effective implementation of AI in law enforcement can unlock its full potential while maintaining public accountability and trust.

Keywords: Artificial intelligence, crime detection, policing strategies

Introduction

Artificial Intelligence is a technology displayed by machines, opposing the natural intelligence indicating animals and humans. In the past artificial intelligence has been used relating machines and other human cognitive skills associated with the human mind and its action namely problem-solving and learning. Some researchers state AI algorithms which are helpful in providing a clear objective and absolute analysis of the various risks posed by sentenced criminals. AI plays a vital role in criminology. There are few of the potential utilized roles of AI in the judiciary system. Moreover, AI in criminology is seen as a significant application of technology which is used to make society cautious and equitable to the world of criminal justice (Gund et al., 2023). Artificial Intelligence has become an important aspect of life and society resulting in an exact, faster, less workforce, leading to various parts of new technology. Artificial Intelligence is being used to automate everyday jobs that are monotonous, time-consuming, and often prone to human mistake. AI can analyze massive amounts of data and bring insights that can help decision-making in a variety of businesses. Overall, the importance of AI lies in its ability to automate, personalize, improve decision-making, increase efficiency, and drive innovation, making it a critical technology for businesses and individuals alike (Gund et al., 2023).

Artificial Intelligence in Criminology

Organizations, legal offices, and defense providers around the globe are in efforts to make the best possible use of Artificial Intelligence such as investigating, detecting, and preventing crime evidence. According to the latest research, crime can be anticipated. We just need to be able to expect analytics to get legal control. Intelligent and interrelated international infrastructure offers authorities and officers practical information. With the assistance of AI, real-time statistics may help hit upon crime quickly as soon as it occurs. AI has determined its execution across law enforcement agencies and judiciary at international places. It has been useful in serving governmental agencies to provide accurate clarity and deciding upon the roll out of police officers at a specific location and has also been able to help the judges in developed countries condemning and permitting bail. According to the reports by the Federal bureau of investigation, the crime rates have dropped by 3.3 % and 6.3 % co-in the USA. There are advanced mechanizations that can help police officers in deduction of crime rates and AI is one of them (Gund et al., 2023).

Metropolitan cities and organizations around the globe are infusing monetary aid in the prevention of crime using AI. The main aim of investment is to predict crime and crime should be easily detected using AI programs. To intercept crime by the governments, they must be able to gather substantial amounts of data to find patterns that may be practical to law enforcement and AI algorithms. The use of IoT by cybercriminals to create and disseminate malware and launch ransomware assaults, which are aided by AI technologies, is on the rise, according to data and current trends. More than 2.5 million devices including industrial ones and operators of key infrastructure are anticipated to be fully connected to the internet in the next five years, which would increase the vulnerability of businesses and consumers to cyber-attacks (Gund et al., 2023). In a world where machines think, learn, and make decisions, a new era of Artificial Intelligence (AL) has dawned. As AI technologies aid in crime prevention, investigation, and analysis paradoxically it has catalyzed cybercrime, privacy breaches, bias-driven delinquencies, financial infringements, for fraudulent crime as well terrorism and organized wrongdoing. It's time law enforcement

agencies, policymakers, and technology developers ensure vigorous cybersecurity measures are put in place to combat AI-related unlawful activities.

Policing and AI

Today, it is essential to include AI into policing and law enforcement because it can revolutionize community well-being, resource allocation, and operational effectiveness. It is anticipated to present fresh ideas for tackling the shifting nature of criminal activity and security issues. Law enforcement organizations can proactively uncover patterns, forecast crimes, and optimize resource allocation using AI technologies like surveillance systems and predictive algorithms (Hung & Yen, 2021). There is no question that it will lessen the need for human resources, minimize the likelihood of corruption, and improve the efficiency of enforcement activities. However, the keys to success and accept ability would include responsibility, respect for human autonomy, transparency, human centricity, risk management, and ethical concerns (Hung & Yen, 2021). But it is crucial that to prevent crime, training programmes must be implemented, stakeholder relationships need to be nurtured, and strict supervision procedures must be set up.

Challenges and Concerns of AI use in Policing

One of the most common critiques levelled towards predictive policing is that it is biased. AI algorithms might unintentionally propagate biases if they are not built and trained on diverse and representative datasets. ML systems are usually vulnerable to various aberrations throughout the data collecting and processing stages (Haque et al., 2023). This could have discriminatory effects that disproportionately harm Pakistan's marginalized populations. The usage of AI-powered surveillance systems prompts questions about individuals' right to privacy. As there are more cameras and sensors, there will be more watching and less privacy (Brownsword & Lynskey, 2019). To avoid the exploitation of personal data and guarantee adherence to moral and legal requirements, clear rules and safeguards should be put in place. Understanding how decisions are made in AI systems can be difficult due to their complexity. When supporting or replacing human decision-making, AI's opacity is thought to cause problems with responsibility and accountability. To guarantee public trust and confidence, policymakers and law enforcement organizations must prioritize openness and accountability when using AI solutions (Aung et al., 2021). Lastly, the challenge of access to technology and expertise may limit the successful implementation of AI in smaller or less developed regions in Pakistan.

Research Gap

There is limited empirical research on how AI is currently being adopted by law enforcement agencies in Pakistan, particularly at a local or regional level. Most existing studies are theoretical or focus on developed countries with well-established AI infrastructure. Understanding the specific barriers, challenges, and successes of AI adoption in Pakistan's unique socio-political and economic context is essential to assess its real-world application and effectiveness. There is insufficient research on the ethical and legal implications of deploying AI for crime detection and control in Pakistan, especially regarding privacy rights, bias in algorithms, and accountability for AI-driven decisions. Addressing these research gaps would contribute to a more nuanced and contextually relevant understanding of how AI can be used to enhance policing strategies and crime control in Pakistan. Research efforts can help overcome the barriers to AI implementation, ensuring that it is used effectively, ethically, and in a way that is trusted by both law enforcement and the public.

Statement of the Problem

In Pakistan, crime rates have been a persistent concern, with law enforcement agencies struggling to maintain control and efficiently address criminal activities. Traditional policing strategies, while essential, often face challenges such as resource limitations, delayed response times, and inefficiencies in handling large amounts of data. This has led to slower investigation processes, higher crime rates, and difficulty in predicting and preventing criminal activity. The application of Artificial Intelligence (AI) in crime detection and control presents an innovative approach to overcoming these challenges. AI technologies, such as machine learning, data analytics, facial recognition, and predictive policing, have the potential to enhance the effectiveness of law enforcement efforts in Pakistan. However, despite the promising potential, the integration of AI into policing practices in Pakistan faces significant obstacles, such as insufficient technical expertise, lack of infrastructure, concerns regarding privacy, and resistance to adopting new technology within law enforcement agencies. The problem lies in understanding how AI can be strategically implemented to improve policing methods, enhance the detection and prevention of crimes, and ensure more efficient use of resources. There is a need to explore the barriers to adopting AI, identify the best practices for its integration into current systems, and evaluate its potential impact on crime detection and control in Pakistan. The successful incorporation of AI into policing could lead to enhanced crime prevention, better resource management, quicker investigations, and ultimately, a safer environment for citizens. However, the country needs a clear framework for leveraging this technology while addressing challenges such as ethical concerns, data security, and public trust. Thus, the key issue is how to utilize Artificial Intelligence to optimize policing strategies and improve the overall effectiveness of crime detection and control in Pakistan, while navigating the technical, societal, and ethical challenges associated with this transition.

Research Model
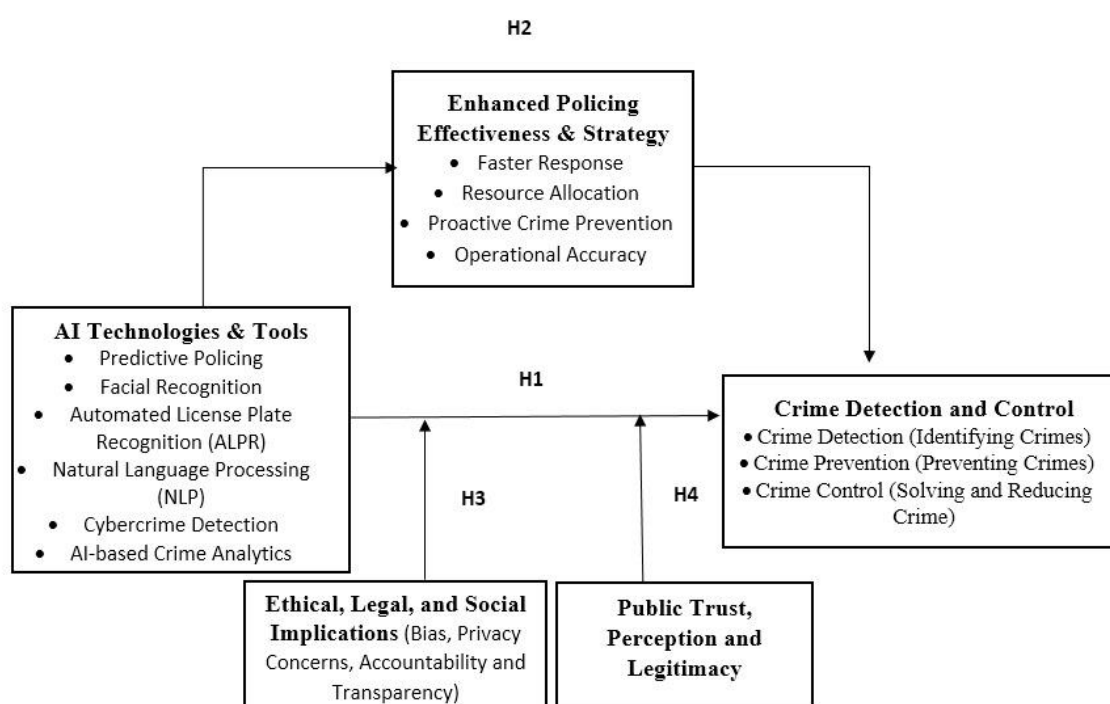
Objectives of the Study

1. To examine the impact of AI technologies on the effectiveness of crime detection and control in law enforcement agencies.
2. To evaluate how AI-driven policing strategies improve operational efficiency by optimizing resource allocation, reducing response time, and increasing accuracy.
3. To investigate whether public trust mediates the relationship between ethical concerns and crime detection and control.
4. To assess whether ethical, legal, and social implications moderate the relationship between AI technologies and crime detection outcomes.
5. To determine if public trust moderates the relationship between AI implementation and crime control effectiveness.

Hypotheses of the Study

1. The use of AI technologies leads to more effective crime detection and control enhancing law enforcement agency (policing) to prevent and solve crime.
2. AI driven policing strategies significantly improves police operational efficiency by optimizing resources allocation, reducing crime response time and increasing accuracy in crime detection and control.
3. Public trust does not mediate the relationship between ethical concerns and crime detection and control.
4. The relationship between AI technologies (tools) and crime detection (control) is moderated by ethical, legal, and social implications, such that the positive impact of AI is reduced when there are high concerns about bias, privacy, or lack of transparency.
5. The relationship between AI technologies (tools) and crime detection (control) is moderated by public trust, such that the implementation of AI leads to better crime control outcomes when the public perceives policing as legitimate.

Research Methodology

Research Design

To statistically analyze how AI technologies contribute to crime detection, crime prevention, and the improvement of policing strategies and effectiveness. Descriptive and correlational quantitative research design were used. A quantitative approach allows for the measurement of AI usage, crime rates, policing outcomes, and public perception using numerical data, which supports objective, generalizable findings.

Participants

A total of 185 police officers were initially approached to participate in the study. Of these, 20 officers declined to participate, citing personal or professional reasons. Additionally, 9 respondents did not complete the survey, and 6 participants withdrew partway through, leaving their responses incomplete. As a result, only 150 fully completed and valid questionnaires were retained for analysis. These participants represented officers who had some level of awareness or experience with artificial intelligence technologies in law enforcement. The final sample size of 150 was considered adequate for statistical analysis and hypothesis testing using regression, mediation and moderation models.

Instrument

The study employed a 5-point Likert-scale questionnaire titled "AI in Policing". The questionnaire was divided into five main sections: AI Technologies and Tools (10 statements), Crime Detection and Control questionnaire (7 statements), Enhanced

Policing Effectiveness (7 statements), 4. Ethical, Legal, and Social Implications (7 statements) and Public Trust and perceive legitimacy (10 statements). All statements are assessed on 5 point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

Procedure

Participants were invited to complete the survey voluntarily and anonymously. Data collection was conducted over a period of four weeks through both digital and paper-based format. Before participating in the survey, all respondents were provided with an informed consent form outlining the purpose, scope, and voluntary nature of the study. Participants were clearly informed that their participation was entirely voluntary. They could refuse to answer any question or withdraw from the survey at any time without facing any penalty or consequences. All responses would remain anonymous and confidential, with no identifying information being collected or recorded. The data would be used solely for academic research purposes and stored securely. No personal, professional, or legal consequences would result from participation or non-participation. Participants were required to give their verbal or digital consent before proceeding with the questionnaire. The study followed all ethical standards for research involving human subjects.

Data Analysis Procedure

Data were analyzed using SPSS (Statistical Package for the Social Sciences). Multiple linear regressions, and moderation/mediation analyses were conducted. Regression coefficients determined the predictive power of AI tools on various outcomes. Mediation (PROCESS Macro Model 4) and moderation analyses (PROCESS Model 1) examined the roles of public trust and ethical concerns in shaping these relationships. Confidence intervals and significance levels ($p < 0.05$) were used to interpret results.

Results

Tables 1: Regression co-efficient of AI Technologies and Tools on Crime Detection and Prevention to Prevent and Solve Crime.

Variable	B	SE	t	P value	95% CI
Constant	6.96	1.37	5.07	.000	[4.25, 9.67]
AI technologies	.48	.046	10.29	.000	[.38 , .57]

Table 1 shows the impact of AI technologies on crime detection and prevention ability. The R^2 of, 41 reveals that the predictor explains 41% variance in outcome variable with $F_{(1, 148)}$ = 105.99, $p < 0.01$. The finding reveals that AI technologies predicts enhanced law enforcement ability (.65, $p < 0.01$) to prevent and solve crime.

Tables 2: Regression co-efficient of AI technologies on Police Operational Efficiency (N=150)

Variable	B	SE	t	P value	95% CI
Constant	14.647	1.678	8.728	.000	[11.33 , 17.96]
AI technologies	.230	.057	4.076	.000	[.119 , .342]

Table 2 shows the impact of AI technologies on police operational efficiency. The R^2 of .10 reveals that the predictor explains 10% variance in outcome variable with $F_{(1, 148)}$ = 16.62, $p < 0.01$. The finding reveals that AI technologies predicts police operational efficiency (. 318, $p < 0.01$).

Table 3: Mediating role of public trust on ethical concerns and crime detection and control

Relationship	Total Effect	Direct Effect	Indirect Effect	Confidence interval	t statistics	Conclusion
Ethical Concerns ⮕ Public Trust ⮕ Crime Detection and Control	.0008	-.0046	.0053	[-.009,.027]	-.0612	No mediation
P value		.991	.951			

Table 3 assess public trust mediates the relationship between ethical concerns (X) and crime detection and control (Y). The total effect of ethical concerns on crime detection and control is negligible and not statistically significant. So, ethical concerns don't predict crime detection and control on their own. Even when controlling for public trust, ethical concerns still do not significantly affect crime detection and control. The indirect effect is not significant because the confidence interval includes zero. Mediation analysis highlights that public trust does not significantly mediate the relationship between ethical concerns and crime detection and control. There is no significant direct, indirect, or total effect between ethical concerns and crime detection and control. Public trust does not mediate this relationship. Statistically, the pathway ethical concerns ⮕ public trust ⮕ crime control is not supported by data.

Table 4: Ethical Legal and Social Implication Moderates the Relationship between AI Technologies (Tools) and Crime Detection (Control).

Variables	Crime Detection and Control				
	β	SE	T	p	95%Cl
Constant	-5.201	7.976	--.652	.515	[-20.97 , 10.56]
AI technology and Tools	.676	.267	2.528	.012	[.15 , 1.20]
Ethical, Legal and Social implication	.588	.376	1.563	.120	[-.16 , 1.33]
Interaction term	-.009	.0126	-.780	.437	[-.034 , .015]
	R²	.506			
	F	.608			
	ΔR²	.0021			

The table 4 presents a moderation analysis examining whether the relationship between AI technologies (tools) and crime detection/control is influenced (moderated) by ethical, legal, and social implications. AI technology and tool reveals main effects (β = 0.676, p = .013), showing significant positive effect on crime detection/control. It also suggests that more advanced AI tools are associated with better crime detection/control outcomes. Ethical, Legal, and Social Implications (β = 0.588, p = .120) highlight none statistical significant outcomes. On their own, higher concern for ethics/legal/social issues doesn't meaningfully predict changes in crime detection/control. Interaction effect (Moderation (β = -0.009, p = .437), highlights non-significant (p > .05) result, revealing there's no statistical evidence that ethical, legal, and social implications significantly moderate the relationship between AI tools and crime detection/control.

R^2 (.506) value shows that about 50.6% of the variance in crime detection/control is explained by the model. ΔR^2 (.002) determined that Interaction added very little explanatory power (0.21%), reinforcing the non-significant moderation.

Table 5: Moderating Effect of Public Trust, the relationship between AI Technologies (& Tools) and Crime Detection (control)

Variables	Crime Detection and Control				
	B	SE	T	P	95%Cl
Constant	-1.742	8.86	-.197	.844	[-19.25 , 15.77]
AI technology and Tools	.729	.300	2.430	.016	[..136 , 1.32]
Public Trust and Legacy	.299	.306	.981	.328	[-.304 , .903]
Interaction term	-.009	.0104	-.848	.398	[-.029 , .012]
	R^2	.423			
	F	.718			
	ΔR^2	.003			

This table presents a moderation analysis exploring whether public trust affects the relationship between AI technologies (and tools) and crime detection and control. The main effects regarding AI technologies and tools (β = 0.729, p = .016) discloses a significant positive effect of AI tools on crime detection and control. Implementing AI tools is associated with improved crime control outcomes. The main effect of public trust and legacy (β = 0.299, p = .328) is not statistically significant exposes public trust does not significantly predict crime detection/control outcomes in this model. Interaction term (moderation) indicates (β = -0.008, p = .398), not statistically significant outcomes with the confidence interval [-0.029, 0.012] includes zero. Therefore, there's no evidence that public trust significantly changes the effect of AI on crime control. R^2 (0.423) specifies about 42.3% of the variance in crime detection/control is explained by the model. ΔR^2 (0.003), demonstrate interaction adds very little (0.28%) to explanatory power, supporting that moderation is not meaningful here. F (0.718) indicates the model's overall fit, though it's not statistically significant, suggesting limited explanatory strength when including the moderator.

Discussion

This study examined the impact of artificial intelligence (AI) technologies on law enforcement effectiveness, particularly in crime detection, operational efficiency, and the mediating role of public trust amid developing ethical concerns. The findings support that AI contributes significantly to improving crime prevention strategies and operational processes. The ethical perceptions do not appear to change public trust or influence perceptions of policing effectiveness. Regression analysis (Table 1) revealed a strong and statistically significant relationship between AI technologies and enhanced capacity for crime control. Specifically, AI was found to account for 41% of the variance in crime detection and prevention, indicating a significant influence. This outcome aligns with existing findings (Choubey, 2024) that emphasize AI's ability to analyze large, complex datasets, ranging from historical crime records, facilitating predictive interventions. These capabilities empower law enforcement agencies to shift from reactive to proactive strategies, with predictive tools helping to anticipate not only the location but also the time

and type of potential criminal activity. The effectiveness of AI in crime prediction is strongly evident in systems like PredPol in the U.S. and China's facial recognition programs, which align with local laws and ethical norms (Mugari & Obioha, 2021; Choubey, 2024)." Table 2 supports the view that AI has a moderate but statistically significant impact on police operational efficiency, accounting for 10% of the variance. Although this is a lower predictive value compared to crime control, it still underscores the relevance of AI in optimizing law enforcement operations. Technologies such as automated reporting systems, robotics, and real-time surveillance feeds enhance coordination, reduce human error, and enable quicker response times (Dakalbab et al., 2022). These operational enhancements are critical, especially in large urban hubs where the complexity of crimes is high. AI is increasingly used in countries like Germany and the UK to support internal police decision-making, gradually enhancing operational efficiency (Prinz et al., 2024). Contrary to the expectations suggested in the mediation model, the results from Table 3 show no statistically significant mediating effect of public trust on the relationship between ethical concerns and AI-based crime detection. The indirect effect was low, indicating that, while ethical concerns must be addressed, they have little impact on how the public considers AI's performance in policing. This aligns with observations by Caldwell et al. (2020), who note a growing discrepancy between public awareness of AI ethics and the urgency perceived by policymakers and scholars.

This finding also reflects a broader trend: citizens may prioritize perceived safety, efficiency, and technological advancement over abstract concerns about privacy and algorithmic fairness, especially in contexts with high crime rates or low trust in human policing. Nonetheless, ethical considerations remain a crucial aspect of policy design. Globally, countries use AI in law enforcement in different ways depending on their legal systems, cultural values, and political environments. For example, the United States and China have taken more aggressive approaches to AI in policing, while European nations apply stricter ethical and legal guidelines (Mugari & Obioha, 2021; Prinz et al., 2024). This shows how important it is to adapt AI strategies to fit local needs while still following international standards of fairness and accountability.

The mediation analysis tested whether public trust mediates the relationship between ethical concerns about AI and the effectiveness of crime detection and control. The results were not statistically significant at any level (direct, indirect, or total effects). The indirect effect (0.0053) was very small, and the confidence interval [-0.009, 0.027] includes zero, meaning the effect could be zero or even negative. The p-values for total, direct, and indirect effects were well above 0.05, indicating a lack of statistical support for meaningful mediation. The lack of public trust suggests that people may not fully understand how AI is used in criminal justice, pointing to the need for better public education and engagement. AI tools are increasingly involved in decisions that can affect people's rights, like predicting crimes, using facial recognition in public areas, or monitoring social media activity. The public must be informed and involved to ensure fairness and legitimacy (Caldwell et al., 2020). Without a clear understanding and transparency, there is a risk that trust in law enforcement could weaken over time. There is a need for broader public education regarding the use of AI in criminal justice. AI systems begin to make or inform decisions that affect civil liberties, such as preemptive arrests, facial recognition in public spaces, or social media surveillance. A greater public understanding and involvement will be necessary to maintain legitimacy.

The findings suggest that while the public sees AI as useful in helping the police do their job better, concerns about ethics and trust are not influencing people. AI in policing is mostly supported because of its practical benefits. This support might change if AI is misused or if people feel it's being used unfairly. The results of the moderation analysis indicate that AI technologies and tools have a significant positive effect on crime detection and control, suggesting that their use enhances these outcomes. However, the interaction between AI tools and ethical, legal, and social implications (ELSIs) was not statistically significant. Concerns such as bias, privacy, or lack of transparency do not change the positive relationship between AI and crime detection/control in this analysis. Although there was an expectation that high concerns around reducing the effectiveness of AI, the findings do not support this moderation effect. The overall model explains a substantial portion of the variance in crime detection and control, but the addition of the interaction contributed minimally to the explanatory power. AI tools undoubtedly help to improve crime detection and control, but the expected dampening effect from ethical, legal, and social concerns (like bias, privacy, or transparency issues) was not statistically supported in this data (Table 4) . That is, even when people are worried about these issues, they don't seem to significantly weaken the effectiveness of AI in this context, at least based on this model.

The findings of this study indicate that while AI technologies and tools have a significant and positive effect on crime detection and control, the anticipated moderating effects of both ethical, legal, and social implications (ELSIs) and public trust were not statistically significant. This suggests that, although AI contributes meaningfully to improved policing outcomes, the presence of ethical concerns or the level of public trust does not significantly alter this relationship within the current data.

One possible reason the moderation effect of ethical, legal, and social implications (ELSIs) was not significant is that, in practice, concerns such as bias, privacy, or transparency do not strongly influence the operational deployment or perceived effectiveness of AI tools in crime control settings. In many law enforcement contexts, there is often a greater emphasis on technological efficiency and measurable outcomes than ethical deliberation, particularly when agencies are under pressure to demonstrate results. As a result, even when ethical concerns are acknowledged, they may not be deeply embedded in AI decision-making processes or performance evaluations (Nazeer, 2024).

The sample characteristics or perceptions of the respondents can be a source of some deviated outcomes. If participants have limited direct experience with the negative impacts of biased AI systems, they may not perceive Ethical, legal, and social implications (ELSIs) as immediate or significant obstacles. This is compounded by a general lack of awareness or understanding of how ethical implications manifest in real-world applications of AI. Furthermore, it is reasonable that some organizations have adopted internal governance frameworks, such as audit mechanisms or fairness assessments that address these concerns, reducing their visible impact and thus their role as moderators.

Similarly, public trust did not significantly moderate the relationship between AI and crime control outcomes. While the theoretical expectation was that higher public trust would enhance the legitimacy and effectiveness of AI use in policing, the data of this study did not support this hypothesis. The operational impact of AI technologies may be largely independent of public perception in the short term, particularly if performance is measured by technical outcomes such as speed or detection accuracy. Public trust may

influence broader elements of legitimacy or cooperation, but may not directly shape how AI systems function or are evaluated. In addition, limited public awareness of AI use in policing may mean that trust levels are based on traditional law enforcement practices rather than AI-specific initiatives, weakening any moderating influence. It is also possible that low variability in trust levels across the sample, or insufficient alignment between the constructs measured and the lived realities of policing and AI implementation, constrained the detection of any real effects. Finally, for both ethical, legal, and social implications (ELSIs) and public trust, methodological factors such as measurement error, insufficient statistical power, or a lack of variability in moderator variables may have contributed to the non-significant findings. These considerations highlight the need for further research using larger, more diverse samples and more measurement tools to explore how contextual and perceptual factors interact with AI deployment in crime detection and control. Taken together, the findings of this study suggest a dual reality. On the one hand, AI is a valuable tool in enhancing crime detection and police efficiency. On the other hand, its ethical implications, although widely discussed in theory, are not currently reflected in public perceptions or trust dynamics. This discrepancy between theoretical discourse and practical perceptions presents both an opportunity and a challenge.

The results indicate that public trust does not significantly moderate the relationship between AI technologies and crime detection and control (Chen et al., 2025). This suggests that AI tools have a clear positive impact on improving crime control outcomes, but the level of public trust in policing using AI technologies is misaligned with ethical outcomes, loss of trust in AI systems, and detrimental impacts (Bertomeu et al., 2025). AI technologies, as operational tools, may function effectively regardless of public perception, particularly in the short term. These systems often deliver measurable outcomes such as faster response times or improved accuracy in suspect identification, which are not directly contingent on public attitudes. Additionally, public trust may act more as a distal factor, influencing broader aspects of legitimacy or community cooperation rather than the immediate effectiveness of AI tools (Chen et al., 2025). It is also possible that the public's awareness of AI applications in policing remains limited, leading to a general perception of trust based on traditional practices rather than specific AI initiatives. Furthermore, contextual factors such as low variability in public trust across the sample measures and AI-specific policing practices may have reduced the ability to detect a significant interaction. Lastly, the lack of transparency or engagement in AI implementation could reduce the influence of public trust (Chen et al., 2025), particularly if decisions are made without visible public input or oversight. These findings highlight the importance of examining not only technical performance but also how AI systems are integrated into policing in ways that build or reflect community trust over time. The results affirm AI's growing importance in crime prediction and law enforcement operations, while simultaneously highlighting the ethical and societal complexities that accompany its implementation. Although public trust did not mediate the relationship between ethical concerns and policing outcomes, it remains a critical consideration in the responsible and sustainable integration of AI into criminal justice systems. As AI technologies continue to evolve, legal frameworks, academic inquiry, and public discourse must evolve alongside them to ensure a balanced approach that maximizes safety while protecting democratic values. For policymakers and law enforcement, it's important to be open about how AI is used and involve the public in these discussions. Even if ethical concerns don't seem

important now, they could become more serious in the future. Being transparent and explaining how decisions are made can help build and maintain public trust. More research is needed, especially using moderation analysis, to understand when and why trust or ethical concerns might matter more in different groups or situations. By planning and engaging the public, agencies can avoid backlash and make sure AI continues to be seen as helpful and fair. The study reveals a gap between technological capability and academic or policy-driven frameworks that evaluate AI's broader societal impacts (Aneja et al., 2024). Future research should continue to explore not only the operational effectiveness of AI but also its impact on civil liberties, judicial processes, and long-term institutional trust.

Conclusion

AI technologies are perceived to significantly enhance the capacity of law enforcement to respond to crime, likely due to benefits such as improved surveillance, predictive policing, and data analytics. AI technology adoption is positively associated with core policing outcomes, especially those related to effectiveness in crime prevention and resolution. This means that ethical concerns around AI do not meaningfully shape public trust, and neither ethical concerns nor trust, in this case, influence perceptions of crime control effectiveness. In other words, concerns about fairness, privacy, or bias in AI systems do not seem to diminish trust in law enforcement or reduce belief in crime-fighting effectiveness—at least within this sample.AI tools help improve crime detection and control, the expected dampening effect from ethical, legal, and social concerns (like bias, privacy, or transparency issues) was not statistically supported.

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