

**A PHENOMENOLOGICAL STUDY OF  
ETHNIC MINORITY ATTITUDES AND  
PERCEPTIONS TOWARDS ARTIFICIAL  
INTELLIGENCE IN POLICING**

By

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## ABSTRACT

Artificial intelligence is increasingly recognised as a sociotechnical system due to its profound societal and cultural implications. Because the use of artificially intelligent technologies in policing is a relatively new development, it has not received much sociological consideration. As a result, there is a significant need for a sociological perspective in the development and application of A.I. systems. Research indicates that compared to the general public, ethnic minority communities have much lower levels of trust in the police. This study intends to highlight marginalised communities' attitudes and views, the contextual variables which influence them and contribute strategies to strengthen minority trust to ensure that the implementation of new technologies is socially beneficial and to minimise algorithmic harm. To gain meaningful insight into the research subject, this study will focus on the voices and experiences of minority groups using a qualitative phenomenological approach.

Furthermore, much of the research on attitudes toward A.I. technologies fails to acknowledge marginalised communities' perspectives and to report ethnoracial information about participants. This study contributes to filling these gaps in the literature while also emphasising the need to consider multiple perspectives. The study found a very limited understanding of the use of A.I. in policing and identified several significant themes that shaped minority attitudes. The significance of these findings for A.I. development and implementation are examined in depth, as are solutions for tackling negative attitudes and perceptions, as well as directions for future research.

## ABBREVIATIONS

AI: Artificial Intelligence

AFR: Automated facial recognition

MPS: Metropolitan Police Service

BAME: Black and Minority Ethnic

## GLOSSARY

Artificial intelligence: The simulation of human intelligence processes by machines

Algorithm: A procedure used by A.I. systems for computing or problem solving

Algorithmic hygiene: identifying specific causes of biases and employing best practices to mitigate these

Marginalisation – Treatment of a person or group as insignificant or of lesser importance

Humanistic Augmentation - Integrating psychological, social and computational methods to reframe technology as more human-like

## INTRODUCTION

Automated facial recognition technology aids police in preventing and detecting crimes through cameras in public or private areas to identify passing individuals. The software then creates an alert, which a police officer manually examines before making a choice to engage with the individual. An independent academic study of the Met's trials of face recognition technology concluded that the technology was ineffective, intrusive, and was deployed in a manner that violated the human rights of Londoners. Authors of the Independent Report on AFR trials urged that all ongoing trials and deployment plans be suspended until the aforementioned issues were addressed (Fussey & Murray, 2019). However, despite legal and ethical concerns about the technology from civil liberty and human rights advocates, the MET police announced in January 2020 that they would begin operational use of Automated Facial Recognition (AFR) on London streets. As early as August 2020, the court of appeals ruled in that the use of facial recognition technology by the police was unlawful, citing a lack of clear guidance on the use of AFR. The court also concluded that police did not take reasonable precautions to ensure that the technology did not have gender or racial bias. However, the court did not outlaw the use of the technology, concluding that the benefits outweighed human rights concerns (Keenan, 2021). However, following these events, the Metropolitan Police Department issued guidance establishing a legal and ethical framework for its use. This new guidance was said to be informed by discussions with the public, regulatory bodies and campaign groups. Although many critics maintain that the technology still holds the potential to violate civil liberties, infringe on human rights, and further entrench structural racism and systemic marginalisation. Much of the literature surrounding the topic warns of profound societal and cultural implications regarding governance, security, identity, working life and community welfare and advocate for an interdisciplinary approach to A.I.'s development and implementation in the social sphere. Sartori and Theodorou (2022), for example, emphasise the importance of developing a sociological perspective inside the A.I. community and viewing A.I. as a sociotechnical system to create an inclusive and successful approach to A.I.'s development.

This study aims to contribute to the growing sociological perspective and promote a diverse, inclusive and intersectional approach to A.I. development and implementation

by highlighting the attitudes and perceptions of marginalised groups. Policing is a fundamental form of social control, and the growing use of A.I. within it necessitates research that fosters an understanding of various social groups, particularly those who have reason to distrust existing systems of social control. This area of research lacks critical investigation but is crucial to minimising social harm in the implementation of technology with such disruptive and innovative potential. The public's perception of A.I. could substantially impact how it is developed, deployed, and regulated, in addition to social and cultural repercussions. As Gray (2018) stated, "Like an ostensibly competent employee whom, for whatever reason, you do not trust, they are of limited utility".

To explore minority attitudes and perceptions towards the use of A.I. in policing, this paper will gather and analyse qualitative data on ethnic minorities' levels of knowledge, trust, and positive/negative perceptions of the use of A.I. within policing. To achieve this research aim, this study will identify contextual factors that contribute to ethnic attitudes and perceptions. Contextual factors can be defined as background influences or characteristics unique to a particular group or individual, for example, socio-economic position, race and ethnicity, gender, and age (Siegall and Gardner, 2000). It will also examine how these attitudes and perceptions differ from traditional policing acceptance and explore what could be done in the development, use and regulation of A.I. to help marginalised groups trust the technology. This study will not delve into ethnic differences in attitudes and perceptions; however, this topic may benefit the development and implementation of socially beneficial A.I. technology. This research will also not extend to the use of A.I. in policing outside of London; however, given the growing interest in expanding artificial intelligence to policing outside the nation's capital, there is a need to understand the perspectives of marginalised groups outside of London. The findings of this study serve as a starting point for considering the attitudes and perceptions of different social groups, particularly people with intersecting identities who struggle to trust the systems in which they reside.

## CHAPTER 1: LITERATURE REVIEW

### 1.1 Background

Artificial Intelligence (A.I.) encapsulates a range of technologies which can perform tasks that would typically require human intelligence, such as visual perception, collecting and interpreting data, decision-making, identifying patterns, and predicting events (Lee & Rich, 2021; Samoili et al., 2020). Technological advancement in A.I. has allowed for the development of machine learning capabilities which describes the ability of algorithms to learn and improve independently by evaluating their processes and optimising decision systems, thus becoming more intelligent over time. This type of A.I. requires a quickly diminishing amount of human oversight. Because its outputs are said to result from objective calculations, it is often presented as a means to overcome human bias and bring social progress (Glikson & Woolley, 2020). However, such claims have been met by a substantial amount of sociologically informed scepticism. Scholars such as Sartori and Theodorou (2022) and Eubanks (2018) raise concerns about the infringement of civil liberties and human rights and the further entrenchment of structural racism and systemic marginalisation. Combined with the spread of face-surveillance infrastructure, they argue that A.I. may threaten modern democratic ways of life and social cohesion. Leslie (2020) also emphasises the need for a sociological perspective within the development of A.I. technologies to cultivate more responsible approaches to the development and governance of A.I. These views represent the "cultural A.I." analytic perspective, which diverges from the more scientific and technical discussions of A.I. advancement, instead centring on the technology's social, cultural and political implications (Liu, 2021). However, much of the current literature surrounding artificial intelligence takes a technological perspective, focusing on the current and future capabilities of the technology and its implications for technological advancement (Dwivedi et al., 2021; Liu, 2021).

The cultural A.I. perspective stipulates that the technology has produced a new type of social agent and anticipates profound social and cultural implications as a result. This



viewpoint emphasises that A.I. must be developed for the greater good and must never be allowed the autonomy to harm, destroy, or deceive humans (Hakli & Seibt, 2017); (Mlynář et al., 2018). Another example of perspective comes from a sociologist of technology, Zeynep Tufekci (2014), who described algorithms as computational agents who are not alive but nevertheless act in the world. Tufekci raises philosophical and ethical questions regarding the growing prevalence of non-human intelligent actors and the growing potential for those with resources and access to use technology to influence public, political, and social spheres with little accountability. Tufekci and others who take a cultural A.I. analytic perspective question idealistic views of technology and raise fundamental questions surrounding how one should regard non-human social actors, which can act independently, with little to no human oversight and yet cannot be held responsible for ethically problematic behaviours. This perspective is particularly valuable in the discourse surrounding the use of automated facial recognition or predictive technologies in policing because the technology has the potential to become a key aspect in executing social control through policing. In contrast, defenders of the technology often emphasise potential improvements in efficiency and public safety that A.I. may bring (Corbett-Davies et al., 2017; Cath et al., 2018).

## 1.2 Artificial Intelligence in Policing

Police artificial intelligence refers to algorithmic software and devices that use artificial intelligence (A.I.) to automatically recognise and respond to potential threats (Bertino et al., 2021). This technology has several uses, including cyber security, home security, and border control; this paper will focus on applications of this technology in the public sector, notably law enforcement and policing (Radulov, 2019). Although facial recognition technology has become increasingly common through its applications within passport control and integration into smartphone technology, its use within digital policing is thus far limited and has sparked much controversy (Zeng et al., 2019). Automated facial recognition technologies perform real-time biometric analysis of an individual's features and cross-references this data with data previously stored within police databases or social media accounts to achieve identification, thus facilitating further profiling and searching of individuals (Purshouse & Campbell, 2019; Whittaker et al., 2018). The Metropolitan police service (MPS) began full operational use of facial recognition technologies in January 2020. Experts have questioned the proportionality

and efficacy of how the Metropolitan Police Service has deployed facial-recognition technology, as trials only achieved 11 positive matches using live facial recognition (LFR) technology during trials from 2016 to 2019. However, the MPS maintain that significant improvements have already been made since, for example, in 2020, 13.3% of MPS stops resulted in an arrest, whereas 30% of AFR-triggered stops resulted in an arrest (Fussey and Murray, 2020; Metropolitan Police Service, 2020).

Predictive policing technologies use stored and real-time data to predict who will likely engage in crime and when and where these crimes will likely occur. In the U.K., predictive policing algorithms are most commonly used in predictive crime mapping to pinpoint areas where crime is most likely to occur and pre-emptively deploying resources; however, person-based predictive policing algorithms which evaluate an individual's likelihood of committing crime remain in earlier stages of development (Babuta, Oswald, & Rinik, 2018). Many who support this technology in policing point to its potential to improve the efficiency and efficacy of human decision-making appropriately deployed (Pearsall, 2010). However, others highlight the possibility of misclassification due to biases in the population-level data and statistics on which the technology relies, resulting in what could be described as the datafication of injustice. It is possible that algorithms may not accurately distinguish correlations in data from causal reasons resulting in individuals or groups being treated with suspicion for coincidental correlations (Asaro, 2019). The use of A.I., particularly in discretionary practices such as crime mapping and suspect profiling, has also amassed significant criticism. One reason for this is that historically, police and operators have been afforded considerable discretion in determining the subjects of surveillance and suspicion; however, the growing capabilities of the technology have allowed it reduced oversight and more decision-making power in terms of when, how and why criminal law is enforced (Norris & Armstrong, 1999; Harris & Burke, 2021; Yen & Hung, 2021). Overconfidence in A.I. has been shown to have led to overzealous amounts of discretionary agency being awarded to the technology despite its limitations (Joh, 2016). Such was observed during MPS trials of AFR in London, where researchers noted a "belief in the near infallibility of AFR" (Fussey, Davies & Innes, 2021, p. 338). Thus, legitimising concerns that the abilities of A.I. are likely to be overestimated, causing a greater risk of societal harm (Vestby & Vestby, 2021; Shapiro, 2019).

Some scholars argue this suggests a digital reconceptualisation of suspicion and discretion is underway; however, accompanying these developments are growing concerns that the use of artificial intelligence may give unwarranted legitimacy to already biased policing strategies (Vestby & Vestby, 2021; Shapiro, 2019). This could contribute to the continuation of historical biases such as categorical suspicion described by Marx, Orwell, and Hutchins (1988) as suspicion provoked by specific socio-demographic characteristics and facilitated by technologies which permit mass surveillance. Technological advancement has allowed for the proliferation of mass surveillance and the emergence of a post-panoptic society characterised by contemporary surveillance methods that go beyond the spaces described in Foucault's panoptic theory (2008), which describes exercising power over individuals through the use of surveillance. Benjamin (2019) calls this a digital jail, a system of technological and social control that may worsen the over-policing and over-punishment of marginalised populations.

### 1.3 Bias in Artificial Intelligence

Humans are inherently susceptible to cognitive and societal biases, which impact our ability to form fair and rational judgments (Kahnemann, 2011). Bias can be defined broadly as a perspective which systematically produces less favourable outcomes for a particular group of individuals and where there is no relevant difference between these groups (Hammersley & Gomm, 1997). One example of cognitive bias within humans was highlighted in a study by Sporer (2001), which demonstrated the effects of own-race bias; the study found that individuals struggled more with recognising faces of an ethnic group different from their own. Over the last few years, it has become evident how much human prejudices can infiltrate A.I. systems and technologies such as automated facial recognition systems have come under severe scrutiny as a result. Facial recognition software misidentified Black and Asian faces 10 to 100 times more frequently than white ones, according to research by Grother et al. (2019). Buolamwini and Gebru (2018) also revealed severe gender and racial bias in the facial analysis technology of several leading companies; these systems had a failure rate of 30% when identifying darker female faces and 0% in the case of lighter males. Buolamwini and Gebru's journey to uncovering racial and gender biases within A.I. technologies became the subject of a Netflix film, which signifies the growing public awareness of biases within A.I. technology. This awareness

is crucial to counteract how biases in technology may be purposely hidden from public view to give the illusion of neutrality, benevolence, and objectivity.

Much of the bias in AFR technology has been attributed to a lack of representation in the data. The data and models used to train algorithms are argued to be the byproducts of power structures that have perpetuated histories of exclusion and discrimination rather than being objective representations of reality (Benjamin, 2019; Danks & London, 2017). However, some scholars argue that the reality of A.I. bias is more nuanced, and machine learning capabilities that allow the technology to self-improve may use discriminatory processes and produce outputs based on attributes such as race and gender despite not being programmed to do. One instance of this is the A.I. recruitment tool used by Amazon, which penalised female candidates, imitating pre-existing bias in the hiring process. The algorithm was then modified to ignore words with explicit gender designations to remove the bias; however, because of the technology's capacity for machine learning, it was still able to identify words with implicit gender designations, and the bias continued to affect the technology's judgments (Akter et al., 2021).

The complexity of A.I. processes means that the technology's outputs and decisions are difficult to predict, and the logic which underpins them is often inadequately understood, so while machine learning's effect on accuracy can be measured with ease, its effect on the bias is more difficult to assess. Danks & London, 2017; Yapo & Weiss, 2018; Bengio, Goodfellow & Courville, 2017). Efforts to identify and eliminate algorithmic bias (coined "algorithmic hygiene") are notoriously difficult, and interventions are often limited, requiring continuous improvement and refinement to be effective. This is partially due to the complexity of A.I. systems and the unpredictability of their results. Due to this, finding and eliminating prejudice in technology is particularly difficult (Lee, Resnick & Barton, 2019). Some scholars go far as to argue that there is an inherent tension between developing effective AI technology and satisfying notions of fairness because the task of removing bias while retaining human-like qualities in every other aspect of the system is especially arduous (Corbett-Davies et al., 2017). This demonstrates the challenges that need to be overcome to prevent discrimination and marginalisation through A.I. and raises the question of whether these technologies should continue to be developed at the risk of further marginalising vulnerable groups. It has also resulted in many advocating for the right to information regarding how A.I. technologies make decisions. For

example, Routledge and Kim (2022) argued that consumers are entitled to this information in order to make informed choices about the companies and technologies they want to engage with. However, some research indicates that many people are receptive to algorithmic decisions despite a lack of insight into the algorithm's process (Logg, Minson, & Moore, 2019). This further highlights the need for further exploration into perceptions and attitudes towards adopting A.I. technology and the contextual factors that influence them.

#### 1.4 Historical Context

Prejudice and discrimination have contributed to a history of contentious encounters and a climate of mistrust between police and marginalised groups in the U.K. Suspicion Laws, also known as "Sus Law," gave the police the discretionary power to stop, search, and possibly arrest people suspected of violating the terms of the 1824 Vagrancy Act, including anyone they suspected of loitering with the intent to commit a crime, are thought to have contributed to tensions between police and members of the Black community, which date back to the 1950s. Several inquiries thereafter revealed that the necessity for 'reasonable suspicion' in enacting sus laws was often ignored in enacting these powers resulting in them being disproportionately applied to minority groups (Willis, 1985; Smith and Sobel, 2009). The 1984 Police and Criminal Evidence (PACE) Act was later introduced and aimed to better individuals' rights with stop and search powers dictating that stop and search powers must be used fairly, responsibly, and without unlawful discrimination (Yesufu, 2013; Lawrence, 2017). Despite this legislation, stop and search figures remain disproportionately high amongst BAME (black and minority ethnic) community members. In 2021, there were 7.5 stop and searches for every 1,000 white people, whilst this figure sat at 52.6 for every 1,000 black people (Hargreaves, 2021). This demonstrates the historic failure of initiatives to address the problem as the disproportionality of stops and searches has remained stubbornly high over numerous decades. The negative precedent set by these institutional failures has also impacted minority attitudes and perceptions of police. A report by the Metropolitan Police Authority (2004) found that levels of stop and search increased distrust in police and damaged community relations. This increased the level of scepticism amongst minority communities regarding the law, otherwise known as cultural mistrust. Cultural mistrust describes the attitudinal stance which has developed over time within minority

communities resulting in a shared suspicion and cynicism of the police (Terrell & Terrell, 1981). Research suggests trust in the police varies considerably between ethnic groups; national statistics for the UK showed that White, Asian and other ethnic groups were more likely to have confidence in their local police than Black people (Office for National Statistics, 2021). Although varying levels of trust and differences in attitude towards the police have been observed, the question remains whether similar variations persist regarding the use of A.I. technology within policing.

There have been efforts to form a theoretical basis to explain and predict levels of trust and confidence in the police. One is the Social Capital Theory proposed by Putnam (2000), which stipulates that greater social capital increases trust in the police because such capital familiarises people with institutions and provides a means to influence them. This theory is supported by research by Van Craen (2012), which found that the more friends and social connections minority-group members had amongst a majority population, and therefore the more social capital they had, the greater their confidence in the police. Another theoretical basis that may explain levels of confidence in the police is based on research on social justice by Tyler (2005), who found that perceptions of fairness in police decisions and fairness in the way police treat citizens helped determine confidence in the police. This research showed that the more minority-group members felt discriminated against, the less confidence they had in the police. Van Craen (2012) also observed that minority-group members' confidence in the police is negatively impacted by their perceptions that the police treat them more harshly than members of the majority group and, particularly, by the perception that they are often discriminated against by society as a whole. This indicates a significant relationship between feelings of discrimination and confidence in the police. However, it is important to be cautious when considering whether the same determinants may apply to confidence in artificially intelligent policing. This study measured confidence using a closed-ended survey technique; therefore, the findings may not reflect the more nuanced positions held by respondents. Trust and confidence in the police is a multi-dimensional concept, and depth of understanding is difficult to attain from closed-question surveys. This has contributed to my decision to take a qualitative approach which helps achieve meaningful insight into trust amongst minority groups.

## CHAPTER 2: METHODS

### 2.1 Research Design

This study aims to gain insight into the attitudes and perceptions towards the use of artificial intelligence within policing. A qualitative method will be used to achieve this, specifically a semi-structured interview method. This method will accommodate a wide range of ideas and opinions whilst remaining flexible enough to explore in-depth participants' attitudes and perceptions. A qualitative approach is also particularly effective in under-discovered research areas such as this and will help gain insight that would be left unexposed by survey-based research (Lune & Berg, 2017); (Magaldi & Berler, 2020; Singh, 2007). I will employ a phenomenological approach as outlined by Giorgi (1997) and Lester (1999), through which I will investigate the contextual factors that influence ethnic minority attitudes. Phenomenology allows analysis to stretch beyond individuals' sensory perceptions and experiences and to experiences of thought, memory, imagination, or emotion. This insight is invaluable to better understanding the relationships between firsthand experiences of minorities and group-based attitudes (Byrne, 2001). This could also highlight avenues for further research into A.I.'s social and cultural implications and shed light on how the technology should be developed, used and regulated to ensure minimal social harm. I developed the following research questions to guide my study:

- 1) What contextual factors contribute to ethnic minority attitudes and perceptions towards the use of artificial intelligence within policing?
- 2) How do attitudes and perceptions of A.I. policing differ from traditional policing acceptance?
- 3) What could be done in the development, use and regulation of A.I. to help build trust amongst marginalised groups?

This study incorporates an exploratory approach as there is little previous research in the subject area. Therefore, without posing leading questions during the interview, I looked

at what contextual factors, including those relating to ethnicity and culture, manifested in the conversation. Interview questions were intentionally broad to allow participant attitudes and perceptions to develop without interference from the researcher. An inductive approach to analysis was used so that data alone would determine themes instead of utilising preconceived themes and ideas. As I am performing qualitative research, I seek to build and include methodological procedures to assure the integrity and credibility of my findings.

In contrast to quantitative researchers, who use statistical approaches to establish validity and reliability of study findings, this method will adhere to the criteria offered by Lincoln and Guba (1988) and account for any personal biases that may have affected the results by avoiding posing leading questions and assess whether there are any other possible explanations for the data collected. I will also continuously reflect on my chosen methodology to ensure adequate depth and relevance is maintained during data collection and analysis and that any conclusions are supported by rich, detailed verbatim descriptions of participant accounts. In line with this approach, I will suspend preconceived notions about the factors affecting ethnic minorities and reflect on the authors' research analysis process to minimise bias and ensure rigour within my results (

## 2.2 Data Collection

### 2.2.1 Methods

Semi-structured interviews were chosen for this study because they are frequently used to gain contextual insight and maintain control over the interview topic while allowing for unexpected insights (Vereschak et al., 2021). Bevan's (2014) advice on phenomenological interviewing techniques was cited; this technique involved using both structural and descriptive questions, as well as creative variation in questioning to clarify responses and encourage a rich descriptive data from participants. The interview questions were structured to maintain control of the questioning process, but flexibility was maintained by leaving interview questions open-ended, as advised by phenomenological researcher Giorgi (1997, p. 245), who stated that "questions are generally broad and open-ended so that the subject can elaborate on their experiences without the researcher's intervening".



Standardised methods for measuring attitudes, such as the Thurstone and Likert scales, are too rigid for the study's objectives because they do not allow for a diverse range of ideas and opinions. As a result, this study used open-ended attitude measures in the form of interview questions that included evaluative dimensions that assessed whether perceptions of the subject were positive or negative, as well as probing for behavioural information that highlighted past experiences or behavioural intentions with respect to the attitude subject (Haddock and Zanna, 1998). Interview questions were also influenced by the Technology Acceptance Model (TAM). This model comprises four constructs: perceived ease of use, perceived usefulness, attitudes, and actual behaviours, all of which were included in interview questions to gain a thorough understanding of attitudes toward A.I. technology (Baroni et al., 2022). Due to the influence of preconceived assumptions and interpretations, qualitative research is susceptible to researcher bias (Lindsay, 2018). To overcome dogmatism, this study will use a technique outlined by Gearing (2004) dubbed "bracketing," which is the casting aside of what is already known about a specific experience and becoming aware of one's predetermined attitudes. It is essential to recognise, however, that complete abstinence from the use of personal knowledge is unattainable. Instead, Baven (2014) emphasises being true to the interviewees' accounts of their experiences and acknowledging to maintain validity. According to Rolfe (2006), scientific rigour can be judged based on how the research is presented to the reader, and appraising research is the responsibility of both the reader and the writer of the study. Therefore, in order to improve the transferability of the findings, which describes the "degree to which the findings can be applied or generalised to other contexts or other groups," a thorough description methods, to provide a richer and fuller understanding of the research setting will be included. A careful examination of the research context will also be used to create a clear picture of the social and cultural circumstances that frame the research study, allowing the reader to further assess the transferability of findings (Ary et al., p. 507). Trustworthiness will be established through specific data collection behaviours such as limiting personal comments and digressions and allowing participants to focus on the topic and questions during the interviews (Lindsay, 2018).

### 2.2.2 Participants

Twelve participants were selected using criterion sampling as per the phenomenological approach in which participants meet predefined criteria (See appendix C for demographic

information) (Lester, 1999). For the objectives of this study, participants would need to be a member of an ethnic minority group. In order to recruit these participants, I leveraged my personal network, reaching out via social media and using the snowballing technique whereby enrolled study participants encouraged friends and family members to contact the research team (Davis et al., 2018).

Previous knowledge or experience regarding artificially intelligent police systems was not included as a criterion because, due to the nature of the technology, individuals may be unaware of their interactions with A.I. police systems; therefore, their attitudes and perceptions will be based on other contextual factors. However, participants were provided with a brief overview and description and examples of A.I. policing systems prior to interviews (See Appendix B).

### 2.2.3 Procedure

Informed consent was obtained from participants via an electronic form, which also included all relevant participant information as well as brief demographic questions to confirm eligibility (See Appendix B). Before the interview, participants were given a verbal description of the process and asked if they had any questions about the descriptive brief or interview. The interview questions were informed by previous research (See Appendix D for interview guide). The first phase of the interview began by understanding participants' general perceptions of A.I. and their experiences with the technology. Participants were then asked about their general attitudes towards traditional policing and their level of awareness regarding the use of A.I. within policing. Respondents were then asked to express their opinions on the use of A.I. within policing and how this compared to traditional policing before being probed about attitudes towards further development and implementation of A.I. in policing and any suggestions regarding measures which might improve their trust or perception of the technology. Participants were encouraged to substantiate any answers through open-ended qualitative questions and probing questions. All interviews were audio recorded and then transcribed before being reviewed for accuracy.

## 2.3 Data Storage and Analysis

### 2.3.1 Data Storage

Variability is to be expected when conducting qualitative research because the method lacks a rigid structure (Ary et al., 2006). Therefore, a careful record of the data was kept to explain why any variance occurred. This audit trail improves the study's neutrality, which is defined as "the extent to which the research is free of bias in the procedures and interpretation of results" (p. 511).

### 2.3.2 Data Analysis

An inductive approach to thematic analysis involves allowing the data to determine your themes. An inductive approach is fitting because of the novelty of the research topic, and this is exploratory research.

This study used thematic analysis to identify themes, bracket out experiences, and collect phenomenological data. The goal of this analysis is to distil the information into themes, quotes, and statements, which will then be combined to form a textual description of the phenomenon (Sundler et al., 2019). This involved recording and transcribing interviews before coding for shared experiences, beliefs, other commonalities, and any differences in the participants' experiences. Open coding was used to organise the data by grouping all the excerpts associated with a particular code. This allowed for flexibility in identifying common themes which were recorded as they emerged from the data. Codes were then organised into themes which highlighted patterns in the data. Themes were then reviewed and revised to ensure enough data to support them. All data was included in this paper to ensure trustworthiness.

### 2.4 Ethical Considerations

This study examined minorities' attitudes and perspectives toward artificially intelligent policing. Extra care was taken to ensure there was no use of offensive, discriminatory, or other unacceptable language at any stage of the research. Before interviewing, participants gave informed consent through a consent form (See Appendix C), and the right to withdraw at any time was iterated. Each participant was informed of the study's purpose, scope, and procedures, and pseudonyms were used to protect the participant's privacy and anonymity. Harvard referencing was used to credit the works of authors used in any part of the dissertation.

## 2.5 Research Limitations

This study is subject to several limitations. First, although it may yield crucial insights, the final sample is not representative of the population. The sample is skewed by socio-demographic factors, especially ethnicity, as most individuals were black, so findings may lack generalizability. Regarding age, most participants were between 18 and 24, indicating a skewed sample (See appendix C for demographic information). However, the novel nature of the topic permits the results to serve as a foundation for future, more representative studies. Further research may help determine if this study's results would be replicated in other samples.

## CHAPTER 3: FINDINGS AND DISCUSSION

### 3.1 Findings

These findings describe participants' perceptions of the use of A.I. within policing, contextual factors which have influenced these and suggestions for building trust and comfortability with A.I policing technologies. Using a phenomenological research method, this study has gathered data and developed meaning based on the voices of participants (Sundler et al., 2019). In this research project, great care was taken to precisely report the interview experiences and accurately present the data and findings. Interview transcripts are available in Appendix H.

During the analysis, seven major themes were identified:

#### Theme 1: Distrust of police

One of the main themes highlighted by participants was a distrust of police; this was a prominent theme which presented in 11 out of 12 interviews. One response demonstrating this perspective came from Participant 5, who stated, "I do believe there are many situations where police aren't very fair. And I feel like we live in a society where that

possibly will never change". Participant 1 also demonstrated these sentiments, stating, "How the police choose to conduct themselves is not just based on the interests of the public. It's unfortunate, but they can't always be trusted". Some participants' distrust appeared to be primarily based on their own interactions with the police; for example, participant 7 explained, "You will see police running around, because of a child kicking a ball at the window, because of a child riding a bike the wrong way especially if they are brown or black". However, there is some evidence that these sentiments go beyond personal experience; for example, one participant explained, "I personally haven't had a bad experience with the police. But in my area, it's just known they have a very bad reputation".

Participants also expressed that the use of A.I. constituted an over-reach of police powers, with one participant stating, "We're becoming a more authoritarian country in general, the power of the police has been boosted", and this being a risk to "areas that are over-policed, they're also over there being over-surveyed".

#### Theme 2: Concerns about efficacy

Another prevailing theme amongst participants was concern regarding the efficacy of the A.I. technologies used by police. All participants expressed some level of concern regarding the accuracy of A.I. technologies and their ability to produce the intended results. For example, participants expressed sentiments such as "A.I. is made by humans so is prone to human error" and that "A.I. computers can go wrong as much as humans can go wrong".

Some concerns regarding efficacy were attributed to specific issues; for example, participant 12 expressed concerns about the impact of racial bias, "Especially with ethnic looks, there's going to be huge differences with how it works for us", and Participant 9 said, "I question how well trained it is to actually recognise, or work against a diverse group of people". Participant 4 also specifically cited a lack of data in these concerns stating that "They don't have near enough data or capabilities to go to do that properly".

#### Theme 3: Concerns about racial bias

Concerns about racial bias presented throughout the study, with some notable comments being amongst participants who expressed concern about racial discrimination primarily within the police, for example, "They do target certain races and ethnically. With

predictive policing, the police do it anyway; it's just not regulated; at least with A.I., they will look at how biased these decisions are".

Participants who expressed these sentiments were likely to describe A.I. as a potentially less biased and more trustworthy decision maker:

- "A computer is not going to discriminate against you because it's in a bad mood".
- "I've only had that one interaction with the police myself, where I was stopped and told I fit that description ... if it were a camera that had done that, I would trust that decision a bit more".
- "So even though software puts you at a disadvantage, if they put more time and effort, they could probably fix that".

However, others did not see the use of A.I. as means of overcoming racial bias:

- "It could come to a point where the police and the A.I. start to work together to be racially motivated".
- "police has been for a long time so racially motivated that everyone I know has just agreed, yeah, it's not going to change".
- "You'll get nothing but just more biases, and all sorts of unfairness... especially in the U.K. where it affects in London they are going to find a way to manipulate to produce a result they want".

#### Theme 4: Socio-economic factors

Socio-economic factors were a recurrent theme amongst participant responses, with 7 out of 12 participants mentioning factors relating to occupation, education, income, wealth and where they live in regards to their perceptions of the use of A.I. in policing. These responses included:

- "Not everyone is going to want to see how it works; at a certain age, you don't quite grasp or really care exactly about what's happening".
- "There's a lot of over-policing where I'm from, so people probably won't like that".
- "You have a lot of first-generation (immigrant) people that came here, and they won't understand. They're more likely to be against it, and I understand that".
- "I feel like in some places it'll cause panic, like lower income areas".

Participant 9 expressed concern that the technology might even worsen societal problems "It could bring problems in the future, like bigger class divide and race divide".

#### Theme 5: Concerns about privacy and data protection

Participants were asked about how willing they would be to share their data with A.I. systems. Although 4 out of 12 participants expressed a willingness to share their data, all participants expressed some reservations or concerns regarding this. This included concerns about data leaks, how data would be handled as well as the potential for data to be used to incriminate individuals and shared with third parties. For example, participant 4 stated, "There has been massive leaks, and now it could be people's fingerprints, or you know, biometric data". The theme of racial bias also presented concerns about data: "If the police were not so racially motivated, I'd be willing to share some biometric data with them".

Participants also raised concerns about privacy, with one stating, "This is really an invasion of myself and my family. Being Muslim too, like how we stick together, privacy is very important". Another participant shared similar concerns "I wouldn't feel like I had any privacy; I feel like it's so invasive and it would be difficult to get away from".

#### Theme 6: Ways to build trust

Participants were asked what would make them more comfortable with the use of A.I. technology in policing and to suggest improvements. Participant responses included the need for extensive review and moderation; one response stated that "People need assurances that (A.I. decisions) going to be checked and checked again before I'm even stopped". Participant 4 also expressed the necessity for moderation to be non-partisan and suggested the use of external moderation as a means to achieving this: "There needs to be professionals in the police force, who don't have the police forces interests", "They need real professionals, security professionals like McAfee and global companies that specifically work to find problems in systems and make sure it is fair". However, concerns that police would not take the necessary steps to achieve efficacy were expressed by participant 4: "I think they're underfunded; they're going to cut as many corners as possible".

A lack of knowledge about the use of A.I. by police was also a prominent theme; only 2 of 12 participants had a clear idea and concept of AFR and predictive policing technologies, and the majority of the respondents were unaware of the A.I. within policing was already underway expressing statements such as "I am not familiar with that at all" and "I didn't know until you told me".

The perceived lack of transparency and information from the police significantly contributed to negative attitudes towards the use of the technology, prompting respondents to emphasise the need for transparency from the police. For example, participant 1 stated, "I think, transparency, with the police and the public. People definitely need to know if there's A.I. in that area", and participant 4 said, "They should hold the police to explaining it, in pretty good detail, how does it work".

The need for transparency to develop trust was further iterated in the following quotes: "If I did allow them to have my data, I would have no knowledge over how it's collected, probably be done on the street, and I'd have no idea what happens to it after", "I think if they are being clear with us like what they're looking for and what they're doing with how they are using our information" and "Knowledge is power, and we need to be aware of these things to be able to advocate for ourselves".

Potential avenues for addressing these sentiments included:

- "If I could be notified when exactly I was going to be a subject of facial recognition or predictive policing or I had an exact record of what databases my data would be on, and how it would be used"
- "An app on their phone or get a notification that okay, there's A.I. in the area"
- "Releasing algorithms, make them open source, so these algorithms are available online, people could review them".

#### Theme 7: Willingness to engage with A.I.

Participants were probed about their willingness to engage with A.I. policing technologies compared to traditional policing methods. Despite reservations and concerns about traditional policing, 9 out of 12 participants expressed a preference for traditional police methods and the physical presence of police officers as opposed to A.I. systems. The limited capabilities of A.I. were often cited as a reason for this. As participants 5 and 11 explained, "there's a lot of things that technology can't read as people can, for instance, body language body", and "we're still taking in all the human bias, all of those things and putting it in a program that does not have the ability to like read emotions or really understand people". Participant 10 cited the limitations of the technology as a reason for this: "police officers because if something was to happen, in theory, action could happen straight away, as opposed to with A.I."



Concerns about efficacy were another reason for leaning towards traditional policing practices; as participant 2 said, "it's like a new thing, and then there are still a lot of errors". Many participants expressed the possibility of greater acceptance of A.I. with the condition of guaranteed efficacy; for example, participant 6 suggested with "some assurance that I won't be discriminated" and if they were to "make sure that it is reliable, people want to feel safe, including me". Participant 3 expressed similar sentiments, stating, "It needs to be 100% right, get different people and test it before they even introduce it".

However, those who expressed a preference for A.I. technologies gave justifications such as "If I had trust that the police were uniform in its judgment and its belief, then I guess I would be able to lean towards more police", and "If there is a situation where I'm wrongly in trouble, or somebody else is, it'd be easier to prove that than with an A.I. system" and "With police officers, you can kind of plead your case and appeal to the humanity of them, so it's more of a personal approach which I appreciate".

## 3.2 Discussion

The use of artificially intelligent technologies in policing is a relatively obscure topic to most. Within this context, although several studies explore attitudes and perceptions toward several areas of A.I., there is a lack of information regarding perceptions of A.I. in policing and further scarcity in those that centre on the perceptions of minority groups. This study reported a largely negative view of the use of A.I. within policing and suggested multiple factors to be addressed to build trust amongst ethnic minority communities and reduce algorithmic harm in implementing new technologies.

Each subsection in this chapter will address one of three research questions which are the focus of this study.

### 3.2.1 Research Question 1

What contextual factors contribute to ethnic minority attitudes and perceptions towards the use of artificial intelligence within policing?

The influence of historical context is demonstrated by the emergence of distrust towards the police as a theme in this study. Many participants shared the perception that the police lacked integrity and effectiveness, and this has resulted in a general scepticism towards

A.I. policing technologies. Distrust of the police went beyond participants' personal experiences as some participants attributed this to the reputation of the police and a history of racial injustice as opposed to their personal experiences with the police, thus highlighting the role of historical context in ethnic minority attitudes. This supports the findings of previous literature, which suggests that cultural mistrust, a result of institutional failures and discrimination from the police, has impacted minority attitudes and perceptions resulting in a shared suspicion and cynicism of the police (See Chapter 1 Section 1.4). This has significant implications for the widespread adoption of A.I., as public trust is paramount to the acceptance of any new innovation (Mackenzie and Wajcman, 1999). These findings indicate that improving technology acceptance amongst minority groups may be contingent on addressing historical biases and tensions between minority groups and the police. However, this will be discussed further in section 3.2.3. It is important to note that despite general scepticism of A.I. amongst participants, this was not reflected in participants' willingness to engage with A.I. policing technologies over traditional policing practices. This shows that the relationship between distrust and attitudes towards A.I. may be more complex as opposed to being reflected definitively by levels of trust towards the police. This discrepancy will be discussed further in section 3.2.2.

Many of the contextual factors which presented in the data are encompassed with socio-economic factors. Participants highlighted the influence of age on attitudes toward A.I. They suggested that age may contribute to a lack of knowledge and understanding of the technology and, therefore, less acceptance and more skepticism. This notion is supported in research by Park and Jones-Jang (2022), who found that older people were less likely to accept A.I. However, literature that centres specifically around A.I. in policing is scarce so previous literature may not be applicable. Research shows older adults are generally more confident in law enforcement which could potentially influence attitudes towards A.I. within policing; however, further investigation is needed to understand how these trends may intersect (Hamm, Wylie and Brank, 2018). The findings of this study show that data and privacy concerns were omnipresent among participants 45+; however, this age group comprised only a small fraction of the total participants (8.3%). Due to the limited sample size, the external validity of these findings is low. Therefore, it is difficult to determine to what extent age contributes to attitudes and perceptions towards A.I. in policing.

Another socio-economic factor highlighted by the data was location. Participant responses cited over-policing in their local area as well as lower income as reasons for rejecting the technology. Participants described concern over the potential misuse of A.I. technologies in already over-policed and lower-income areas, as well as an increased likelihood that other members of these communities would also reject the implementation of AFR and predictive policing technologies. These concerns coincide with Putnam's (2000) Social Capital Theory which argues that decreased social capital, which in this case could be attributed to lower income, reduces trust in the police. This study's finding suggests that income's impact on attitudes towards police may well extend to A.I. policing technologies. Putnam's theory attributes these patterns to the fact that social capital familiarises people with institutions and provides them with means to influence them. This aspect of the theory is also demonstrated in this study as data showed participants felt they had no control over the technology's implementation because of their race and social class.

### 3.2.2 Research Question 2

How do attitudes and perceptions of A.I. policing differ from traditional policing acceptance?

As discussed in the previous section, distrust of the police was a prominent theme amongst participants, which suggests a lower acceptance of traditional policing practices. Participants' distrust and racial backgrounds had a noticeable association with their perception of how biased A.I. could potentially be, with many participants highlighting the possibility of false incrimination and racial bias with A.I. policing. However, when probed further, participant responses leaned towards a traditional police presence as opposed to the implementation of newer A.I. policing strategies and technologies despite lower traditional policing acceptance. One reason participants gave for this was the aspect of the unknown in new technologies; participants mentioned a lack of knowledge about A.I. and a lack of transparency from the police evoking apprehension about the potential repercussions of new policing technologies surpassing outweighing that of traditional policing. This aspect of unknowingness is a significant differentiator between attitudes towards traditional policing and towards A.I. policing and should therefore be a fundamental factor in the implementation of A.I. technologies by the police. Nevertheless, these findings coincide with previous literature, which argues that the lack

of knowledge surrounding the realistic implications of A.I. is detrimental to its uptake (Mackenzie and Wajcman, 1999). This will be discussed further in section 3.2.3, which will delve deeper into how to build trust amongst minority communities.

Although participants consistently acknowledged the potential for racial bias within both A.I. technologies and traditional policing methods, attitudes differed considerably between participants. Some participants expressed a more positive attitude towards A.I., expressing that despite biases in technology, these could be more easily overcome than historical racial biases within the police and that biases within A.I. were more likely to be addressed than those within institutions due to increased scrutiny of the new technology. However, others highlighted the potential for biases to be legitimised or emphasised through the use of A.I., similarly to the concerns of some scholars that the false illusion of neutrality, benevolence, and objectivity in A.I. could result in the legitimisation and further entrenchment of systemic racism (see Chapter 1 Section 1.3). This demonstrates the need for widespread understanding of the realistic implications of A.I. Widespread understanding of the shortcomings and risks of A.I. would allow for the public to demand accountability from the police. This is supported by the participant's response, "Knowledge is power, and we need to be aware of these things to be able to advocate for ourselves".

Some participants expressed the view that the use of A.I. within policing was an over-reach of police powers, with one participant describing it as "authoritarian". Participants expressed concerns about the over-policing and surveillance of marginalised communities and the possibility of this being exacerbated by the use of A.I. These concerns are substantiated by statistics which show that BAME individuals are already up to 9 times more likely to be subjected to stop and search than non-minority individuals (See Chapter 1 Section 1.4). This highlights the possibility that the use of A.I. in policing may diminish existing trust between minority communities and the police and further illuminates the need to understand and address attitudes towards A.I. to ensure the technology is of social and cultural benefit to society.

### 3.2.3 Research Question 3

What could be done in the development, use and regulation of A.I. to help build trust amongst marginalised groups?

This study has demonstrated the influence of historical context and racial bias in shaping minority attitudes and perceptions towards the use of A.I. in policing. These findings indicate that improving technology acceptance amongst minority groups may be contingent on addressing historical biases and tensions between minority groups and the police. It is important to note that although literature exploring the implications of A.I. within policing is relatively new, the social and cultural context in which this new technology is evolving is decades old. Addressing historical biases may not be an ideal solution to such a complex and enduring societal issue. As expressed by one participant, "police have been for a long time so racially motivated that everyone I know has just agreed yeah, it's not going to change". Whilst the issue of systemic racism and marginalisation remains at the forefront of reducing algorithmic harm to minorities, this paper aims to contribute feasible and actionable suggestions for the development, use and regulation of A.I. Addressing historical biases may not be the most practical solution to such a complex and enduring societal issue. One potential way to build trust would be by initiating a public information campaign to inform the public about the use of A.I. within policing as well as an extensive explanation of how the programmers and police are committed to anti-racism in its implementation and development. Developers contributing to the expansion of A.I. policing technologies may also benefit from explicitly demonstrating how equitable the process of building the technology is; this would also bring added accountability.

Participants also expressed the possibility of greater acceptance of A.I. with the condition of guaranteed efficacy; however, this is difficult to guarantee due to the nature of A.I. and its stage of development. Suggestions of "constant software updates" and more rigorous testing were made during the interview process. Although these suggestions are both conducive and actionable, they are already fundamental aspects of A.I. development. One actionable approach to addressing this could be encouraging increased transparency from the police on the limitations and efficacy of the technology, perhaps through the development of a type of interface for policing A.I. information. Combined with a clear and accessible interface through a website or app, it should create clear and accessible avenues for enquiries about the technology, complaints, reviews, and information on AI-specific guidelines. Participant responses included concerns about ways to correct misidentifications or report biased outputs, which suggests these interventions would be well received and help build trust.

Participants also described the inability of A.I. to read body language and emotions as a contributor to negative attitudes towards the technology. Participants saw this as a crucial aspect of policing and one which A.I. fundamentally lacked. One potential solution to this would be introducing humanistic augmentation, which may serve as a way to improve people's trust in A.I. This would involve integrating psychological and social aspects into the technology to emulate an embodied human mind. Research has shown that humanistic augmentation may improve human interactions with A.I. systems in social and cultural contexts and their reciprocal relations (Lee and See, 2004). However, it raises an important question as to whether humanistic augmentation will be effective in improving trust amongst marginalised groups who are likely to have high distrust in human systems as well as A. I systems. A.I. policing presents a new type of challenge, as interpersonal and systematic forces are intertwined.

Finally, participants identified a lack of knowledge about A.I. and its implementation as well as a lack of transparency from police as factors contributing to their negative perceptions of the technology. This aspect of unknowingness is a significant differentiator between attitudes towards traditional policing and towards A.I. policing and should therefore be a fundamental factor in the implementation of A.I. technologies by the police. Participants also showed concern over the infringement on rights to privacy and consent. Participants' suggestions included apps that notified individuals of when the technology was present in their vicinity and allowed them to keep track of how their data was being used and stored. This would give communities the influence they seek over the police practices which govern their safety, whether it be through acquiring consent or providing knowledge so that minority groups are able to advocate for themselves. This reveals the need for a specific interface for policing A.I. information, as well as research on policing AI-specific guidelines for the regulation of training data sets that can gain people's trust. ern their safety, whether it be through acquiring consent or providing knowledge so that minority groups are able to advocate for themselves. This reveals the need for a specific interface for policing A.I. information, as well as research on policing AI-specific guidelines for the regulation of training data sets that can gain people's trust.

## CHAPTER 4: CONCLUSION

As algorithmic systems play a growing role in various institutions, including police forces, as means of governance and social control. This technological advancement carries the risk of significant violations of privacy, civil liberties and bias. Despite this, the use of artificial intelligence technology in the public sector is increasing, necessitating further research into the intricacies of public opinion on A.I. decision-making and its role in areas such as policing. The objective of this research was to collect and analyse qualitative data on ethnic minorities' levels of awareness, trust, and positive/negative perceptions about the use of artificial intelligence by the police. The study's findings highlight the complexities and intersectionality of ethnic minority perspectives and serve as an essential starting point for future research that further highlights the views of various social groups and individuals with intersecting identities. Based on the findings of this study, it can be inferred that ethnic minority sentiments towards A.I. in policing were influenced by a combination of distrust towards the police, racial bias, privacy and data concerns, efficacy, and socio-economic factors. According to the findings, minority groups may be receptive to more police transparency, more accessible channels for expressing complaints and concerns, an information campaign enlightening the public, and humanistic augmentation. Although A.I. has the potential to assist police in overcoming institutional racism, research has indicated that suspicion and scepticism, as well as a lack of understanding about the technology and its realistic implications, are critical hurdles to its widespread acceptance among minority communities. Future research should consider whether one technique can boost people's trust in A.I. or if multiple approaches are required to achieve a tangible result.

Qualitative semi-structured interviews and thematic analysis were used to gain sufficient depth of participant responses and uncover numerous useful themes and patterns. One key finding is that a commitment to improving efficacy and minimising bias in A.I.

development is insufficient to earn widespread trust among minority groups. Building trust necessitates transparency, accountability, and a thorough understanding of the interests of all affected groups. One unexpected finding from this study was that while participants acknowledged a level of objectivity and neutrality with the use of A.I., the majority preferred traditional policing tactics. This shows that although participants' distrust and racial backgrounds had manifested in their attitudes toward A.I., other significant factors influenced their willingness to engage with A.I. policing technologies, thus demonstrating the complexity of minority perspectives and raising the question of what variables contribute the most to these attitudes.

There are several limitations in this study that should be noted by the reader. For example, all participants were currently residing in London, and A.I. deployment is rapidly spreading beyond the nation's capital, so conclusions would need to be further reviewed across the country. Future research should also include further cross-cultural investigations because the proliferation of A.I. is a global phenomenon. Furthermore, there were no transgender or non-binary interviewees, and the ethnicity of participants did not adequately represent the diversity of minority groups in London or the United Kingdom. Future research would benefit from investigating how transgender and non-binary people perceive the adoption of artificial intelligence in policing, as well as perceptions among other people of colour. This is a crucial step to avoid making A.I. in policing more trustworthy for only a subset of the community as opposed to all social groups. The initial literature review found research which discloses ethnoracial information on participants is limited. Future A.I. research, regardless of scope, should recruit and analyse different social groups so that the research community can collectively examine the perspectives of those who are typically excluded. Advancement in A.I. development shows no signs of slowing down, and there is a growing necessity to form a thorough understanding of A.I. and its sociological and cultural implications, particularly if we are to successfully exploit the benefits the technology offers.



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## APPENDIX A: ETHICS APPROVAL

**City, University of London**

Dear Omolola

**Reference: ETH2122-0595**

**Project title: An exploration of ethnic differences in attitudes and perceptions towards artificial intelligence**

**Start date: 9 Dec 2021**

**End date: 1 Jun 2022**

I am writing to you to confirm that the research proposal detailed above has been granted formal approval from the Sociology Research Ethics Committee. The Committee's response is based on the protocol described in the application form and supporting documentation. Approval has been given for the submitted application only and the research must be conducted accordingly. You are now free to start recruitment.

**The approval was given with the following conditions:**

- ...
- ...
- ...

Please ensure that you are familiar with [City's Framework for Good Practice in Research](#) and any appropriate Departmental/School guidelines, as well as applicable external relevant policies.

## APPENDIX B: OVERVIEW BRIEF

### **Artificial Intelligence in Policing: An Overview**

The aim of this study is to gain insight into ethnic minority attitudes and perceptions towards the use of artificial intelligence in policing.

#### What is A.I.?

Artificial Intelligence (A.I.) describes a range of technologies which can perform tasks and solve problems that would typically require human intelligence. Its uses range from Snapchat filters and Face ID to self-driving cars and manufacturing robots. However, this study will be focusing on two specific types of artificial intelligence

#### What is Automated Facial Recognition?

This technology performs a biometric analysis of an individual's face and cross-references that with police databases or potentially even social media accounts to identify individuals. This can help find wanted individuals, and missing persons or facilitate further profiling and searching of individuals who arouse suspicion.

#### What is Predictive Policing?

This technology performs an automated risk assessment to predict who is most likely to engage in crime or be a victim of a crime as well as when and where these crimes are likely to occur. This is still in the early stages of development however In the U.K., the police already use predictive crime mapping to pinpoint areas where crime is most likely to occur and pre-emptively deploy police.



## APPENDIX C: PARTICIPANT INFORMATION AND CONSENT FORM

### Ethnic Minority Attitudes towards Artificial Intelligence in Policing

Principal Researcher: Omolola Yusuf  
REC reference number: ETH2122-0595

I would like to invite you to participate in a research study exploring attitudes towards artificial intelligence in policing. Please take time to read the following information carefully and contact me if there is anything that is not clear or if you would like more information.

This study aims to learn more about ethnic minority attitudes towards the use of Artificial Intelligence in policing. Your part in the study will consist of a 20-minute Zoom interview, where you will be asked a series of questions about your views.

Please be aware that once the data is anonymised, participants will no longer be able to withdraw their data. This is once you have submitted the online survey.

Participation in the project is voluntary, you can withdraw at any stage of the project without being penalised in any way. If you do decide to take part please continue with the consent form.

#### Data privacy statement

City, University of London is the sponsor and the data controller of this study based in the United Kingdom. This means that we are responsible for looking after your information and using it properly. The legal basis under which your data will be processed is City's public task.

Your right to access, change or move your information are limited, as we need to manage your information in a specific way in order for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personal-identifiable information possible (for further information please see <https://ico.org.uk/fororganisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-forprocessing/public-task/>).

You can find out more about how City handles data by visiting <https://www.city.ac.uk/about/governance/legal>.

If you are concerned about how we have processed your personal data, you can contact the Information Commissioner's Office (IOC) <https://ico.org.uk/>.

Who has reviewed the study?

This study has been approved by City, University of London Research Ethics Committee.

What if there is a problem?

If you have any problems, concerns or questions about this study you can do this through City's complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee.

You can also write to the Secretary at:

Anna Ramberg  
Research Integrity Manager  
City, University of London, Northampton Square  
London, EC1V 0HB  
Email: [Anna.Ramberg.1@city.ac.uk](mailto:Anna.Ramberg.1@city.ac.uk)

## DEMOGRAPHIC INFORMATION

What is your age group? \*

18-24

25-34

35-44

45-54

55-64

65 and over

What gender do you identify as? \*

Female

Male

Transgender

Non-binary

Prefer not to answer

What is your ethnic group? Choose one option that best describes your ethnic group or background. \*

White

Mixed / Multiple Ethnic groups

Asian / Asian British

Black / African / Caribbean/ Black British

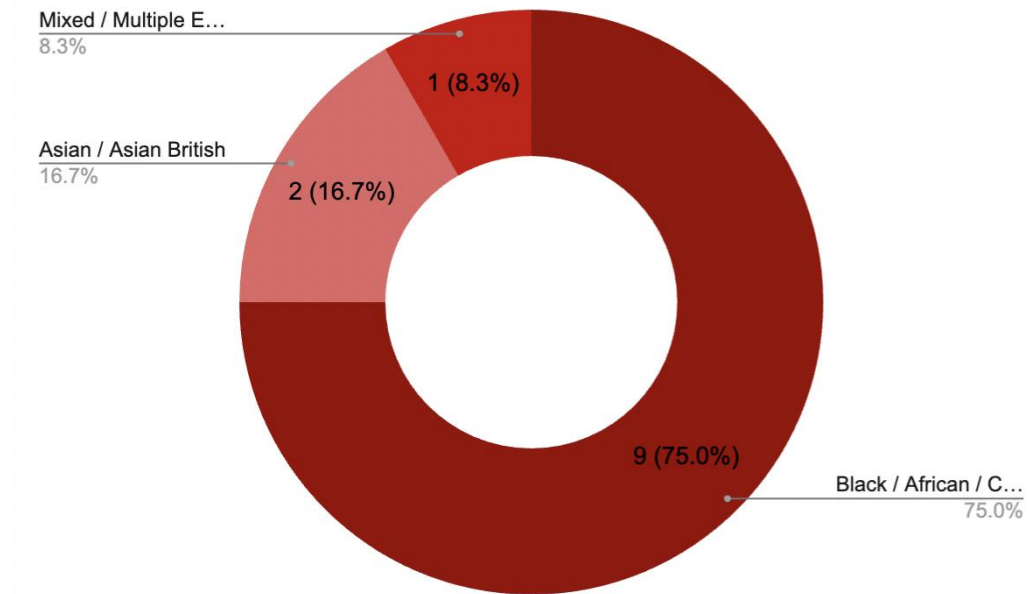
## CONSENT

- I confirm that I have read and understood the participant information for the above study, and I have had the opportunity to consider the information and ask questions.
- I understand that my participation is voluntary and that I am free to withdraw without giving a reason without being penalised or disadvantaged.
- I agree to my responses being recorded and processed and that this information will be used only for the purpose(s) explained in the participant information and my consent is conditional on compliance with the General Data Protection Regulation (GDPR).
- I am willing to provide details of my ethnic group.
- I agree to the interview being audio and/or video recorded.
- I agree to take part in this study

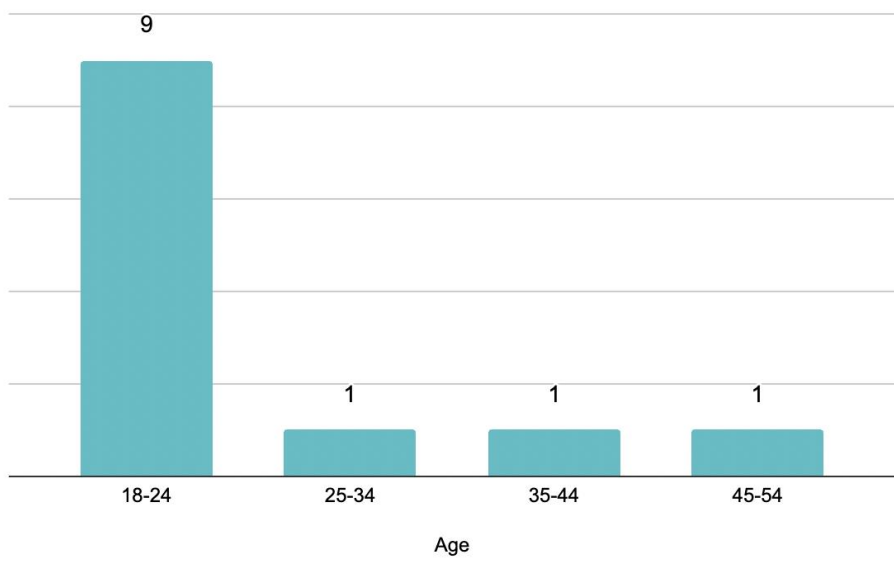
By signing this form, I hereby accept that I have read and understood the information above. I am giving my full consent to participate in the study.

## APPENDIX D: DEMOGRAPHIC DATA ON PARTICIPANTS

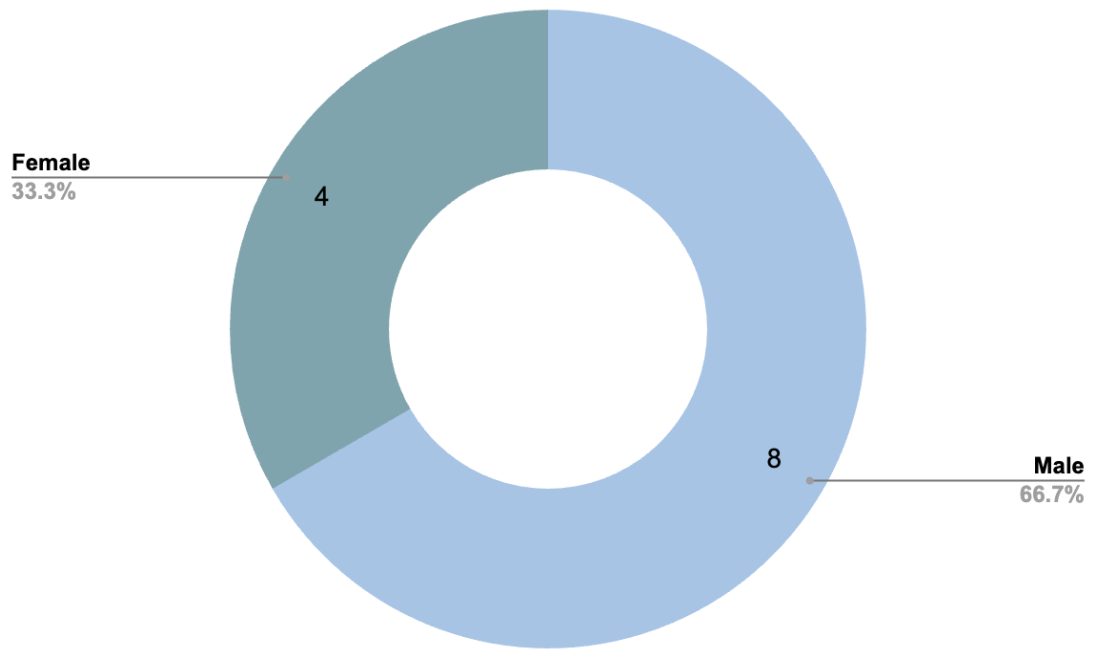
### ETHNICITY



### AGE



## GENDER



## APPENDIX E: INTERVIEW GUIDE

(Do you have questions regarding the interview process or A.I. overview brief?)

1. Think of a time when you've interacted with facial recognition technologies e.g iPhone, passport control, virtual assistants. What was your experience with/ opinions on this type of technology?
2. What do u think of the changes in society caused by A.I. so far?
3. How familiar are you with the uses of A.I. in policing?
4. What are your views on the effectiveness and fairness of policing?
5. What do you think about the use of these types of technology by the police?
6. How willing would you be to engage with policing A.I. vs actual police officers?
7. What would make you more or less willing to engage with it?
8. How would you feel about sharing your data with these A.I. systems?
9. What kind of thoughts or feelings do you experience when you think about the future of A.I. policing?
10. How would you suggest the technology be improved?

## APPENDIX F: RESEARCH PROPOSAL

### **P1) Project title**

An exploration of ethnic minority attitudes and perceptions towards artificial intelligence in Policing

### **P2) Provide a lay summary of the background and aims of the research, including the research questions (max 400 words).**

Artificial intelligence (A.I.) simulates human intelligence through processes such as learning, reasoning, and self correction. But as the implementation of A.I. is becoming more widespread it is becoming apparent that if the data being used to train A.I. is not ethnically representative, the technology may not work as well for some or perhaps even adversely affect these groups. As forms of artificial intelligence such as smart cars and surveillance systems become more prevalent it highlights the distrust amongst many for the technology and minority groups are no exception to this. Concerns over racial bias in A.I. are growing and these issues are receiving increasing publicity, fuelling distrust amongst many including marginalised groups.

This study will consist of attitudinal research into minorities' perceptions of artificial intelligence to gain an empirically-oriented understanding of their attitudes. This study will also highlight ways in which trust in the technology can be encouraged.

My research questions will be:

- What attitudes do minority individuals hold towards the use of A.I. technology in contexts such as facial recognition, security and surveillance and why?
- What actions can developers and researchers of artificial intelligence take to build trust in the technology?

### **P4) Provide a summary and brief explanation of the research design, method, and data analysis.**

I will conduct an attitude measurement survey using standardised questionnaires. The qualitative survey should provide contextual subjective information about their attitudes and perceptions. I will include open-ended questions in my survey so that the participants' answers are not limited to my own categories. I will be using a grounded theory approach to find repeating themes in participants' attitudes towards A.I. and form theories about why these attitudes present themselves. I will start by surveying a small sample of participants and analyse this data to find patterns and form a general hypothesis. I will then survey another sample of participants and assess whether the same patterns occur; if not I will look for new patterns and adjust my theory/hypothesis accordingly. This is an iterative process but over time I should be able to form a theoretical model about attitudes towards AI.

### **P5) What do you consider are the ethical issues associated with conducting this research and how do you propose to address them?**

I don't believe there are any ethical issues with conducting this research

### **P6) Project start date**

The start date will be the date of approval.

### **P7) Anticipated project end date**

01 Jun 2022

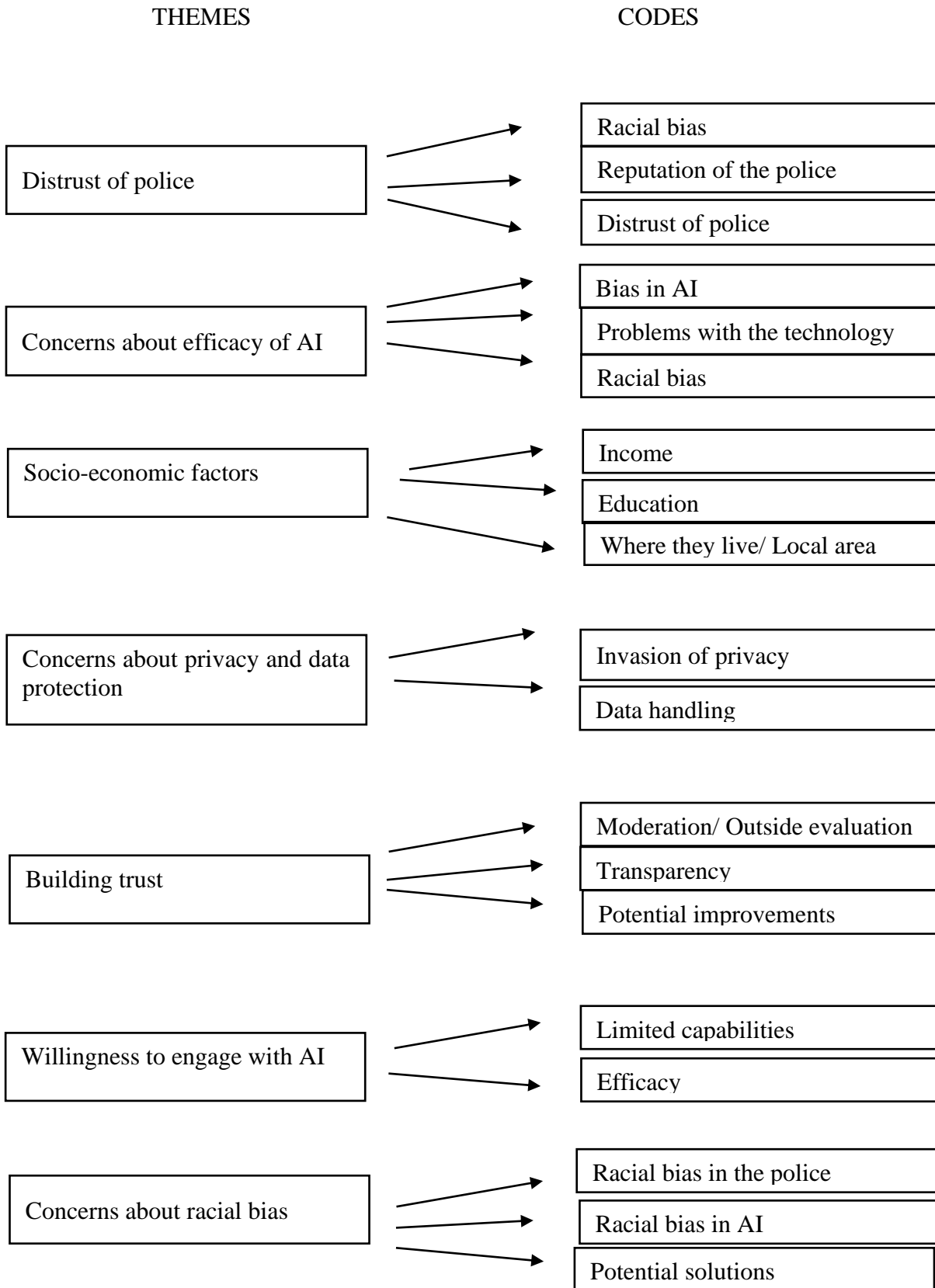
### **P8) Where will the research take place?**

online

### **P10) Is this application or any part of this research project being submitted to another ethics committee, or has it previously been submitted to an ethics committee?**

No

## APPENDIX G: CODING FRAME



## DECLARATION:

By submitting this work, I declare that this work is entirely my own except those parts duly identified and referenced in my submission. It complies with any specified word limits and the requirements and regulations detailed in the coursework instructions and any other relevant programme and module documentation. In submitting this work, I acknowledge that I have read and understood the regulations and code regarding academic misconduct, including that relating to plagiarism, as specified in the programme Handbook. I also acknowledge that this work will be subjected to a variety of checks for academic misconduct. Marks are provisional and subject to change in response to moderation, assessment board decisions and any ongoing investigations of suspected academic misconduct.