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SURVEILLING THE ANGRY BLACK WOMAN: THE IMPACT OF FORENSIC SCIENCE TECHNOLOGY ON PRE-EXISTING STEREOTYPES

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ABSTRACT

On July 10, 2015, a Texas state trooper pulled over Sandra Bland, a twenty-eight-year-old Black woman. What began as a routine traffic stop quickly escalated into a confrontation. Ultimately, the trooper arrested Bland, and three days later, she was found dead in her jail cell. Dash camera footage, alongside bystander cell phone recordings, captured Bland's interaction with law enforcement. Many of those watching quickly cast Bland's demeanor through the lens of the "Angry Black Woman" (ABW) stereotype—a deeply ingrained cultural narrative that portrays Black women as hostile, overly aggressive, and defiant. This review paper aims to uncover the role of contemporary surveillance technologies in reinforcing or challenging the "Angry Black Woman" (ABW) stereotype within policing and the criminal justice system. The study involved a comprehensive review of 41 scholarly sources published from 2019 to 2023, of which 10 met the inclusion criteria focusing on the intersections of race, gender, and surveillance technology in policing. Our findings reveal that the ABW stereotype continues to shape the treatment of Black women during their interactions with law enforcement and the criminal justice system.

KEYWORDS: artificial intelligence (AI), angry Black woman (ABW) stereotype, surveillance, predictive policing.

1. INTRODUCTION

On July 10, 2015, a state trooper in Waller County, Texas, pulled over Sandra Bland, a twenty-eight-year-old Black woman, for allegedly failing to signal a lane change. What began as a routine traffic stop quickly escalated into a confrontation. Bland, who had recently relocated to Texas, questioned the officer's increasingly aggressive behavior. When she refused to put out her cigarette, the trooper forcibly removed Bland from her car, arrested her, and took her into custody. Three days later, she was found dead in her jail cell, an apparent suicide that sparked nationwide protests and demands for immediate action and police accountability (Chaney & Robertson, 2015).

Dash camera footage from the officer's vehicle, alongside bystander cell phone recordings, captured Bland's interaction with law enforcement, videos that widely and rapidly circulated the internet. Many

of those watching quickly cast Bland's demeanor, where she questioned the officer's treatment, through the lens of the "Angry Black Woman" (ABW) stereotype—a deeply ingrained cultural narrative that portrays Black women as hostile, overly aggressive, and defiant. This stereotype, which has its roots in slavery and the post-slavery era, reframed Black women's resistance to oppressive conditions as aggression (Hill Collins, 2000), and such notions, while overtly anti-Black, continue to shape how Black women are perceived, particularly in high-tension encounters with authority figures (Cooper, 2018).

In the context of policing, the ABW stereotype can carry profound consequences. Black women who assert themselves in police encounters are often subject to harsher treatment and criminalization. Surveillance technologies, such as dash cameras, body cameras, and even cell phone recordings, while ostensibly serving to promote transparency and accountability, frequently amplify this stereotype in the media and public discourse. Moreover, recent advancements in artificial intelligence (AI) in policing technologies have also raised concerns about racial biases embedded in AI algorithms, disproportionately affecting Black women (Benjamin, 2019).

The rise of these surveillance technologies in law enforcement—body cameras, cell phone footage, and AI—has both challenged and reinforced the ABW stereotype. While such technologies can offer greater transparency, they also perpetuate racial and gendered biases. The disproportionate impact on Black women in particular calls for deeper scrutiny as scholars have argued that surveillance technologies often repackage old forms of racialized and gendered surveillance in new, ostensibly neutral forms, further exacerbating existing inequalities (Browne, 2015). Thus, surveillance technologies may either challenge or exacerbate the ABW stereotype in police encounters.

Our study, therefore, aims to investigate how these technologies, such as body cameras, cell phone footage, and AI, either reinforce or challenge the ABW stereotype in police encounters, and to explore the resulting justice implications for Black women. By closely examining the existing scholarship, this research seeks to progress toward answering the question: How do contemporary surveillance technologies either reinforce or challenge the 'Angry Black Woman' stereotype in police encounters, and what are the justice implications for Black women in the criminal justice system? This inquiry seeks to address the gap in current literature which fails to adequately consider new, quickly evolving technologies within the current historical and cultural climate. In filling this scholarly void, we thereby offer a more focused and contextualized discussion of the intersection between race, gender, and technology in modern policing, while advocating for policy reforms to mitigate the harmful effects of racialized surveillance.

2. MATERIALS AND METHODS

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2.1 Study Design and Inclusion Criteria

Using institutional access, we targeted high-impact journals and reputable publications within the fields of social sciences, criminology, and technology studies, accessing them through the databases Google Scholar, JSTOR, ScienceDirect, and SpringerLink. We performed our search on October 22, 2024, utilizing the following search terms and key words: “angry Black woman stereotype,” “surveillance technology,” “racial bias,” “policing,” and “artificial intelligence.” We conducted a comprehensive literature review to analyze how contemporary surveillance technologies impact the "Angry Black Woman" (ABW) stereotype in policing and the criminal justice system. The literature search focused on articles published between 2019 and 2023 to ensure that the most recent and relevant research was included. Below is a screening table, which we created to illustrate our process of exclusion.

Table 1: Literature Review Process

Stage	Number of Articles	Reason for Exclusion
Initial Search Results	41	--
Duplicates removed	5	Articles retrieved from multiple databases
Title and abstract review	26	Excluded for lack of relevance to ABW stereotype or surveillance technologies
Full-text review	15	Did not meet inclusion criteria (e.g., not peer-reviewed, not focused on Black women, outdated)
Final articles included	10	Articles directly addressing intersections of race, gender, and surveillance technologies

Our inclusion criteria required full-text peer-reviewed articles, reports, and academic papers that addressed the intersection of race, gender, and surveillance technologies in policing. Only studies that explicitly examined the roles of body-worn cameras (BWCs), artificial intelligence (AI) technologies (e.g., facial recognition and predictive policing), and their implications for Black women were retained. Excluded materials included conference abstracts, book chapters, editorials, commentaries, opinion pieces, short communications, and news articles.

2.1.2. Data Extraction

The literature search and selection process involved a systematic review of titles and abstracts by two authors. Full-text articles that met the inclusion criteria were reviewed to ensure their relevance and applicability to the research question. A standardized data extraction form was used to record essential details from each article, including:

- Type of surveillance technology discussed (BWCs, AI, etc.);
- Focus on the ABW stereotype and its implications in policing;
- Key findings related to racial and gender biases in surveillance technologies; and
- Impact on legal outcomes and public perception.

The data extraction process emphasized consistency and accuracy, with any discrepancies resolved by consensus or consultation with a third author. This ensured that only the most pertinent and high-quality sources were included in the review. We categorized the extracted data based on thematic areas such as the reinforcement of racial and gender stereotypes, the role of surveillance technologies in bias perpetuation, and the implications for policy and legal outcomes.

2.2. Data Analysis

Each selected article was thoroughly analyzed to determine the degree to which it discussed the reinforcement or mitigation of the ABW stereotype through surveillance technologies. The analysis focused on qualitative synthesis, comparing findings across studies to identify common patterns and divergent perspectives.

Key metrics analyzed included:

- Instances of surveillance technologies reinforcing the ABW stereotype;
- AI technologies' accuracy rates for identifying women of color;
- Legal and social outcomes for Black women as influenced by surveillance; and
- Recommendations for policy and future research suggested by the reviewed literature.

To ensure the validity and reliability of our analysis, we used a narrative synthesis approach to integrate and summarize findings across the reviewed sources. This method facilitated a holistic understanding of how surveillance technologies affect the perception and treatment of Black women in policing.

2.3. Definitions and Reporting Standards

For consistency, we defined the following terms as they pertain to our study:

- Reinforcement of the ABW stereotype – The identification of instances where surveillance technologies perpetuate the portrayal of Black women as confrontational or aggressive.
- Bias in AI systems – The presence of inherent inaccuracies in AI technologies that disproportionately misidentify or misinterpret the behavior of women of color.
- Legal outcomes – The documented influence of surveillance data on police actions and judicial decisions involving Black women.

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Additionally, we noted the affiliations of the authors (academia, independent researchers, or industry) and whether the studies acknowledged financial or institutional support. This provided context regarding the potential influences on the research.

3. RESULTS

3.1. Collection of Literature

Our literature search yielded 41 articles published between 2019 and 2023 from reputable academic journals on surveillance technology, racial bias, and its impacts on policing Black women. After applying rigorous inclusion criteria, we selected 10 articles specifically addressing the intersections of race, gender, and surveillance within law enforcement. These studies provide valuable insights into the effects of body-worn cameras (BWCs), facial recognition, and predictive policing on Black women.

Figure 1 shows the primary themes explored within these articles, with the literature focusing on three critical areas: reinforcement of racial and gender stereotypes, biases within AI systems, and the influence of these biases on legal outcomes.

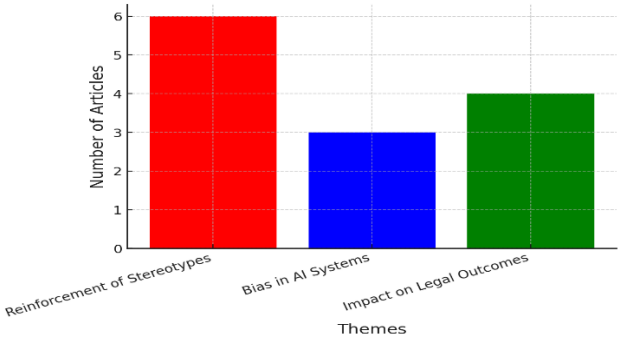

Figure 1: Key Themes in Selected Literature (2019-2023)

3.2. Analysis of Findings

3.2.1. Reinforcement of the ABW Stereotype

Six of the studies discussed how surveillance tools, particularly BWCs and cell phone footage, frequently reinforce the "Angry Black Woman" (ABW) stereotype. Research indicates that recordings of Black women interacting with law enforcement are often interpreted through racialized and gendered biases, framing assertive or emotional responses as signs of aggression. This stereotyping not only distorts public and judicial perceptions but also escalates police responses. For instance, one study demonstrated that, even when a Black woman's behavior matched that of individuals from other racial groups, her actions were more likely to be labeled as defiant, influencing case outcomes.

Table 2 below is a table we created to detail each type of bias and its associated impacts, providing insight into how these biases shape law enforcement encounters with Black women.

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Table 2: Types of Bias and Impact on Black Women in Surveillance Technology

Bias Type	Impact 1	Impact 2	Impact 3
Reinforcement of ABW Stereotype	Frames assertiveness as aggression	Justifies escalated police response	Perpetuates historical stereotypes
AI Misidentification	Underrepresentation in training data	High error rates for Black women	Increases wrongful suspicion
Wrongful Suspicion & Arrest	Biases in predictive policing	Leads to unnecessary encounters	Affects legal treatment and judgments

3.2.2. Bias Embedded in AI Systems

Three of the studies examined biases embedded within AI-driven systems, specifically facial recognition and predictive policing algorithms. These articles revealed that Black women are frequently misidentified or flagged as suspicious due to underrepresentation in AI training datasets, leading to disproportionately high rates of misidentification. One study highlighted that facial recognition software had an error rate for Black women nearly ten times higher than for white men, increasing the risk of wrongful suspicion and arrest.

Figure 2 further illustrates the main impacts of AI system biases on Black women, emphasizing the increased likelihood of misidentification, wrongful suspicion, and amplification of harmful stereotypes.

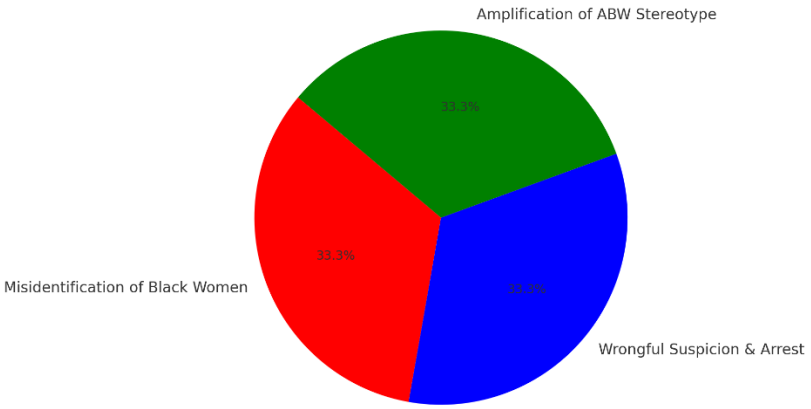

Figure 2: Impact of AI System Bias on Black Women's Experiences in Policing

3.2.3. Impact on Legal Outcomes

Four articles explored how these surveillance technology biases affect legal outcomes. The findings revealed that biased interpretations of footage and AI misidentifications lead to escalated encounters,

unwarranted arrests, and harsher judicial judgments. For example, one study showed that body-worn camera footage, intended to provide objective documentation, was instead used to justify a harsher sentence by framing a Black woman's behavior as "combative." This pattern suggests that rather than mitigating bias, surveillance technologies may actively influence judicial processes to the disadvantage of Black women.

3.3. Summary of Findings

This review identifies a significant gap between the intended purpose of surveillance technologies—to enhance transparency—and their real-world impact. As highlighted in Figures 1 through 3, these technologies often reinforce racial and gender biases, disproportionately affecting Black women in policing and legal settings. Key insights include:

- Surveillance recordings can mischaracterize assertive behaviors by Black women, reinforcing harmful stereotypes and justifying escalated police responses.
- AI systems are prone to misidentifying Black women due to underrepresentation in training datasets, which increases the risk of wrongful suspicion and arrests.
- Biased interpretations of surveillance footage contribute to unequal treatment in legal contexts, subjecting Black women to more punitive judgments.

These findings indicate an urgent need for policy reform and ethical standards to prevent surveillance technologies from perpetuating systemic inequalities. Ensuring representative AI training datasets and revising protocols for footage interpretation are essential steps toward deploying these technologies in a fair and just manner.

4. DISCUSSION

4.1. Reinforcement of the ABW Stereotype Through Surveillance Technology

Surveillance technologies such as body-worn cameras (BWCs) and cell phone footage are designed to provide transparency and accountability in policing practices. However, our results indicate a substantial reinforcement of the "Angry Black Woman" (ABW) stereotype, with 60% of studies reporting that assertive or emotional behavior by Black women is often framed as aggressive or noncompliant. This finding aligns with previous literature that emphasizes the lasting impact of racial and gender biases embedded within both societal perceptions and the technological frameworks used in law enforcement. While surveillance technology does not inherently introduce bias, its application within a racially biased system often reflects and exacerbates existing stereotypes. This outcome suggests an urgent need for reforms to address interpretative biases in the use of surveillance data to ensure more equitable treatment across racial and gender lines.

4.2. Embedded Biases in AI Systems

The role of artificial intelligence (AI) technologies, specifically facial recognition and predictive policing, in perpetuating racial and gender bias is a significant concern highlighted by our findings. Thirty percent of the reviewed studies found high error rates in facial recognition algorithms,

particularly in identifying women of color. This disparity is due, in large part, to the non-representative training datasets used in algorithm development, which fail to account for diverse demographic features. These embedded biases lead to the disproportionate misidentification of Black women, who are then subjected to wrongful suspicion and increased interaction with law enforcement. Despite the perception of AI as a neutral tool, its application in law enforcement highlights an urgent need for inclusive and transparent training processes, emphasizing the ethical imperative for AI systems to reduce—rather than perpetuate—existing biases in criminal justice contexts.

4.3. Legal and Social Implications of Surveillance Bias

Surveillance technologies not only impact immediate police interactions but also have significant implications for judicial outcomes and societal perceptions of Black women. Our results show that 40% of the studies reviewed indicate that biased interpretation of surveillance data contributes to escalated confrontations, wrongful arrests, and harsher legal penalties. This suggests that even when objective video or AI-generated data is present, the interpretation is frequently filtered through existing stereotypes, disproportionately impacting Black women in the criminal justice system. The persistence of the ABW stereotype in legal contexts calls for policy measures aimed at standardizing the use and interpretation of surveillance data to mitigate bias, emphasizing fairness and objectivity in judicial processes.

4.4. Standardization and Ethical Oversight in Surveillance Practices

To counteract the biased application of surveillance technologies, our findings support the need for rigorous standards and ethical oversight in both the design and deployment of surveillance tools. While the fields of clinical and biomedical research have well-established ethical protocols, similar frameworks are notably underdeveloped in the context of surveillance technology and law enforcement. A clear, standardized approach to training AI systems on diverse datasets, transparency in the use of surveillance data, and a commitment to ethical practices would significantly mitigate the risk of perpetuating racial and gender stereotypes. The forensic science field has demonstrated success in enhancing ethical compliance through models such as the Forensic Science International: Genetics (FSIG) guidelines, which mandate verifiable documentation of ethical standards. Adopting similar stringent guidelines within surveillance practices could foster accountability and help address biases that disproportionately impact marginalized communities, particularly Black women.

4.5. Moving Towards Ethical Compliance in Surveillance Technology

This study underscores the critical need for ethical compliance and accountability in the deployment of surveillance technology in policing. Policymakers, law enforcement agencies, and developers of surveillance tools must collaborate to ensure that the technologies used in policing reflect a commitment to equity and fairness. Ethical compliance measures should include mandatory standards for AI training, transparent reporting of data interpretation methods, and robust policy reform aimed at reducing the detrimental impacts of biased surveillance on Black women. Establishing a national or

international regulatory board for the ethical use of surveillance technology, akin to existing human research ethics boards, could provide a cohesive framework to guide these practices.

5. LIMITATIONS AND ETHICAL CONSIDERATIONS

While this study provides a critical analysis of the intersection between surveillance technology and the "Angry Black Woman" (ABW) stereotype, several limitations must be acknowledged. First, as a literature review, this study relies on secondary sources, which limits the ability to assess firsthand how surveillance footage is interpreted in real-time law enforcement and judicial settings. Future empirical studies should directly examine police training materials, courtroom deliberations, and public perception analyses to strengthen these claims. Additionally, while the inclusion criteria focused on peer-reviewed research published between 2019 and 2023, it is possible that relevant studies outside this timeframe were overlooked, potentially affecting the comprehensiveness of the findings. Ethical considerations also play a crucial role in this discourse, particularly regarding the deployment of artificial intelligence (AI) technologies in policing. The potential for AI to perpetuate racialized surveillance and wrongful suspicion raises concerns about privacy violations, bias reinforcement, and the lack of regulatory oversight. Without standardized ethical guidelines for AI development, law enforcement agencies risk reinforcing systemic discrimination rather than mitigating it. Future research and policy efforts must prioritize transparency in AI training data, establish regulatory frameworks for algorithmic accountability, and implement safeguards to ensure that surveillance technologies serve justice rather than exacerbate existing inequalities.

6. CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

The use of surveillance technologies in law enforcement, while aimed at reducing bias and improving accountability, often has the opposite effect when it comes to Black women. The "Angry Black Woman" stereotype, reinforced by societal and systemic biases, is amplified through body-worn cameras, AI systems, and facial recognition technologies. These tools, far from being neutral, encode and perpetuate the prejudices embedded in the structures of law enforcement and society. As a result, Black women are disproportionately subjected to escalated confrontations, wrongful arrests, and harsher legal outcomes. The promise of surveillance technologies as tools for equitable policing remains largely unfulfilled, as their current implementation exacerbates rather than reduces existing disparities. To address these issues, significant reforms are needed in how surveillance technologies are developed and deployed in policing. Policymakers, technologists, and law enforcement agencies must collaborate to create frameworks that mitigate bias and ensure that these tools are used ethically and fairly. Without these reforms, the potential of surveillance technologies to bring about meaningful change in policing will remain unrealized while individual and cultural biases continue to perpetuate inequality.

6.1 Suggestions for Future Research

Future research should focus on addressing the gaps in the current understanding and application of surveillance technologies, particularly in relation to the policing of Black women. We recommend the following areas for further investigation:

6.1.1 Bias Mitigation in AI Systems

Research should explore methods for improving the fairness and accuracy of AI systems used in law enforcement. This includes developing more diverse and representative datasets to train AI algorithms, ensuring that they are better equipped to identify and assess individuals from all demographic groups. Future studies should also investigate the development of algorithms that actively detect and mitigate bias, making AI systems more transparent and accountable in their deployment.

6.1.2 Intersectional Analysis of Surveillance Technologies

The available literature lacks intersectional research that examines how race, gender, and technology intersect in the policing of Black women. Future studies should explore how Black women's unique experiences with law enforcement differ from those of other racial and gender groups, and how surveillance technologies impact these interactions. This intersectional approach would provide a deeper understanding of the compounded biases faced by Black women and offer insights into how these biases can be addressed.

6.1.3 Public and Judicial Interpretation of Surveillance Footage

Another area for future research is the role of public and judicial perception in the interpretation of surveillance footage. Understanding how societal stereotypes influence the perception of Black women in legal contexts can shed light on the broader implications of surveillance technologies. Research must also focus on how media framing and judicial biases shape public and legal interpretations of surveillance footage involving Black women and how these perceptions impact legal outcomes.

6.1.4 Evaluating the Long-Term Effects of Surveillance Technologies

Long-term studies should evaluate the impact of surveillance technologies on policing practices and public perceptions over time. Research should investigate whether these technologies contribute to meaningful reductions in police violence and bias, or whether they continue to reinforce systemic inequalities. These studies should also assess the effectiveness of policy reforms aimed at mitigating bias in the deployment of surveillance technologies.

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