**Influence of Racial Stereotypes on Investigative Decision-making in Criminal Investigations: A Qualitative Comparative Analysis**

**Abstract**

Recent research suggests that the police are aware of the general trends in street crime and, from such awareness, tend to form impressions of the likelihood that persons belonging to various racial groups will commit certain types of crimes (e.g. drugs related crimes). Such perceptions may lead to the police undertaking racial profiling, which has the effect of creating a cycle of profiling of suspected offenders, regardless of the accuracy of these perceptions. As such, these cycles of profiling are results of negative stereotypes. The present study involved semi-structured interviews with serving police officers in England, during which the same scenario was put to each of them in turn, only differing in the name of the suspect. We employed an innovative methodological technique crisp-set qualitative comparative analysis (csQCA), which enabled us to identify the causal relationship between variables (i.e. racial stereotypes) and associated outcomes of investigations. As a result, we found two pathways to police officers’ investigative decision-making. Both pathways indicated that any negative stereotypes based on suspect’s group membership may well indeed influence the officers’ investigative decision-making, quite possibly affecting outcomes of criminal investigations. Implications for investigative practice are discussed.

**Keywords:** Decision-making; policing; racial stereotypes; ethnic minorities

**Introduction**

Research concerning whether people possess unconscious racial stereotypes has provided reasons to feel uncertain as to whether people can make impartial decisions about members from certain minority groups (Mears *et al.* 2017, Correll et *al.* 2007, Fazio *et al.* 1995). Such research has also suggested that negative stereotypes that exist against individuals from certain minority groups can have a strong impact on how people behave towards members of these groups. These negative stereotypes are often automatically activated when exposed to individuals of stigmatised groups, which might well potentially influence people's decisions (even if people do not want to be influenced by such negative stereotypes) (Banaji and Greenwald 1995, Devine 1989, Fazio *et al.* 1995, Greenwald 1992, Macrae and Bodenhausen 2000).

Certain ethnic minorities are frequently negatively stereotyped to have characteristics that supposedly make them more inclined to take part in criminal behaviour (Correll *et al.* 2007). Such negative stereotypes may influence how actors of the criminal justice system treat suspects from these ethnic minorities (Lammers and Staple 2011). Decisions made by actors within the criminal justice system (i.e. police officers and judges) can have serious consequences for the people involved. Research has suggested that even imperative decisions are influenced by racial stereotypes (Graham and Lowery 2004). For instance, a police officer’s decision whether to shoot a potentially armed suspect has been argued to be influenced by the suspect’s ethnicity (Correll *et al.* 2007). The present study explores whether, and to what extent, police officers (who may have developed negative stereotypes towards racial groups); (i) use their discretionary authority to act upon such sentiments; and (ii) how such feelings may influence investigative decision-making and criminal investigation outcomes.

**Background**

In recent years, racially biased policing has been a focus of inquiry for media and researchers not only in the UK, but also in the United States and Canada. A number of research studies have reported findings showing disparities in police treatments of ethnic minority citizens and White citizens (e.g. Bowling and Phillips, 2007; Graham & Lowery, 2004; Holdaway, 2017). Research has also demonstrated that negative outcomes in the criminal justice system, from being arrested for a crime to sentencing, occur disproportionately to Blacks than Whites (Blaine, 2011). In the UK, following the publication of Macpherson inquiry report into the murder of Black teenager Stephen Lawrence, the issue of ‘racial profiling’ reached new heights of intensity (Bowling and Phillips, 2007). The report concluded that the over-representation of racial minorities in the national stop and search data led to the ‘clear core conclusion of racial stereotyping’ (Macpherson of Cluny et al. 1999). Bowling, Parmar, and Phillips (2008) note that while the overt form of racial prejudice (e.g. activism within extreme right political party such as British National Party) is rare, but racist beliefs, anti-immigrant feelings, xenophobic attitudes, and racial prejudice have a deep and powerful well-spring on which to draw. More importantly, with respect to criminal justice point of view, if police officers are a cross-section of society, then it could be expected that some may well be racially prejudiced (Bowling et al., 2013). Research conducted on policing (e.g. Bowling et al., 2008; HMIC, 2005; Reiner, 1991) argued that racism and racial prejudices in policing were more widespread and more extreme than in wider society.

Previous research (e.g. Badie 2010, Klein 2001, Nickerson 1998) has suggested that any investigation could be at risk of being subject to confirmation bias. Confirmation bias is described by Nickerson (1998, p.175) as “seeking or interpreting of evidence in ways that are partial to the existing beliefs, expectations, or a hypothesis in hand”. This can include both looking for information that affirms current beliefs, while not looking (even avoiding) information that disconfirms such beliefs (Hill *et al.* 2008). Confirmation bias is believed to persist even after the information that shaped such beliefs has been discredited or withdrawn (Nickerson 1998). When the focus of confirmation bias concerns race, it has been found to result in prejudicial stereotyping (Minhas *et al.* 2017a). In turn, such stereotyping is argued to be one of the major causes of criminal investigation failures (Huggon 2012). Prejudicial stereotyping of individuals and groups emerges in three steps (Casper *et al.* 2010). Firstly, the individual or group is categorized (e.g., on the basis of their race, crime, age, sex, or sexuality). Next, a stereotype is activated automatically and stereotypic expectations are formed. Finally, following the activation of such stereotyping, others’ behaviour will be interpreted in stereotyped terms (Cloutier *et al.* 2005, Taylor *et al.* 1978).

Devine (1989) argued that all individuals, regardless of their intentions to be fair-minded and non-biased, know about stereotypes held about different groups. She further asserted that by internalising such beliefs, a negative emotional response is adopted towards those groups. These well-learned attitudes and responses operate automatically when encountering a member of a stereotyped group, owing to ongoing social representations of such groups (Devine, 1989; Todd *et al.* 2011). In the event that members of any minority groups are consistently exhibited in negative social contexts (e.g. terrorism, dependency, crime etc.), classical and evaluative conditioning processes might well produce prejudiced mental affiliations with members of these minority groups (Walther *et al.* 2005).

Although, there is a significant volume of literature on the formation of racial stereotypes (e.g. Correll *et al.* 2007, Graham and Lowery 2004, Greenwald and Krieger 2006, Lammers and Staple 2011, Todd *et al.* 2011, Ware 2007, Walther *et al.* 2005), there is much less known concerning the relationship between negative stereotypes and police officers’ investigative decision-making. For instance, if a traffic patrolling officer makes a decision to stop a car, then he/she is given various possible actions that will decide the outcome of the stop. That is, if an infringement was observed, an officer can decide between either a greater or lesser charge (e.g. speeding rather than reckless driving). In other circumstances, the police officer can decide on issuing a formal warning or making a custodial arrest. Another alternative is that the police officer could permit the citizen to continue with or without a warning. Police officers can make choices concerning other decisions, for example, checking computer records to search evidence, or conducting stops and searches, all of which reflect the level of discretion that lies with police officers (Smith *et al.* 2006). Graham and Lowery (2004) examined the relationship between unconscious racial stereotypes and decision-making in experimental settings. They found that unconscious racial stereotypes can be activated by criminal justice decision makers and that, once activated, those stereotypes can influence their subsequent judgments and behavioural intentions.

Illusory correlation is a further possible explanation of racial stereotyping by police officers (Smith and Alpert 2007). In brief, illusory correlation is an implied relationship between two classes of events that are either not as associated, or are correlated to a lesser degree than that reported (Chapman 1967). The presence of an illusory correlation between distinctive behaviours and minority communities was initially found by Hamilton and Gifford (1976). These authors suggested that individual subjective reasons for the formation of group stereotypes may reinforce socially transmitted stereotypes. When police officers are exposed to negative behaviours by individuals from minority groups, they may overestimate the predominance of such behaviours, which may reinforce pre-existing racial stereotypes (Minhas *et al.* 2017b, Mullen and Johnson 1990). Smith and Alpert (2007) contend that the racial profiling is probably the after-effect of unconscious racial stereotyping, re-emerging either from differential presentation to group criminality or by an illusory correlation phenomenon. In turn, this may lead police officers to possibly overestimating the pervasiveness of negative behaviours among minority citizens.

The foregoing literature contends that stereotypes are cognitive structures contained within the mind of the perceiver, and they are composed of the perceiver’s knowledge, beliefs, and expectations concerning an identifiable social group (Mackie *et al.* 1996). From this perspective, at the initial stage of abductive reasoning (Fahsing and Ask 2016), negative stereotypes may be triggered when officers make decisions concerning a certain suspect given their pre-existing mental image for the group to which the suspect belongs (Darley and Gross 1983). Abductive reasoning is the first stage of any inquiry in which an investigator tries to generate theories which may then later be assessed (Fahsing and Ask 2016). As such, “abduction is the process of forming explanatory hypotheses” (Peirce 1965, p. 172). This suggests that unconscious stereotypes can be activated in police officers’ investigative decision-making process. Once activated, these negative stereotypes may influence relevant decisions concerning a suspect’s profile and perceived culpability. Hence, unconscious stereotype activation does not appear to require a perceiver to overtly endorse the stereotype (Correll *et al.* 2007).

The present study considers Hillyard’s (1993) first application of the term ‘suspect community’ to the Irish in United Kingdom in the era of Prevention of Terrorism Act (PTA) and its more recent application to Muslims in the global ‘war on terror’ (Pantazis and Pemberton 2009). A suspect community is created in and by the scrutinised imagination and has been argued to have been enacted in a process of ‘othering’, through a range of security practices of counter-terrorism, such as the extension of pre-charge detention (Breen-Smyth 2014). Whether intentional or otherwise, measures such as profiling, hard-line policing, stop and search and surveillance all have the potential to stigmatise, such as that experienced by Irish people during the conflict in Northern Ireland, and now the Muslims in Britain (Awan 2012). A community that is stereotyped as suspects in public discourse and when the state response becomes ever more draconian that inevitably has a damaging effect on the criminal justice system and to the very society that it is intended to protect (Clements 2008). The present study examines whether, and to what extent, police officers (who may have developed negative stereotypes toward members of suspect community i.e. Muslims); (i) use their discretionary authority to act on those feelings; and (ii) how such feelings may in turn influence investigative decision-making and outcome of a criminal investigation. The present study employed an innovative methodological technique, crisp-set qualitative comparative analysis (csQCA), which enabled the identification of the causal relationship between variables (i.e. racial stereotypes) and associated outcome(s) of a criminal investigation.

**Methods**

***Materials and procedure***

In order to explore any effects of suspect community stereotyping on police officers’ decision-making, the present study utilised information gathered via semi-structured interviews, conducted individually with twenty serving police officers from a single police organisation in England. During these interviews the same scenario was put to each police officer in turn, only differing in the name of the suspect (which for one half of the sample referred to an indigenous person from the UK [Scenario A], while the other half was referred to a suspect with an obvious Muslim name [Scenario B]). The following written scenario was presented to officers:

***Scenarios***

You have been required to interview, an adult male named *person,* who is suspected of supplying class A drugs[[1]](#footnote-1). You have one statement from a reliable witness and a small amount of class A drugs was recovered. There is no other previous criminal intelligence available relative to the suspect. You have sufficient grounds under the Police and Criminal Evidence Act (1984)[[2]](#footnote-2) to interview the suspect.

(Where the named person in scenario A is Richard Fisher, and in Scenario B is Muhammad Ali)

The aim of such scenarios was to examine whether the suspect’s name could have any influence on police officers’ subsequent decision-making and what they suggested should be the outcome of the criminal investigation. In response to a given scenario, each police officer was asked to explain: (i) how would he/she prepare and plan the interview; (ii) what would be the possible points to prove; (iii) what was his/her opinion about the strength of evidence presented in the scenario rating it as either strong or weak; and (iv) what would be their suggested outcome of the investigation.

***Participants***

The present research used in-depth interviews with twenty serving police officers from a single force (of which 17 were males). Each interview lasted approximately 45 minutes. All the participants had experience of conducting interviews with suspects (M=8.88 years, SD= 4.96 years). Participants’ ages ranged from 23 to 56 years (M= 36.47, SD= 8.68). All the participants reported receiving formal training regarding the interviewing of suspects.

***Procedures***

Following the completion and provision of an external research application to the relevant police force, the police management assigned an inspector and a sergeant as main contacts to the first author. The police inspector invited the first author to discuss the research aim and objectives. A brief presentation was delivered by the first author and an interview schedule was sent to the first contact who forwarded it to the police management for formal approval. Having received approval from the police and the University, the sergeant (main contact) allocated dates to the first author and arranged meetings with police officers in order to conduct interviews with them. The interviews were conducted between September 2015 and December 2015.

Participants were selected by the police sergeant and inspector. Participant numbers 1-3, 7-9, 13-14, 19-20 (of which 9 were males) were given Scenario A. These participants’ ages ranged from 23 to 44 years (M= 37.5, SD= 7.37) and their experience ranged from 1 to 14 years (M=8.8, SD=4.37). Participant numbers 4-6, 10-12, 15-18 (of which 8 were males) were given Scenario B. These participants’ ages ranged from 26 to 56 years (M= 36.7, SD= 9.49) and their experience ranges from 2 to 16 years (M= 9.6, SD= 5.22). Participants were informed of their right to anonymity and confidentiality prior to beginning the interview. Details of the rank, age, and relevant experience of each officer were recorded. Each officer was asked the same standard set of questions, though where necessary, elaboration and clarification was provided. Transcripts were prepared after each recorded interview, and these formed the basis for examination and analysis of the data.

***Analytical framework***

The present study required an analytical comparison between two set of interviews in order to develop explanatory accounts to identify pathways to officers’ investigative decision-making. As such, a set-theoretic comparative technique – crisp-set qualitative comparative analysis (csQCA) was thought particularly well suited for the purpose of the present study. A csQCA uses systematic and logical case comparisons in order to identify the combinations of logical factors that are unique to an outcome (Ragin 2008), investigating comparatively the conditions under which these combinations of logical factors produced the outcome (Stokke 2007). As such, it is believed to be an appropriate method for the present study as it aims to identify pathways to officers’ investigative decision-making as to whether to charge the suspect with either possession of class A drugs with intent to supplying or only possession of class A drugs (much less serious criminal matter) in response to the given scenario.

***Qualitative Comparative Analysis (QCA)***

QCA, a case-oriented approach was developed more than 25 years ago by Ragin (1987, 2008), and has gained recognition as an accepted methodology in the social sciences (Rihoux and Marx 2013). Recent years have seen a rapid expansion of QCA use in research design, while the methodology is continually expanded and refined (Rihoux and Marx 2013, Rihoux 2013). QCA identify the combination of the explanatory variables that are unique to an outcome (Musheno et al. 1991). It identifies, according to ‘causal regularities’, key combinations of necessary and sufficient properties (i.e. independent variables called conditions in QCA terminology) that lead to a particular phenomenon (i.e. dependent variables called outcome in QCA terminology) (Rihoux and Ragin 2008).

QCA is recognised as being one of the few genuine methodological innovations of the last few decades (Gerring 2001). The QCA builds upon the binary language that George Boolean developed in the mid-1800s, which also forms the mathematical basis of computer technology (Stokke 2007). QCA employs Boolean algebra, which does not manipulate numbers but, rather, systematises logical expressions in order to create a list of the configurations of circumstances associated with outcome. QCA contains elements of qualitative and quantitative approaches, but it is grounded in the qualitative tradition of recognising the importance and uniqueness of each individual case. Unlike conventional statistical methods (based on probabilistic approach) that examine the average effect of an increase or decrease of one variable on another, QCA (based on a deterministic understanding of causality) considers connections between attributes and outcomes in terms of sets and set relationships. QCA strives to be *parsimonious* by discovering the smallest number of combinations of conditions that produce the outcome to be explained (Becker 1998, Soulliere 2005).

The result of a QCA analysis, an explanatory model which contains one or more causal paths to the explained outcome, is based on a constant dialogue between theory and evidence. QCA forces to the development of a model on the basis of theoretical information and selected variables, on the one hand, and empirical information on these variables in the context of specific cases, on the other hand (Marx and Dusa 2011, Ragin and Rihoux 2004, Rihoux 2003). The goal of this systematic comparative case strategy is to “integrate the best features of the case-oriented approach with the best features of the variable-oriented approach” (Ragin 1987, p.84). This approach consists of three central features; (i) the development of an explanatory model; (ii) exploration and discovery of similarities and differences in outcomes across comparable cases by comparing configurations of conditions; and (iii) identification of causal regularities that are parsimonious using systematic Boolean analysis(Marx and Dusa 2011, Ragin 1987, Rihoux and Ragin 2008).

***Crisp-set Qualitative Comparative Analysis (csQCA)***

Ragin (1987) presented csQCA as an approach to the qualitative learning of macro-social phenomena, such as whole societies and institutions. Such comparative analyses are also appropriate and have been applied to micro-social phenomena such as small groups and interactions (Drass and Miethe 2001, Drass and Spencer 1987, Rantala and Hellstrom 2001, Soulliere 2005). The csQCA techniques are based upon the matching and contrasting of cases which eliminate negligible conditions or trivial conditions in order to highlight the minimum necessary and sufficient conditions that can explain the (non)occurrence of the outcome (Ragin 1987). This process of reducing, through Boolean algorithms, complex expressions into shorter combinations of conditions is called ‘minimisation’ (Rihoux and Ragin 2008).

Minimisations can be performed with or without logical remainders. *Logical remainders* are logically possible configurations of causal conditions that researchers do not observe as empirical cases either because they are limited in their selection or such cases do not (yet) exist (Ragin 2004). Subsequently, every possible configuration of causal conditions, according to the conditions considered, leading to the outcome can be analysed. Minimisations with logical remainders lead to parsimonious (‘short’) solutions (Winand *et al.* 2012). Thus, csQCA not only increases the prospect of discerning multiple pathways to an outcome, it also allows the researcher to identify the simple combinations of factors that lead to a particular outcome from the many combinations that are possible (Cress and Snow 2000).

**The implementation of csQCA to present study**

***Selecting outcomes and conditions***

The first step in a csQCA is the selection of outcome(s) and causal conditions (Coverdill and Findley 1995). During the research interviews, every police officer was asked what would be the possible outcomes of the investigation in the light of the evidence presented in the given scenario. Police officers suggested the suspect would be either (i) charged with only possession of class A drugs, or (ii) charged with possession and intent to supplying class A drugs. What leads police officers to make a decision to ‘charge with possession and intent to supplying class A drugs” rather than “charge with only possession of class A drugs’? It was believed that the comparison of these two different outcomes would reveal different combinations of justifications. Thus, the selected outcomes for csQCA for the present study are as follows

***Outcome 1[[3]](#footnote-3):*** *charge with possession of class A drugs (CWP)*

***Outcome 2:*** *charge with possession and intent to supplying class A drugs (CWPIS)*

In order to identify possible causal conditions related to different outcomes, the best approach to identify relevant causal conditions was to ‘let the data speak for themselves’. In this way, relevant causal conditions could be revealed with possible maximum descriptive validity (Britt 1997), which could be cross-checked against the relevant UK legislation (i.e. PACE Act) requirements for the questioning of suspects. Crisp-set qualitative comparative analysis requires a pre-csQCA stage (Soulliere, 2005) that “leans heavily on either theoretical deductions or more standard forms of qualitative data analysis” (Coverdill and Finlay 1995, p.5). In order to identify which possible causal conditions might influence officers’ investigative decision-making, preliminary coding was accomplished through grounded theory methodology (Glaser and Strauss 1967).

***Grounded theory analysis***

Grounded theory is arguably the most rigorous method of providing preliminary or exploratory research in an area in which little is known (Walton 1999). In the present study grounded theory is used to analyse factors which influence officers’ investigative decision-making because it is not theoretically bound; rather, it aims to generate or develop a plausible theory of the phenomenon that is grounded in the data (Braun and Clarke 2006). Grounded theory analyses are intended to find a theory within data (Charmaz 2006). The authors found the grounded theory best suited to current research because of the flexibility it allows in analysing and conceptualising the data (Strauss and Corbin 1998). Since there is not an existing model that delineates the influence of negative stereotyping on investigative decision-making, it was necessary to develop one, in order to identify the causal conditions, which may possibly influence officers’ decision-making.

The grounded theory analysis begins with open coding, a procedure of labeling each line while staying open to discovery and unrestricted by pre-existing theories. Accordingly, the first author went through the transcripts line by line and coded events in order to get at the narrative of the participants in the data. Codes are subsequently grouped into categories and compared to each other in the process of constant comparison method, a hallmark of grounded theory that aids conceptualisation of the data (Glaser and Strauss 1967). The codes produced as a result of line by line open coding were examined for overlap, and then collapsed into broader codes. Some codes were dropped at this stage because they did not relate meaningfully to other codes and, consequently, were not deemed to have core relevance (Glaser 1992). This stage resulted in a smaller number of codes and their properties, which were denser and richer in terms of their conceptualisation of what was going on in the data (see Figure 1 below). The first author used these codes for coding of final four of the 20 transcripts to elucidate the codes and link to each other. At this point, saturation occurred, meaning that no new codes emerged and, therefore, the authors did not seek authorisation from police to interview further police officers and data collection ceased.

In the final stage of the analysis, the codes were further examined in search of the core process that linked them (i.e., steps and processes that were of core importance in decision-making for police officers). These codes were then organised into three main categories. The coded text was extracted, organised by category, and read in multiple iterations using a constant comparison between and within the text to identify the key processes related to the particular steps involved in decision making during and after an investigative interview. The core variable emerged as a statement that best captured what was going on in the data and that could account for the categories identified and the codes within them. The sub-core variables emerged as stages of the core process, incorporating the previous categories and their properties from the analysis.

**Results**

***Categories of codes***

Of the theory developed the core category that emerged is ‘factors which influence officers’ investigative decision-making during an interview’. This core category is able to account for all other codes and categories and so provides an explanatory whole, applicable to all coding. This core theme describes a three-stage process of officers’ decision-making to either CWP or CWPIS to suspects. These three stages include: (i) perceptions about evidence; (ii) points to prove; and (iii) decision to search suspect’s premises under S.18 of PACE Act (1984)[[4]](#footnote-4). The components of this three-stage process are shown in Figure 1.

[Insert Figure 1 here]

***Perceptions about evidence***

When responding to the given scenario officers mentioned evidence that could be used during interviews which included the witness statement and the recovered drugs. Those officers who anticipated the witness as trustworthy perceived that the evidence against the suspect is strong enough to get a conviction for ‘possession with intent to supplying class A drugs’. One officer (13) put it this way,

*“Evidence is quite strong because I’ve got a small amount of drugs and a reliable witness, so, yes, I have got enough to get a conviction for supply”.*

Conversely, officers who stated that they needed to know more about the witness (e.g. what the witness actually saw or whether the witness had any previous associations with the suspect) perceived the evidence strength as weak against the suspect. For example, officer (08) put it this way,

*“It’s very difficult because it does not say what the witness has seen. We have got a reliable witness, but what have they seen, what have they said? It’s difficult that is for supply anyway, I mean, and the amount of drugs is relevant...it’s reasonably weak evidence I would think at the moment, good evidence to possession”.*

***Points to prove***

During the interview, officers mentioned a number of legal points to prove (such as the suspect’s income sources, how much he paid for the drugs, where the money came from, proven drugs ownership, witness reliability, the suspect’s whereabouts at the time of his arrest etc.). It was found that to be able to prove either; (i) only possession of class A drugs **(P)** or possession with intent to supplying class A drugs **(PWIS)** was directly related to the perceived strength of evidence. Officers were more likely to conduct an interview to prove possession with intent to supply if they perceived the evidence strength as strong. For example, one officer (19) stated it as,

*“You have got strong evidence there then it’s so much easier I would say. With little or no evidence then you have got massive bits of doubt in there. I would be hoping for a charge with intent to supply because of the fact that we have got a reliable witness”.*

Those officers who perceived the strength of evidence as weak stated that they would conduct the interview to prove possession only. For instance, one officer (05) encapsulated it as,

*“Well, obviously a small amount of drugs and one witness, so we are not going to be looking at possession with intent, so we are just going to be looking at a simple possession of Class A drugs”.*

***Decision to search suspect's premises under Section 18 of the PACE Act (1984)***

Fifteen of the officers stated that they would seek authority from their relevant senior police officers under Section 18 of the PACE Act 1984 to search the suspect’s home address(s) possibly in order to recover more drugs. It was found that the officer’s decision to prove either only possession of class A drugs **(P)** or possession with intent to supplying class A drugs **(PWIS)** may well be related whether he/she would seek authority under Section 18 of the PACE Act 1984 to search the suspect’s home address(s). For example, one officer (16) stated it as,

*“I would because he’s got class A on him. To me, yes, that’s a section 18. You arrest him and you do a section 18 because potentially he might have some more. Yes, I would section 18 because…”*

**The theory - factors which influence officers’ investigative decision-making**

The perceived strength of evidence is central to the investigative process identified during grounded theory analysis of the research interview transcripts. In this process, the perceived strength of evidence dictates the entire interview structure and further lines of inquiry. The perceived strength of evidence is directly related to whether an officer will conduct an interview to prove either only possession of class A drugs or possession with intent to supplying class A drugs. If an officer perceived the evidence strength as strong then it is apparent that he/she would conduct an interview to prove possession with intent to supply. On the other hand, an officer would conduct an interview to prove possession only if he/she perceived evidence strength as a week. Subsequently, the police officers’ decision about executing Section 18 search may well be influenced by the perceived strength of evidence and points to prove. If an officer conducts an interview to prove possession with intent to supplying class A drugs then there is a distinct possibility that he/she would seek authority from their relevant inspector under section 18 of PACE Act 1984 to search the suspect’s home address(s).

***Trustworthiness of the theory***

A number of measures were taken to limit any bias entering the analysis and to enhance the validity of the theory developed. First, the scenarios were each kept very broad, allowing the police officers to respond to them in their own words (e.g. by asking open questions, rather than asking questions related to the phenomenon that might be seen by them as ones the authors were expected to find). Second, the first author conducted the interviews with police officers who possessed first in hand investigative interviewing experience, (while having substantial knowledge of investigative interviewing, at the time of the study the first author had no practical experience of conducting investigative interviews, which was considered helpful in limiting any preconceived ideas from entering into the research process). Following the coding process of transcripts, the authors invited an independent Ph.D. researcher with an established knowledge of grounded theory analysis to code a randomly selected ten copies of interview transcripts (five from each scenario). The rater provided a formal validity check on the categories in relation to the empirical data. These categories include: (i) perceptions about evidence; (ii) points to prove; and (iii) decision to search suspect's premises under S.18 of PACE Act (1984). The inter-rater reliability of the identification of three main categories was examined using the Cohen’s kappa. It was found that a Cohen’s kappa 0.92 existed between the two sets of scores, demonstrating a strong strength of agreement (Fleiss 1981).

**Causal conditions**

As a result of grounded theory analysis the following causal conditions were revealed, which may possibly influence officers’ decision-making, and ultimately may influence the outcome of a criminal investigation:

1. ***The suspect’s name:*** entails information about the suspect’s name. The scenarios which were given to police officers were either with a suspect named Richard Fisher **(RF)** (Scenario A) or Muhammad Ali **(MA)** (Scenario B).
2. ***Legal points to prove:*** entails information about the legal points to prove suggested by the police officers in response to the given scenarios. In grounded theory analysis to prove either only possession of class A drugs **(P)** or possession with intent to supplying class A drugs **(PWIS)** appeared as causal conditions which may well be contributing toward the outcomes.
3. ***Perceived strength of evidence as strong (SE)*:** contains information about officers’ opinions concerning the evidence. During the analysis of interviews, officers’ opinion concerning the strength of evidence was found as a causal condition, which may be contributing toward the outcome of criminal investigations.
4. ***The decision to search the suspect’s premises under Section 18 of the PACE Act 1984 (S18S):*** the police officers’ decision about exercising Section 18 powers at the suspect’s premises was found as a causal condition, which may also contribute towards the outcome.

***Dichotomous coding and data matrix***

Second task in csQCA is the preliminary coding of all variables implicated in the analysis (Ragin 1987). Since Boolean algebra permits only two values (i.e. 0 and 1), csQCA requires that causal condition and outcomes to be dichotomous. This is accomplished by coding the causal conditions and outcomes according to their presence/absence, or yes/no, or strong/weak.

The dichotomous coding of outcomes was as follows. For the first outcome, that is, a decision to charge with only possession of class A drugs (CWP) was indicated by ‘1’, whereas not to charge was indicated by ‘0’. For the second outcome, that is, a decision to charge with possession and intent to supplying class A drugs (CWPIS) was indicated by ‘1’, whereas not to charge was indicated by ‘0’. Dichotomous coding of the causal conditions was indicated by ‘1’ where these causal conditions were present and by ‘0' where they were absent.

***Truth Table Analysis***

In order to use Boolean algebra as a technique of qualitative comparison, it is necessary to reconstruct a raw data matrix called a ‘truth table’. A truth table summarises the pattern of outcomes associated with the different configuration of causal conditions (Ragin 1987). Essentially a truth table lists the different combination of causal conditions and the value of the outcome variable for the cases coming to each combination. Table 1 depicts the truth table of officers' decisions as to whether to charge the suspect with possession and intent to supplying class A drugs (CWPIS) or charge with only possession of class A drugs (CWP).

[Insert Table 1 here]

The present study utilised software fs/QCA (version 3.0) package for conducting csQCA analysis (Ragin and Sean 2014). A first csQCA (minimisations with logical remainders with software fs/QCA) was performed to match and contrast the selected causal conditions in order to eliminate negligible, redundant and trivial determinants. The process of paired comparison culminates in a list of causal combinations linked to the outcome (Ragin 2010). The fs/QCA software then selects the smallest number of these combinations that will cover all the positive instances of the outcome. The truth table with the six key causal conditions showed no contradictory configurations, but six configurations of conditions for each outcome, each with a unique outcome value. Therefore, these causal conditions might be sufficient, according to the twenty cases, to ‘explain’ the factors which may influence officers’ investigative decision-making.

The end result of the minimisation process is a prime-implicant equation (Ragin 1987). This equation is a shorthand representation summarising the data in the truth table using only the logical essential prime causal conditions (Ragin 1987). As such, this equation provides a powerful basis for interfacing theoretical ideas (Coverdill and Finlay 1995). This equation describes parsimoniously the different combinations of conditions associated with a certain outcome while allowing for logically derived theories about the nature of the phenomenon under investigation (Soulliere 2005).

**Results**

The csQCA analysis of truth table produced the following results which explainthe factors which may influence police officers’ decision as to whether charge the suspect with possession and intent to supplying class A drugs (CWPIS) or charge with only possession of class A drugs (CWP).

***Pathway to officers’ decision to charge the suspect with possession of class A drugs (CWP)***

Using the configured cases, the csQCA analysis of truth table produced the following minimised equations of officers’ decision to charge the suspect with only possession. Pathways to CWP[[5]](#footnote-5):

CWP= RF\*P\*se

CWP= MA\*PWIS\*P\*S18S\*se

CWP= RF\*P\*se + MA\*PWIS\*P\*S18S\*se

Key: RF= Richard Fisher; P= Possession; se= Strong Evidence; MA= Muhammad Ali; PWIS= Possession with intent to supply; S18S= Section 18 search

The above two equations specify, in a logically minimal way, the different combinations of factors that are linked to the outcome CWP. What these equations essentially mean is that possession (P) of class A drugs is a sufficient condition in order for a police officer to charge with possession to the suspect. Because they are logical statements, these two statements for CWP can be factored. As such, this intermediate solution can be factored to show possession of class A drugs (P) is present in both equations:

CWP= P.(RF+MA\*PIS\*S18S\*)

Key: P= Possession; RF= Richard Fisher; MA= Muhammad Ali; PIS= Possession with intent to supply; S18S= Section 18 search

The above expression indicates that police officers may decide to CWP to a suspect if he/she investigated for only possession of class A drugs combined with either; (i) a suspect named Richard Fisher; or (ii) the combination of (a) a suspect named Muhammad Ali, (b) possession with intent to supplying, and (c) execution of Section 18 powers.

***Pathways to officers’ decisions to charge the suspect with possession and intent to supplying class A drugs (CWPIS)***

The analysis again used the coding outcomes presented in the truth table. Using the configured cases, the csQCA software produced the following minimised equations of officers’ decision to charge the suspect with possession and intent to supplying class A drugs (CWPIS). The analysis produced the following pathway to the police officers’ decision regarding CWPIS:

CWPIS= MA\*SE

CWPIS= MA\*rf\*PWIS\*P\*S18S\*SE

CWPIS= MA\*SE+MA\*rf\*PWIS\*P\*S18S\*SE

Key: MA= Muhammad Ali; SE= Strong Evidence; rf= Richard Fisher; PWIS= Possession with intent to supply; P= Possession; S18S= Section 18 search

As in the analysis of CIS outcome, this specifies, in a logically minimal way, the different combinations of factors that are linked to the outcome CWPIS. Because they are logical statements, these two statements for CWPIS can be factored. As such, this intermediate solution can be factored to show suspect named Muhammad Ali (MA) and strength of evidence as strong (SE) is present in both equations:

MA\*SE (PWIS\*P\*S18S)

Key: MA= Muhammad Ali; SE= Strong Evidence; PWIS= Possession with intent to supply; P= Possession; S18S= Section 18 search

What this equation essentially means is that the police officers may decide to charge the suspect with possession and intent to supplying class A drugs if the suspect’s name is Muhammad Ali and police officers perceived the strength of evidence as strong. This equation essentially explains that the police officers will perceive the strength of evidence as strong when Muhammad Ali is present and may decide to charge the suspect with possession and intent to supplying class A drugs. In brief, police officers may decide to charge the suspect with possession and supplying class A drugs and thus they perceived the strength of evidence as strong when the suspect’s name is Muhammad Ali combined, with either; (i) officer investigated points to prove is possession with intent to supplying class A drugs; or (ii) officer decided to execute Section 18 search at the suspect’s addresses.

As indicated in Table 2, of the ten officers who were given scenario A (with the suspect named RF), three perceived the evidence strength as strong, while seven perceived the evidence strength as strong when the suspect's name was MA. Of the ten officers (who were given scenarios B with the suspect named MA), six stated that MA would be charged with possession and intent to supplying class A drugs while only one police officer stated that RF would be charged with possession and intent to supplying. The results also indicated that in the case of MA, all the officers decided to interview him concerning the more serious matter of possession with intent to supplying class A drugs, and the majority of these officers perceived the evidence strength as strong. While six officers decided to interview RF concerning possession with intent to supplying class A drugs, and majority of these officers perceived the evidence strength as weak. It was also found, all the officers decided to exercise Section 18 search (PACE Act 1984) on MA’s address(s), while only half of the officers decided to exercise Section 18 search in the case of RF. Table 2 depicts officers' stated outcomes of the investigation.

[Insert Table 2 here]

**Discussion**

The present study sough to examine whether, police officers who may have developed negative stereotypes toward members of the suspect community (i.e. Muslims) may use their discretionary authority to act on those feelings and whether these negative stereotypes influence investigative decision-making and outcome of a criminal investigation. A fine-grained analysis of research interviews employing grounded theory and csQCA, led to the identification of two pathways to officers’ investigative decision-making as to the outcome of criminal investigations. Six causal conditions were identified as a result of grounded theory analysis of the interview transcriptions, being the basis of two pathways. The first pathway to CWP (i.e. pathway to officers’ decision to charge the suspect with possession of class A drugs) is based on two key causal conditions; (i) officer investigated only possession of class A drugs; and (ii) suspect’s name is RF. The second pathway to CWPIS (i.e. pathways to officers’ decisions to charge the suspect with possession and intent to supplying class A drugs) is based on two key causal conditions; (i) the police officer perceived the strength of evidence as strong; and (ii) the suspect’s name is MA. Pathways to CWP and CWPIS appear to find that the suspect’s name and perceived evidence strength as strong played a key role in officers’ investigative decision-making when considering their lines of enquiry and the legal points to prove.

It was found that more than twice as many officers in the MA case perceived the evidence as strong when compared to the suspect named RF. It appears that officers strived to confirm their initial hypothesis about the case (i.e. how they perceived the strength of evidence), while seemingly ignoring or downplaying conflicting material within the available evidence (Fahsing and Ask 2013). A possible explanation for this could be that such unconscious racial stereotypes may lead actors in the criminal justice system to “focus on a suspect, select and filter the evidence that will ‘build a case’ for conviction, while ignoring or suppressing evidence that points away from guilt” (Findley and Scott 2006, p. 292).

As such, six times as many officers in the MA condition stated that the suspect would be charged with possession and intent to supplying class A drugs than did those in the RF condition. Once the police officers perceived the strength of evidence as strong (to confirm their initial hypothesis that MA is more likely to be involved in supplying class A drugs) these police officers indicated that they would employ more resources to prove his guilt. That is, while only half the sample in the RF condition decided to exercise Section 18 powers, all of those in the MA condition elected for such powers to be exercised. Previous studies have found that confirmation bias towards suspects’ wrongdoing during police interviews led to an ‘accusatorial’ style of interviewing, where police officers used a confirmatory strategy to elicit confessions (Hill *et al.* 2008, Mortimer and Shepherd 1999), which may result in or contribute to false confessions (Kassin *et al.* 2003). Thus, such investigations may well be prone to miscarriages of justice when officers are so fixated upon charging the suspect and are willing to spend more resources to confirm their initial hypothesis concerning the suspect’s wrongdoing.

When comparing the pathways to both outcomes, it was found that the suspect’s name appeared to be a significant factor in officers’ investigative decision-making, when deciding lines of enquiry and points to prove. For example, in the MA condition, all the officers decided to interview him concerning the more serious matter of possession with intent to supplying class A drugs, perceiving the evidence strength as strong. This finding suggests that negative stereotypes concerning certain groups may influence investigative decision-making as, which may result in police officers’ discriminatory behaviour toward suspects from stigmatised groups (Minhas *et al.* 2017a).

In criminal investigations, the initial stage of abductive reasoning involves thorough problem recognition, problem framing, and option generation (Fahsing and Ask 2016). A prominent cause of poor investigative decision-making is the decision maker’s failure to identify all possible alternatives before they start evaluating and integrating information to arrive at a choice (Tversky and Kahneman, 1981). Research (e.g. Graham and Lowery 2004, Smith and Alpert 2007) showed that police officers may not have negative feelings towards minority groups, but they may, nonetheless, base their initial decisions either; (i) on beliefs (regardless of their accuracy) concerning group criminality; or (ii) who is most likely to be involved in crime. In the present study, both pathways suggested that the suspect’s name played a decisive role, which may have resulted in such decision-making. As such, the officers failed to identify all possible choices irrespective of suspect’s name and race, consequently, arrived at choices which were more lenient towards RF than MA. The pathway to CWPIS can be understood as the outcome of a complex causal process that begins with unconscious stereotype activation and may ends with harsher penalties toward suspects from stigmatised groups.

**Limitations and future directions**

The present study has focused on the influence of racial stereotypes on investigative decision-making by exploring crisp-set qualitative comparative analysis (csQCA). The csQCA is, of course, limited by data (Coverdill *et al.* 1994). Grounded theory and csQCA determined six key causal conditions linked with two outcomes, other conditions which may also be affecting the investigative decision-making should not be neglected because they are also a part of the entire investigation process. Also, the limitations imposed by the dichotomous coding of conditions and outcomes may incur a loss of information about individual cases. Nonetheless, Rihoux and Ragin (2008, p.14) suggested that the dichotomous calibration should not be seen as a limitation as it may be necessary to refer “back to the cases with all their richness and specificity”. As such, the fine-grained qualitative analysis of interview transcriptions and narrative through interviews were used to give an interpretation of the results examining the influence of racial stereotypes on investigative decision-making. It is also important to recognise that other variables (for example, police officers’ age, their relevant experience, their gender, their interpretations of evidence presented, and priorities of their police organisation) may also have a varying degree of influence on individual cases. However such variables would not have an effect on the actual results, and understanding of the concerned phenomenon that is, the suspects’ background may influence the outcome of a criminal investigation. Since the csQCA examines the configurations of causal conditions such as the assessment of how multiple influences achieve certain outcomes rather than how much a single variable (e.g. age, gender, experience, or training) influences a dependent variable.

Further, t is also important to recognise that the themes presented in the grounded theory analysis resulted from the authors’ interpretations of the data. These interpretations may be influenced by authors’ biases either against the police or the suspects. However, a strong Cohen's kappa of 0.92 between raters suggested that this might not be the case. Further, officers’ views were gathered on a hypothetical case and it is possible that in real-life situations such judgments might well be different. As such, future research should also be undertaken in real-life environments. The police officers’ responses during interviews may have also been affected due to their training and social desirability (Zerbe and Paulhus 1987), where police officers give conforming responses instead of choosing responses that are reflective of their actual feelings. Nevertheless, despite these limitations, it is argued that the present study offers new insight into the problem of policing stigmatised (stereotyped) communities within the context of criminal investigations.

**Conclusion**

A csQCA, with its holistic combinatorial logic and emphasis on causal heterogeneity, is argued to be advantageous in exploring the complexity of investigative decision-making and in maintaining a dialogue that promotes new ways of thinking. The application of csQCA in the present study revealed two pathways concerning investigation outcomes. These pathways indicated that perceived negative stereotypes (based on suspect’s group membership) indeed may influence officers’ investigative decision-making when they considered their lines of enquiry and legal points to prove. Both pathways suggested that officers may make decisions based on inappropriate stereotyping, which could contribute to an overall different outcome of a criminal investigation when investigating a similar crime (when suspects are from different groups of the community). Recognising the influence of any unconscious stereotypes within the context of criminal investigations could be a starting point for a more transparent and effective policing of stigmatised communities.

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1. In England and Wales the penalties for supplying class A drugs range from up to life in prison, an unlimited fine or both (Powers of Criminal Courts [Sentencing] Act 2000). [↑](#footnote-ref-1)
2. The **Police and Criminal Evidence Act 1984** (PACE) is a legislative framework for the powers of **police** officers in England and Wales which provides codes of practice for detention and interviewing of suspects. [↑](#footnote-ref-2)
3. In England and Wales the penalties for ***possession*** of class A drugs range from up to 7 years in prison, an unlimited fine or both (Powers of Criminal Courts [Sentencing] Act 2000). In contrast the penalties for ***supplying*** class A drugs range from up to life in prison, an unlimited fine or both (Powers of Criminal Courts [Sentencing] Act 2000). [↑](#footnote-ref-3)
4. Under Section 18 of PACE (1984) Act, a police officer may enter and search premises occupied and or controlled by a person under arrest for an indictable offence. [↑](#footnote-ref-4)
5. Following Ragin’s (1987) notation method, the factors within each equation are joined by a multiplication sign (\* signifying AND), within each equation, codes in upper case letters indicate the presence of a factor, while codes in lower case letters indicate their absence. [↑](#footnote-ref-5)