Technology and Culture: How Predictive Policing Harmfully Profiles Marginalized People Groups

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INTRODUCTION

American law enforcement departments use predictive policing technology to predetermine crime zones within assigned jurisdictions. Predictive police technology is susceptible to human error, due to both the directives from algorithm programmers and the lack of vetting for bias in data collection processes. A study by Selbst (2017) on potential applications of predictive policing found police data excessively links crime to neighborhoods with high percentages of demographics and up of primarily non-white residents living below poverty income thresholds. Data mining systems work by gathering information from records of human decisions without considering the intent behind the actions; this creates the possibility of generating or worsening discriminatory outcomes. For programs based off of flawed data (2017), erroneous predictions reinforce existing prejudices held by law enforcement. Since past crime data is integrated into predictive policing systems, it is inevitable results will include historic biases within recorded enforcements. This correlation maintains discriminatory policing instead of creating a future of equality to all humankind. If predictive policing technology disproportionately profiles marginalized people groups, then the algorithms are inherently discriminatory while reinforcing implicit bias held by operators or enforcers of results generated by the program. Therefore, predictive police technology algorithms need to be correctly updated to avoid perpetuating harm through biased association of crime with minority cultures.

LITERATURE REVIEW AND CONTEXT

Implicit Bias

In the article *Bias in, Bias Out*, Sandra G. Mayson (2019: 2218) relays that "ample and mounting evidence has documented otherwise inexplicable racial disparities in policing, charging, pretrial detention, and sentencing." Mayson (2019:2278-2279)

additionally notes, "two recent studies of risk assessment in action have argued that it was the exercise of human discretion in responding to risk-assessment scores that injected racial disparity in outcomes, rather than the risk-assessment scores themselves." Mayson is supported by the data from previous iterations of racially stratified inequities in American history – such as the criminal justice practice of subjective prediction – distorting calculations made by predictive technology meant to advance objective enforcement. Records note that elevated percentages of minority groups in the criminal justice system is a causation of human prejudice provoking action when presented with neutral situations. Predictive policing technology decoding data from these conflicts could misidentify discriminatory practices of officers as correlations to inherent behavior within ethnicities subjected to high detention rates. Racial stratification through implicit bias is pervasive in police officers, due to the unconscious acceptance of societal stereotypes. Spencer et al. (2016:50) found that implicit bias maintains stereotypes associating people with darker skin tones to aggressive personality traits or criminal activity. This association shapes the standards of probable cause. As note by Glenn (2023:60), "a CBS news publication identified that police have killed at least one Black man or woman every week in 2020, as of August 31, 2020." It feels noteworthy that 24 of those weeks took place during COVID-19 pandemic, which instigated a global lockdown mid-March 2020; even under quarantine, Black Americans were not able to peacefully navigate the U.S.A. without threat to their life at the hands of law enforcement. This implicit bias by human police seems to place more support towards upgrading law enforcement with technological algorithms. However, those algorithms are typically fed data taken from the instances that were informed by implicit bias.

Peacekeeping Robots

Law enforcement agencies that have invested in peacekeeping robots can experience issues with the artificial intelligence programming. Artificial intelligence applications utilized by police agencies are susceptible to biased algorithms seen in predictive policing technology. Howard and Borenstein

(2018) clarify that robots can acquire biases through machine learning, despite theories that robots should be able to avoid prejudice. In facial recognition, choices for photo databases are often influenced by programmers setting outcomes to match unconscious beliefs or showing favoritism toward alleged experts without verifying credentials. This shows how AI is confined within parameters set by developers, causing the understanding of robots to mirror their creators. The model of systematic analysis is crucial to determining ways to diminish how bias impacts the implementation of peacekeeping. The use of robots by police is already causing harm to vulnerable people groups. Howard and Borenstein disclose an incident in Dallas from 2016 where a police robot took the life of a Black man. The researchers emphasize this tragedy by noting it increases pressure in strain from the extreme death rates of Black Americans at the hands of human police officers. The artificial emulation of police brutality creates a situation where "it is disconcerting that robot peacekeepers, including police and military robots, will, at some point, be given increased freedom to decide whether to take a human life, especially if problems related to bias have not been resolved" (2018:1527-1528). Additional mechanisms need to be implemented in robots tasked with keeping the peace, to eliminate the ability to kill humans. Robot patrols process massive amounts of data when patrolling urban areas; programmers trying to maximize protection of civilians could unintentionally facilitate racism in predictive policing by creating shortcuts with algorithms that mimic the group profiling practices of human officers. Police agencies considering AI as a path to unbiased patrolling should acknowledge precedents set by human officers can influence the learning processes of autonomous peacekeeping robots.

Surveillance State

Institutionalized racism in law enforcement has led to harmful operation of technologies in ways that reinforce implicit bias. Surveillance technology is unduly used by American state agents against marginalized people groups. Black Americans have specifically endured oppression by an array of military and policing surveillance technologies gathering information on their activities (Hatch 2017:125). This over regulation leads to the

constant harassment of Black citizens. In addition to infrared cameras used aerially by the FBI, social media has become a way for security organizations to persecute protest movements led by Black activists (2017:130). In a 1988 study, G.T. Marx details that

> this 'new surveillance' does not require the execution of a crime; uses covert practices, has redrawn the relationship between the individual and the state vis-à-vis the state's and individuals' rights, incorporates new technological developments in size and type of audio and video equipment available, incorporates preventive operations, allows for disruption and infiltration, can operate without a specific target/subject, and allows for the sharing intelligence between agencies. (Byfield 2019:99)

Over the last three decades, advancements in smart technology through ubiquitous computing have made the use of reconnaissance devices even harder for average citizens to detect.

Armed Drones

Police have a history of deadly force against marginalized people groups through the use of drones and bombs. The article *New Technologies of Resistance* by Anthony Hatch (2017) records an incident where a two-pound bomb was launched by officers over a house in Philadelphia on May 13, 1985. Hatch (2017:129) describes that the "assault, which killed eleven civilians, including five children, and the ensuing fire that displaced hundreds of local residents, marked another horrific moment when state-sanctioned police violence against Black people and Black communities was represented on live television." The bombing was a tactical decision to destroy the Black alliance named MOVE which was home-based in the area. The leader was a Black man named John Africa who advocated for a revolution to end capitalism and oppressive politics. The eventual drone assault was predicated by a police raid in August 1978, which included the demise of a Philadelphia officer. The subsequent seven years included constant persecution by the local police against the MOVE organization. The incidence in a supposed post-Civil Rights America emphasizes the systemic nature of institutionalized

racism persistence in subjugating Black citizens. Thirty years later, in 2015, North Dakota passed a law allowing police to use armed drone technology (Howard and Borenstein 2018:1528). The legality of deadly force in modern society permits threat of assault against citizens. This form of intimidation specifically reinforces attempts to subdue people of color.

Broken Window "Community" Policing

Predictive policing technology can be used to enforce policies of racially biased community policing. Implicit bias is inherent when enforcing community policing strategies, such as broken window policing which disproportionately targets minority groups, since it originated from racist theories. Broken window policies and over-maintenance policing focus on minor instances; a broken window is linked to the hypothesis that cultural atmosphere encourages misconduct (Seigel 2017:481). These policies create busy work by curbing trivial activities and consequently increase rates of racial profiling. Phillip J. Thompson's article, *Broken Policing: The Origins of the 'Broken Windows' Policy* (2015), identifies the source for broken window policy in conservative theories made by Edward Banfield during the post-Civil Rights era. Banfield's policy prescriptions for racial imbalances (2015:44) ignored societal constructions and claimed irresponsible behaviors were hereditary within cultural or biological people groups. These assertions mirror principles of eugenics, focusing on biology and breeding to explain perceived behaviors that differ from social expectations of desirable traits. The term community policing is a misnomer that creates division, due to a lack of consideration of the humanity for the marginalized people groups. In New York City (Byfield 2019:99), crime rates increased on every level and police shootings of Black men also became frequent instances upon implementing community policing.

Stop and Frisk

Racially biased policies, like stop and frisk, reinforce prejudiced data being presented to predictive policing technology by establishing past practices. The societal construct of white dominance in America leads to concepts of

> racialized surveillance as an organic function of the racial state that is deployed via legislation, social practices, and technologies that use the 'white gaze' to maintain the state as a 'white racial space' that constructs and reproduces racial categories and hierarchies. These laws, practices, and technologies create existential norms, thus violations of these norms represent existential crimes in a white racial state. (Byfield 2019:96)

The sole championing of white perspective sullies the ability for law enforcement officers to grow cultural understanding when interacting with diversity among citizens. This paradigm was heightened after the 2001 events of 9/11 increasing attention on national security from terrorism. The foundation for advanced technologies of predictive policing lies in NYPD's new surveillance implementation of stop and frisk. Even when not charged with a crime, the identification information obtained in these interactions is stored in the police databases. Black and Latinx young men are the largest demographic of victims stopped and frisked in NYC (2019:100), with almost 90 percent proven innocent of police allegations. The precedent for the officers targeting young men of color in stop and frisk endeavors creates a pattern in recorded data that will be integrated into predictive technology.

Advocates for A.I.

The opposite side of this issues argues that predictive police technology is a neutral method to avoid unconscious bias in humans; however, this is incorrect because technology is not inherently neutral, since programs for predictive policing mine human data throughout internet platforms without regard for accuracy. Police departments looking to avoid bias in crime identification can purchase predictive policing technology to extrapolate neutral data to improve patrolling techniques. The ability of predictive technology to mine data is promoted as an option to diminish inequality (Selbst 2017:148) because "unconscious bias is well enough understood that the use of seemingly neutral technology to take the decisions out of human hands is seen as a good thing." Acknowledgement over the need

for better implementation of justice has led to a rise in contemporary smart technology focused on predictive policing. Northpointe, the owner of algorithmic predictive policing tool COMPAS, focuses on metrics of equivalence (Mayson 2018:2233) by demonstrating both Black and white perpetrators who are classified as high risk by the algorithm held equal rates of being rearrested. These ratios imply that the algorithm is free of racial bias. CompStat, a mapping system that tracks data from large police jurisdictions (Byfield 2019:101), is the base program for policing maintenance which makes resource deployment determinations. Technological developments bolster the theory in law enforcement bureaus that human bias can be eliminated by using established criminality calculations to prevent delinquency. The emphasis on scientific processes contrasts the emotional inclination of humanity that can obscure judgements elicited from intense situations in American policing.

A.I. Algorithms

Predictive policing algorithms are derived from data mining which collects human interactions on internet platforms, without double-checking the accuracy of the trends. Interactions on the internet, especially the phenomenon of trending, operate out of sensationalism instead of vetted information. Impartial predictive policing is a marketing ploy rather than an accurate designation. This is noted in the article *Disparate Impact in Big Data Policing*:

> Predictive policing promises both to provide auditable methods that will prevent invidious intentional discrimination and to mitigate the unconscious biases attending police officers' daily choices. But at the moment, such a promise amounts to little more than a useful sales tactic. Data mining is likely to introduce new discrimination or to reproduce and exacerbate the existing discrimination in society due to various design choices that are necessary to any data mining system. Risk assessment scores used in criminal sentencing overestimate black

> recidivism and underestimate white recidivism.
> Selbst (2017:120)

The imbalance of the current man-made model for risk assessment determination will cause the data history to skew the conclusions of predictive policing algorithms. Results (2017:147) from unconscious bias tests have proven that officers are unable to distinguish personal beliefs on race, culture, identity, and delinquency from probable cause. Even if the predictive technology is more neutral in data translation than of conclusion drawn human research, the chances are high that officers can misapply the results of the predictive technology due to human predisposition of implicit bias. To the other extreme, the application of CompStat changed the performance evaluation of officers to total crime bookings, while lowering the ability to implement personal discretion. Quelling judgement to standardize the execution of the law can easily be used to ignore grievances over biases affecting individuals (Byfield 2019:101). Homogeneity undermines the ability of officials to offer understanding or make exceptions when situations involve vulnerable individuals.

DISCUSSION

Predictive technology needs double-blind vetting in early stages of development to test accuracy before police implementation. Selbst has created the idea of "algorithmic impact statements" for such programs (2017:110). The statements would clarify the actual purpose and application of such technologies. He proposes (2017:119) the "regulation would mandate that, before adopting the new technology, police consider and publicly detail the predicted efficacy of and disparate impact resulting from their choice of technology and all reasonable alternatives." The lack of field expertise to determine long-term consequences of using predictive police technology is a persistent dilemma. A metered implementation of the programs would allow time to catch concerns that arise. The article *Black Spaces/White Spaces: Black Lives, Leisure, and Life Politics* (Pinckney, et al. 2018:283) gives examples of racial profiling, such as local police departments in New York City using the stop and frisk program to target Black men or Arizona's strict immigration policy impacting

Latin Americans. The article goes on to detail the symbiotic relationship between technology and racial prejudices, where each entity significantly informs the rate of recurrence in cultural acceptance. The growth of mobile video streaming devices has increased the intrusions Black Americans endure through publicly filmed violence and killings against their ethnic group by officers. The perpetuation of harm is aggravated further by the reality that such culprits are rarely prosecuted. Media coverage raises awareness of homicides by persistent racism but has not seemed to deter recurrence. Unfortunately, since the murder of teenaged Emmet Till in the mid-twentieth century, the list of innocent victims has grown. A movement called "Say Their Names" seeks to humanize lives taken suddenly by actions of over policing due to the unfair association of Blackness to criminal behavior. This underscores the seriousness of challenging unconscious biases hidden within districts disproportionately enforcing corporal punishment upon minority groups.

CONCLUSION

Algorithms in predictive policing technology are based off of patterns; institutionalized racism in law enforcement reproduces problems of racial stratification. If implicit bias in officers continues to go unaddressed, the examples from enforcement of probable cause based in prejudiced beliefs will then continue to influence the programming and use of police technology. Therefore, completely reforming policing practices and technologies will ensure proper implementation of equity within law enforcement. Law enforcement resources should invest in developing programs to identify implicit bias in patrolling practices to eliminate all forms of targeted persecution against marginalized people groups. As noted by Bates and Glenn (2023:123), cultural understanding is crucial to tearing down systemic institutions that keep humanity subjugated under an "us vs. them" perception. Police brutality will continue to occur, even with predictive technology, as long as the root informing implicit bias maintains an inhumane framing of historically marginalized identities.

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