ASSESSING THE DISPROPORTIONALITY HYPOTHESIS IN STOP AND SEARCH PRACTICES OF CAMBRIDGESHIRE CONSTABULARY

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EXECUTIVE SUMMARY

1. A plethora of worldwide evidence suggests that criminalization is facilitated through discriminatory stop-and-search practices[1]. Most studies express a similar concern: young, inner-city, ethnic minority males, are stopped and searched more often, are stopped and/or searched more frequently and arrested more easily - and for longer periods of time - than their white counterparts[2].

2. Paralleling this body of research, which often uses aggregated official criminal records, is another set of studies that focuses on how stops-and-searches are perceived by the suspected parties and the general public. Unsurprisingly, public attitudes and perceptions of inequality are more prevalent by those that are more likely to be stopped and searched – that is, minorities and underrepresented classes[3]. They often understand the "stop" encounter as racially motivated, or at the very least conducted in a way that would probably be different, were the suspect affiliated with the nonminority class. Researchers have shown that such emotions are expressed by those who experienced a first-hand stop and search event, as well as by their peers and families - thus suggesting that vicarious experiences also shape the way stops and searches would be perceived[4].

3. How prevalent are these practices in Cambridgeshire? This is the fundamental question this paper is trying to address.

4. However, the existing model for measuring disproportionality is limited. It focuses on a limited number of stop-and-search outcomes. Most of the work thus far, official and academic, presents straightforward estimates of arrest disparities in stops and searches or incident ratios based on the relative proportion of certain groups in the overall society. This approach seems like an underdeveloped depiction of police work: police encounters include a wide array of outcomes: cautions, reprimands, citations, advices, formal warnings and many other so-called community disposals, whereas arrest is a relatively rare event[5]. These outcomes have generally been ignored. Moreover, arrest is likely to be the poorest indicator of disparity, because it is notoriously difficult to interpret; Are arrests indicators of 'effective' police work, or aggressive social control? We will therefore look at the wider range of outcomes, in order to better understand both the scope and

[1] Bowling and Phillips (2007); Brown (1997); Miller (2010).
[2] Ryder (2009).
[3] Englen and Calnon (2004); Reitzel and Piquero (2006); Weitzer and Tuch (2004).
[4] Barkan and Cohen (1998); Lamberth (1997).
[5] Klinger (1996).

magnitude of disproportionality, in the context of Cambridgeshire Constabulary and potentially as a future model for all police forces.

5. One reason for not being able to expend on the basic model of disproportionality has to do with limited access to important subject-level police records. Access is often granted to filtered records, which are contrived of quantitative stop and search data (e.g., ethnicity category, age and gender of the offender, offence type, arrest/no arrest etc.). However, these databases are limited, because valuable information is only stored locally, usually in hand-written officers' reports. If these local reports are at all computerised, they are often stored as open-text variables, which are difficult to 'convert' into quantifiable and research-friendly variables. For example, the suspect's physical description, the initial grounds that led to the stop, or informal disposals that do not amount to a criminal record, are not registered on national criminal records. In this regard, officers' erroneous suspicions that could not be substantiated with evidence are not recorded on national computers. But they do appear in local, internal records as "no-further-action" (NFA).

6. I was given access to local stop and search recorded encounters in Cambridgeshire Constabulary (n=53,858), which took place between 2006 and 2011. I first coded all the original records on every subject into a quantifiable and measureable database. I then merged these data with the calls-for-service database for that period, to account for geographic and temporal crime patterns. The rich nature of the new database provided a unique opportunity to look more closely at disproportionality. For instance, whereas previous studies looked at a dichotomous "minority"/"nonminority" grouping variable[6], I was able to look at fifteen different ethnic groups and analyse which specific subgroups are targeted more frequently.

7. Perhaps more importantly, previous work on the disproportionality hypothesis focused on answering whether any differences between Whites and non-whites occurred by chance or not. They focused on a dichotomous question of "yes disproportionate stop-and-search" or "no disproportionate stop-and-search". We need to go beyond this and to measure the *magnitude* of this disparity. This analytic approach was carried out herein, using effect size analyses, for each ethnic subgroup, and for a variety of outcomes (arrests, community disposals and NFAs).

[6] Kochel, Wilson and Mastrofski (2011).

8. Noteworthy Findings:

8.1 Most of Cambridgeshire stop-and-searches occur during the spring and early summer, and take place primarily between 8PM-1AM on Thursdays through Saturdays. Based on 53,858 cases, it seems that suspects in these incidents are primarily white skinny men, 23 years old with British passports, which are likely to be called Smith, Brown or Jones. Nearly two-thirds of them are already known to the police for previous offenses. Only a fifth of the stop and searches are on vehicles, which tend to be similar to those cars most frequently sold in England (except White Renaults)

8.2 Stop-and-search encounters are relatively short, usually not more than 5 minutes long. Nearly half are for drug use or drug possession, and officers are correct in their suspicion in about a fifth of the cases (overall success rate of 15%). 93% of these incidents do not result in arrests, whereas most (63%) result in no further action. Informal advices ("don't do it again") are given in 17% of the cases, whereas formal warnings which are aimed at disposing of petty cannabis possession cases are given to 7% of all stop and search cases.

8.3 Under this current model of disproportionality, many of the detected differences can be attributed to chance or sampling error. But they are of practical concern. They are substantially important, particularly when we observe that, at least for certain groups, the differences can be discernible. This is particularly noticeable for some Black groups, who seem to be arrested more often following a stop-and-search encounter, be suspected of wrongdoing without supporting evidence more frequently, and offered informal advice and formal warnings for drugs less often than Whites are. Furthermore, when 'illegal property' (e.g., drugs, 'going equipped', etc.) was detected on suspects in stop and search encounters, 42% of whites receive an informal advice compared to 28% of non-whites. But it is important to emphasise that the differences do not reach even moderate levels and based on the methodological approach taken herein, they do not suggest signs of an institutional bias.

8.4 Minorities are **arrested** more frequently than British Whites; however the overall effect size – that is, the magnitude of the difference between the groups - is marginal. Chinese, Blacks (of any kind) and those that refuse to tell their origin are arrested significantly more than others, but similar trends were not detected for any other minority group. Asian Pakistanis are arrested *less* frequently than whites.

8.5 In terms of erroneous suspicions (**NFAs**), nearly all comparisons are non-significant, except for Mixed Asians and Black Africans on the one hand (more NFAs) and Chinese on the other hand (less NFAs) - when compared to British Whites.

8.6 When looking at **community disposals**, the model shows differences between some of the groups but not others:

8.6.1 Generally, Black minorities are given fewer informal advices and fewer formal warnings than whites.

8.6.2 Asian Pakistanis, Chinese, "other" Asian backgrounds and those that refused to identify themselves were significantly more likely to receive an informal advice than whites.

8.6.3 In most comparisons, Whites were more likely to receive formal warnings for cannabis than non-whites, particularly Black Africans, Travellers, unidentified groups and White Irish.

8.6.4 All other comparisons were not statistically significant.

8.6.5 The overall magnitude of the effect size, across the various comparisons, is small, usually not greater than 0.2 (on a statistical scale where 0.2 is considered a small effect size; 0.5 a medium effect size and .8 or above is considered a large effect size)[7].

9. Why are Blacks treated "worse" than Asians? One line of argument suggests that there are disproportionate levels of disrespect exhibited by black youths towards police officers[8]. Officers are more likely to arrest rather than to deal with a matter informally when the suspects are what they perceive as rude or lacking respect[9]. This was one of the key findings elsewhere[10,11] whereby blacks surveyed appeared to be more hostile to police than any other ethnic group[12]. It is likely that police officers respond to this hostility by being more aggressive. Thus, cultural attitudes towards the

[77] Cohen (1988).
[8] Waddington (1983) in Brogden, Jefferson and Walklate (1988).
[9] Norris et al (1992).
[10] Skogan and Frydl (2004:124).
[11] Smith and Gray (1983).
[12] Brogden et al (1988).

police varied between minority groups, whose view of the police ranged from trusted guardians to bullies, whereas many young blacks viewed the police as almost exclusively as bullies in uniforms[13]. As Webster (2004:70-1) articulated this: *"Asian experience has been differently positioned to the kind of visceral hostility that is more typical of relationships between African/Caribbeans and the police[…]their position in terms of the treatment they receive and their perceptions and experiences of the police tends to fall between those of black and whites or are similar to whites, with African/Carribeans receiving the worst treatment and being most hostile to the police."*

10. Notwithstanding, we must take into consideration the antecedents of such hostility, which historically speaking is not easily unjustified. Formal and informal social exclusion and maltreatment which characterised the past still carry their impact. Nevertheless, the police is only but one social institution in a problematic and complex social, sub-cultural and interpersonal milieu which are to blame for the situation. This paper does not attempt to address these important phenomena but, rather, to deal with the measurement issue of the disproportionality 'practiced-by-the-police' hypothesis. In broad terms, we see that the at least for Cambridgeshire, the magnitude of the effect is relatively small and does not resemble an institutional problem. Still, however, the effect sizes are not negligible.

11. Some argue that stop and search powers cannot be effectively regulated. Critics recommend curtailing this tool altogether after arguing that the police profile and stereotype certain groups and selectively target them. Therefore, the officers should be relinquished of their power to randomly stop and search. However, this recommendation is, in many ways, unrealistic. The police, as a social institution, are founded on the notion that cops should be allowed to scrutinise suspicious characters for delinquent behaviour, when they have reasonable grounds to suspect that there is indeed 'something wrong'. Should an officer ignore cannabis smoke when he smells it? When a group of young adults suspiciously run away when they see the officer approaching them, should the officer not chase them down? Should we ban random alcohol breath checks? Perhaps the answer to all these questions is yes. Unless there is clear evidence of crime, the police ought not to detain people completely. But to suggest this is to ignore the reality of crime and delinquency and the deterrent effect officers (should) have on members of the public. We need officers to be suspicious, and we need them to interact with offenders or prospective offenders and ask them to account for themselves. Stop and search is the vehicle through which this important service is provided. In fact,

[13] Waddington and Braddock (1991).

it is the most important legal way that enables police officers to allay or confirm suspicions about individuals without exercising their power of arrest[i].

12. There might be two approaches that can reduce the use of disproportionate use of stop and search - one procedurally and another operationally. First, stop and search was meant to be used as investigative tool for crime prevention and crime detection on a case-specific basis[14]. However, stop and search is also used to interact with known offenders and to exercise deterrence and control, particularly with groups of young adults, even when no visible offense was observed. This practice should probably be banned, because there is no legal justification for that. Sixty-five per cent (65%) of the individuals who were stopped and searched were known to the police. This is very high and unlikely to be explained by habitual criminality by these individuals. In an ethnographic study it was suggested that seeing someone 'known to the police' holds most currency with officers[15]. These 'usual suspects' are instantly recognized and officers tend to initiate a stop and search more often and probably with low levels of suspicions. "In one example, officers searched a teenager they recognized as a car thief over an hour after a call about joy-riding. The teenager matched the suspect description, but there was no evidence any vehicle had been stolen or that he had anything illegal on him". Thus, we need to limit these cases and train officers to be aware of the excessive false negatives associated with this approach. For example, implementing a procedure in which every stop and search of a known offender is reviewed by a senior commander can not only increase the surveillance of such offenders, but it would force the patrolling officers to exercise more discretion than to round up the usual suspects. Incidentally, this was recommended by the Macpherson Inquiry (Recommendation 61)[16], which called the police to make a written record of all stops.

13. Second, the police should place more emphasis on places of crime rather than offenders. There is a growing body of research as well as an increasing practical attention given to hotspot policing[17]. Studies of hotspots policing which focus on small units of geography, have led to encouraging

[14] Fitzgerald (1999).
[15] Quinton (2010:364).
[16] The Macpherson Report (1999).
[17] Boruch, Weisburd and Berk (2010); Sherman and Weisburd (1995); Weisburd and Green (1995); Braga and Bond (2008).

findings regarding the ability of the police to prevent crime and calls for service[18]. In fact, most of the larger police agencies in the United States now use hot spots policing tactics[19].

14. A few studies have taken neighbourhood-level effects into account in predicting various forms of police discretion and have found with some consistency that disadvantaged and high-crime areas are more likely to experience punitive, enforcement-oriented policing, with all other things being equal[20]. In this respect, how police initiated stops are affected by the geographical location and socio-economic circumstances of the suspects have already been shown[21]. But the focus should be on much smaller geographic units. By focusing on hot places instead of offenders, police legitimacy can be more readily justified and the likelihood of intentional disparity is mitigated by crime patterns. It is okay to conduct *more* stop and searches at high-crime locations, regardless of who is being stopped, because it is far more likely to interact with delinquents at these hotspots. The targeted unit is no longer the person, but the place, so the search is implicitly crime-dependent and therefore can be construed as race-neutral. Of course, if the place itself is populated mainly by people of a certain ethnic group, disproportionality will still exist, however the *justification for being there* will be unbiased. It is not a panacea, but it can potentially provide officers with a stronger argument for conducting the search.

15. Some limitations of the current analysis should be considered. First, the conditional effect of important key variables was not introduced in the statistical model. The current approach may be deemed too robust and perhaps crude, as having a criminal record, finding illegal property on suspects and the rationale for the stop and search were not specified in the model. Future research should incorporate these and other key factors in the equation. Second, as mentioned earlier, we can only analyse what is recorded; we are only aware of the tip of the iceberg as many incidents go unregistered. Lastly, no temporal analyses were conducted; it may be that over time disproportionality was reduced. Future research should look into such changes as well.

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[18] National Research Council (2004).
[19] Weisburd and Braga (2006).
[20] Skogan and Frydl (2004: 189).
[21] Brunson and Miller 2006

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THE DISPROPORTIONALITY HYPOTHESIS

MEASURING DISPROPORTIONALITY

The most prevalent method of accounting for disproportionality in stop and search practices is to look at the ratio of suspects from one ethnic group and to compare it to other ethnic groups (Bowling and Phillips 2007, Brown 1997; Miller 2010; Quinton et al 2000). This approach would usually look at the probability of being stopped and frisked as a function of the suspects' respective population size. For example, in England and Wales, Blacks and Asians constitute, respectively, 2.8% and 4.7% of the population but account for, respectively, 16.6% and 8.7% of stops – so researchers have conclude that the likelihood of being stopped is considerably higher for minorities than it is for persons who are White. Under this formula, Black people in England and Wales are six times more likely to be stopped and searched than whites (Equality and Human Rights Commission 2010). In a similar way, although African Americans made up about 13.5% of drivers on the New Jersey Turnpike and 15% of people who drove above the limit, they made up 35% of those pulled over 73.2% of those arrests (Lamberth 1998; see also Smith et al. 2006). These findings are interpreted as signs of ethnic bias in the practice of stop-and-search, possibly as signals of an endemic "institutional racism" (MacPherson 1999).

While this methodological approach continues to dominate the stop and search literature (Borooah 2011), this disproportionality model is incomplete for at least one major reason: comparability. Looking at nation-wide demographics, to show that the minority-majority ratio of suspects is disproportional, can be misleading (see Gelman et al. 2007). The denominator used in this formula - the total number of people belonging to the particular class or race – ignores the actual demographic makeup of the neighbourhood where the stop and search took place. Indeed, minorities in England and Wales constitute a small fraction of the national demographics - however in some communities they can actually exceed the number of white people.

An alternative method offered in the literature suggests looking at the 'available populations' for stop and search, instead of the national group sizes. This line of research argues that the target populations tend to include larger proportions of people from minority ethnic backgrounds than resident populations (see MVA and Miller 2000; Waddington, Stenson and Don 2004). As Waddington et al

(2004:897) observed, "when we consider the available population, White people are much less evident amongst those available to be stopped and searched." Thus, when changing the denominator – to available populations for search – research does not support the disproportionality hypothesis as forcefully as when looking at the population level demographic makeup. It follows that we should observe the ratio of suspects searched to the group size in the geographic area where the event occurred. However, this approach suffers from different yet as problematic measurement challenges as well. Despite its commonsensical logic, the 'available populations' approach lack practicality. Obtaining accurate estimates of the groups at such resolution, in real time, is difficult. For example, in England and Wales the most accurate data available come from the 2001 Census, which can only provide projected population demographics at this stage. Furthermore, we already know that there are higher rates of street crime and anti-social problems in inner-cities, residential areas and these areas are more likely to be populated by minority groups (Seitles 1998). Likewise, because young adults' centres of activity are usually located very close to where they live (Wikstrom et al 2010), they are far more likely to be visible to police patrols. Therefore, the probability of being stopped and searched 'while being a young minority' in inner cities is far greater, particularly if the police target these areas regardless of these minorities' respective sizes in the overall population.

ARREST AS A PROXY FOR A GOOD SEARCH

A generally accepted method for assessing reasonableness in stops and searches is through arrests. Arrests are meant to serve as a proxy of a "good" stop, or a "return": if an arrest is made, this often means that the officer not only had sufficient grounds to stop a person and frisk him, but the officer was also able to recover evidence such as drugs, paraphernalia or stolen goods. Therefore, arrest is often viewed as a measurement for good detective work (see Borooah 2011:463)[ii].

However, the assumption that an arrest is a measure of effectiveness is not always warranted. First – and in fact directly arising from the disproportionality argument - it is not at all clear that *more* arrests are necessarily better. It is not necessarily the case that there is a causal link between positive search outcomes and arrests. It can, for example, be the case that blacks are arrested more often, while whites would go off with a warning, for a similar offense. Grounds for arrest, beyond the obvious detection of crime-related articles, comprise a complex set of factors, ranging from legal and practical concerns, through officers and victims' safety, to how disrespectful the suspect was towards the arresting officer (Norris et al 1992; Sherman and Berk 1984; Walsh 2006) The interaction between these

factors is quite complex, and while one of these factors can be racial or ethnic character of the suspect, it is certainly not the only one.

More importantly, in an age of austerity most police forces are actually drawn away from using arrests and try to divert as many cases as possible to a growing number of community-led and on-the-spot disposals. The use of cautions, warnings and quick citations is increasing, and it is likely to be used in more cases and on more suspects – unless arrests are absolutely necessary. Currently less than 10% of UK stop and searches result in arrests. Thus, by looking at arrest rates only, we are missing a large piece of the puzzle: if ethnic or racial biases do exist, they ought to be visible in other outcomes as well, possibly with even higher rates.

DISPROPORTIONALITY AGAINST WHOM?

Previous studies included one or two minority groups in the analysis of racial or ethnic bias in stop and searches. These groups are usually blacks or Asians[iii] in the United Kingdom, African-Americans and Hispanics in the United States, non-residents in European countries, or Jews and Arabs in Israel (Hasisi and Weisburd 2011). As reviewed earlier, stop and search frequencies are normally measured *between groups*, so any differences in the search rates are attributed to the disproportionality hypothesis. More complicated analyses regressed the rates against other key factors, such as certain suspect attributes (age, gender, etc.), and the type of offense (traffic violation, drug use, and the like). In all studies, however, one nonminority group was compared to no more than one or two groups (see for example, Farrell and McDevitt 2010).

However, aggregating subgroups of ethnic minorities - which are otherwise culturally and perhaps socially discrete from one another - lacks the necessary precision. Collapsing all Latin Americans onto one category of "Hispanic", for example, creates unnecessary noise, because not only are there differences between these various nationalities (where in some cases the only thing that binds them together is the fact they come from south of the US border), but there can be biases against certain Hispanic groups, but not against others (Gimenez 1989). Similarly, collapsing black Africans, Black Caribbean, and mixed Black-and-White backgrounds as a "blacks", or Pakistani, Indian and Bangladeshi as one "Asian" group, or all non-resident subjects as a group of "foreigners" seems counterproductive and in many ways counterintuitive. Instead, we should look more closely at more specific subgroups of individuals.

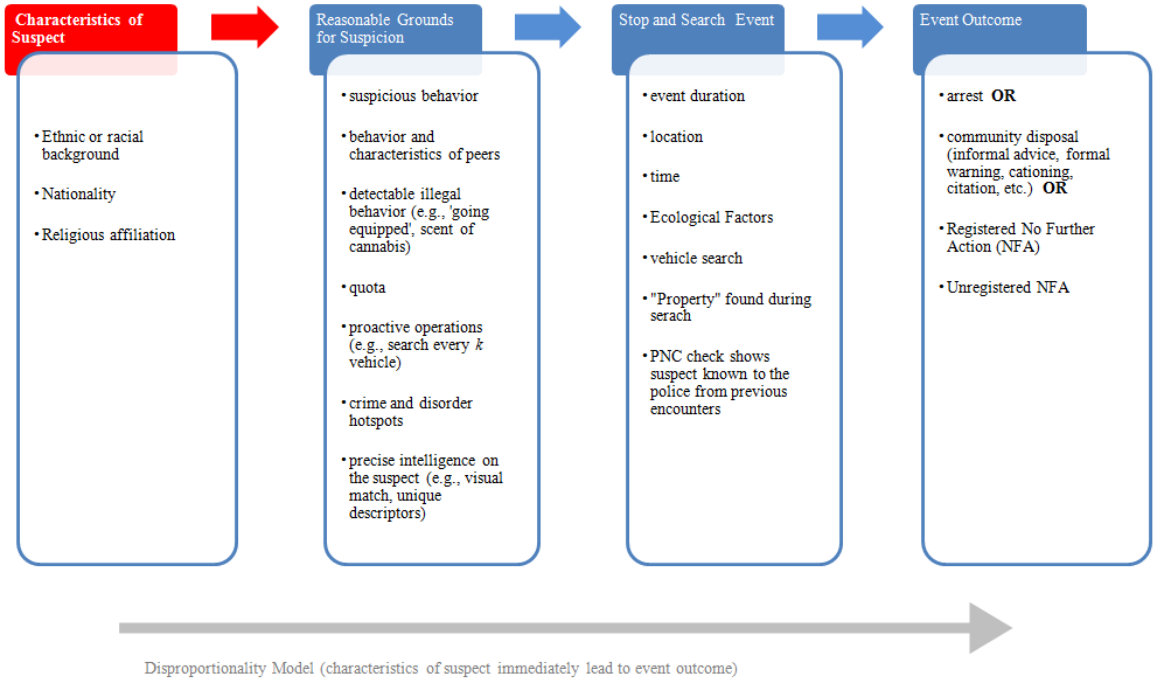
THE PRESENT MODEL - MULTIPLE OUTCOMES

When police interact with suspected offenders, there are four possible outcomes to the event (shown as the box on the right in Diagram 1 below): a) arrests, b) alternative-to-arrests in the form of a community disposal, c) a registered no-further-action, and d) unregistered no-further-action. Police forces in most western societies utilize a plethora of "disposal" outcomes. Thus, citations, cautions, informal advices, final warnings and reprimands are far more common than arrest. We ought to look at disparities in these outcomes as well, particularly whether more severe disposals are used more frequently with minorities.

No-further-actions (NFA) are likely to represent the most important outcome and they have generally been overlooked in previous stop and search studies. These are erroneous suspicions that result in no further action against the suspect following the stop and search. While this does not mean that a charge cannot be brought later if more evidence is discovered, in nearly all cases it is the end of the matter. Thus, NFA serves as a direct signal of perceived wrongdoing when in fact there was nothing to substantiate this perception with sufficient evidence.

Equally important, comparing stop and search *outcomes* avoids the measurement problems discussed above. In the context of disproportionality, if *no* racial and ethnic bias existed, then the number of unsubstantiated suspicions should be evenly distributed between the various groups. Similarly, the number of advices or warnings should be the same for different ethnic groups; in a bias-neutral world, the decision to dispose the case in a certain way ignores the racial profile of the suspect and would therefore lead to similar rates. Alternatively, there should be *more* false accusations or *fewer* informal advices given to minorities, if there were racial and ethnically-motivated searches.

Diagram 1:



MULTIPLE ETHNIC AND SOCIAL GROUPS

As discussed above, aggregating several nationalities or ethnic backgrounds under one or two unified categories of ‘minorities’ such as ‘Latinos’ and ‘Blacks’ lacks the necessary specificity. There can certainly be cases in which one particular subgroup of Asians, for example, would suffer more prejudice than others. It can also be the case that some subgroups are treated *better* than nonminority groups (see Webster 2004), so collapsing all minority groups together creates unnecessary heterogeneity.

TESTING THE PRESENT MODEL – CAMBRIDGE CONSTABULARY

SETTINGS

In order to test the new disproportionality model, all 53,858 stop and search cases from Cambridgeshire Constabulary that took place between 01.2006 and 08.2011 were analysed.

Cambridgeshire Constabulary experiences around 55,000 recorded crimes per year within the context of England and Wales' 4.1 million crimes per annum (Home Office 2012)[iv]. Theft offenses of various sorts account for nearly 40% of all crimes, 15% are violence crimes, about a fifth are criminal damage and just fewer than 3% are drug offenses. Still, 57% of the Cambridgeshire Constabulary residents are satisfied with the police, which is no different than what most British think about their local police forces.

Cambridgeshire Constabulary employs around 1,600 sworn officers and Police Community Support Officers, to cover an area of over 3,500 km^2 and a resident population of around 700,000.

DATA

Two databases were merged for the purpose of this study. One database consisted of 53,858 individual cases of stop-and-search police records. These reports cover three layers of data: suspects' characteristics; stop-and-search event characteristics; officers' grounds for suspicion and incident outcomes. These handwritten reports are filled out by the officers when they stop and/or search individuals. However only a portion of these cases - ones that result in 'significant outcomes' (i.e., arrests and formal warnings) – are lodged on to the police national computer. Most, however, are kept within a local registrar; these include cases that resulted, for example, in informal advices (e.g., "*don't let me catch you again*"), no further actions, or incidents in which the parents of the young offender are informed of their young children's delinquent behavior.

The second database consisted of ward-level crime figures, to account for the overall crime and anti-social behavior patterns for each year of the study, in each of Cambridgeshire Constabulary' cities and towns.

The stop and search database included primarily qualitative data that needed to be recoded and reconfigured, in order to be assessed quantitatively. Most variables were in open-text forms, and a great deal of time has taken to clean up the database and create manageable and measurable variables. This is a recurring issue with studies that rely on official police records: police's crime recording culture is not research-friendly. This is probably a global phenomenon; Police records are often designed to give the

police quick and dirty, case-specific, operational answers. The Cambridgeshire Constabulary stop and search database was no different. Two variables exemplify this problem the most - suspects' names and stop-and-search location– although similar challenges were encountered for most variables.

For reasons that go beyond the scope of this paper, UK citizens are not recognized by the police (and most other social systems) with personal identification numbers. Instead, name, date of birth and current living address serve as the primary indicators for identity. This system presents serious challenges when trying to both collect and retrieve data on individuals: free-text boxes are used for the suspects' name and home address, and this introduces not only potential human error problems in accurately recording the information, but also inconsistencies that make it very difficult to analyse the data. For example, John Smith, born on January 1st 1990 who lives in 101 Main Street postcode AB1 2CD, can be recorded as "Jon Smith, 1/1/1990, 101 Main Street AB12CD", "Smith John, 01/01/1990, Main Street 101 AB1 2CD", "John Smith, Jan 11, 1990, 101 Main Street AB1 2CD", and so forth. Because most computer software programs – especially those used by the Police - are not equipped with sophisticated algorithms that would recognize all these combinations as the same individual, discrete files are created for each entry, even though they are all meant to correspond with the same person. Moreover, if Mr Smith moves to a new city, or tells the police that his name is "Smith John" then tracing John would become even more difficult. In the context of the stop and search database, multiple entries for the same individual mean that the police – and researchers - are struggling to assess how many unique offenders were actually stopped and searched. It is not without reason to assume that many suspects were repeatedly searched, however, without a case-by-case audit and cross-tabulating between several variables, accurate assessment becomes too difficult.

Another example for this data-recording problem is geographic information. We are growingly recognizing the importance of places in the context of crime and delinquency (Eck and Weisburd 1995; Sherman, Gartin and Buerger 1989). Especially with the advancement of sophisticated mapping tools that tell us where crimes occur and how they concentrate and disperse on the physical terrain, place-based criminology is on the rise. For example, the 'evidence-based hotspot policing' enterprise (Sherman 1988; Sherman et al 1989) replies on being able to accurately and precisely pinpoint crime concentrations – down to the resolution of a street intersection or a small block of roads no greater than a 100 meter radius. However, recent work has shown that many hotspots are erroneously defined and many others are missed out, due to inaccurate or imprecise police records (Caddick 2012). The problem is even more concerning for non-U.S. towns. For example, England's City of Manchester, Birmingham, London and Cambridge, all have street layout structures that are quite 'messy', in comparison with the

Manhattan grid system. This spatial street composition makes it challenging to identify where incidents have occurred. Instead, it is common in England and Wales to talk about postal codes when specifying locations. However postcodes are not precise enough, and are not always known - for both the victim reporting the incident, for the dispatcher who needs to deploy officers to the scene, as well as for the officer conducting a stop and frisk (Ariel and Sherman 2010). This is especially the case when the 'stop' took place in rural areas in which a postal code could cover a great deal of land. Only a manual audit of each address and then searching for mappable coordinates was able to overcome these problems, particularly when the raw data were recorded in free-text boxes.

VARIABLES

DEPENDENT VARIABLES

a) Arrests

One primary outcome variable is whether the suspect was ultimately arrested by the searching officer. Arrest is defined loosely, as any outcome which resulted in the suspect being taken into custody following the stop and search event. In this sample, 7.1% of the all cases resulted in an arrest (n=3,085).

b-c) Community Disposals: formal warnings and informal advices

As discussed above, most stop and searches in which some wrongdoing was detected resulted in community disposals - 28.8% to be exact, four times more than arrest. There is a long list of disposals - including formal warnings, informal advices, citations, reprimands, cautions, and the like - that do not result in the offender being taken into custody.

These community disposals are issued when the severity of the offense (e.g., small amount of cannabis) or the characteristics of the offender (e.g., first-time offender or underaged) justify a somewhat less punitive response. In this study, attention will be given to two types of disposals: informal advices (16.5%) and formal warnings (7.3%), while disregarding other disposals because they are far less frequent (2.6%).

It is important to note that formal warnings are registered as criminal records and will show up on the Police National Computer (PNC). These disposals are meant to be administered to first-time offenders for possession of small quantities of cannabis. The legal ground for warnings is found in Home Office Circulars and they may be cited in court should an offender later be convicted. In this sense, they are de-facto sentences (Bell 1997). On the other hand, informal advices (as well as no further

actions) are not part of the national police registry and would normally only show up in extreme cases in which a more enhanced criminal records search is conducted (e.g., jobs involving minors), which looks into local police records. These databases are often not accessible to researchers[v].

In practice, the decision to apply formal warnings or informal advices is case-specific and is less guided by national policy. When we look at the database, we see that there is no mean age difference between those who receive the warnings and those who receive advices (22.6 and 22.3, respectively), or gender difference either. Likewise, while formal warnings are tailored specifically for cannabis possession (94%), we find a similar number of informal advices given for cannabis possession as well (3,822 and 3,561 respectively)[vi]. Thus, officers can use their discretion to decide whether advice or a formal warning will be more effective.

d) No Further Action

Most stop and search case end up as NFAs (n=34,077; 63.3%). NFA in the context of police work should not be confused with no-further-actions following arrests or prosecution. NFAs-following-arrests are cases in which there was evidence to substantiate guilt but, for public policy reasons (e.g., limited resources to prosecute all cases, decision to target certain offenses but not others, etc). A record is registered, but no other action is administered beyond the processing of the offender through the system. On the other hand, police-NFAs are cases in which the officer was not able to pursue the case any further beyond the preliminary encounter, as no evidence to substantiate the suspicion was found in the search.

Examples from the database include offenders who "*match description of males stealing bikes";* o*r "seen at location known to be used for drug misuse*;" or "*vehicle stopped by officers; strong smell of drugs, cannabis type smell*." The majority of NFA cases were of a similar nature. In these incidents, officers were suspicious enough that the case merited a stop, but the frisk – because of faulty intelligence or misread signals - did not result in any 'positive outcomes'.

INDEPENDENT VARIABLE

The primary variable that will be used to explain stop and search outcomes (i.e., arrests, formal warnings, advices, and NFAs) is ethnic background. Unlike previous studies, a more detailed categorization of suspects will be explored: instead of the three groups of "British Whites", "Blacks" and "Asian", all known ethnic groups will be assessed.

STATISTICAL PROCEDURE

The magnitude of the disproportionality between the minority suspects and the British White suspects in Cambridgeshire Constabulary, under the traditional model will be measured. Effect size analysis is the most appropriate methodology for this approach (Fig. 4-7). Standardized mean differences (SMD; Cohen 1988) will be computed for each of the four outcome variables (arrest, no-further action, formal warning and informal advice). Because the raw outcome figures were recorded as binary ("yes"/"no" arrest; "yes"/"no" warning, etc.), the log odds ratio will be calculated first for the comparison between the groups and then converted into Cohen's *d* values, weighted by the inverse of the variance of the effect size. Cohen's (1988) criteria for assessing the magnitude of these effects will be used, wherein effect size = .2 is considered a small effect size, effect sizes of about .5 to be medium, and effect sizes of .8 or higher to be large. This interpretation scale is common in studies using effect size analyses in criminal justice research (e.g., Ariel 2012; Lispey 1990).

RESULTS

DESCRIPTIVE STATISTICS

1. Characteristics of the Stop and Search Encounter

a) Temporal Analysis

Over the years, there has been a steady increase in the number of stop and searches in Cambridgeshire Constabulary, from around 7,000 incidents per year to nearly 14,000 per year in the first eight months of 2011 alone. Some periods experienced more stops and searches then others, with 2007 and 2011 being relatively higher than other years. Given these two year modes, it is difficult to predict whether the increase will continue over time, as measured by the relatively low R^2 (0.3) which is used here to determine the reliability of the trend and accuracy of the temporal forecast. These, and all other descriptive statistics, are listed in Table 1 below.

Similarly, stops and searches have occurred more frequently during the spring and early summer months, but less often in September and December; they were also more likely to take place on weekends, and peaked between 9-12PM. Some hours experienced no stops and searches at all (2-4PM).

b) Stop and Search Duration

Overall, the stop and search experience is relatively short, with ¾ of cases occurring in less than 10 minutes and 44% are less than five minutes in duration.

Table 1: Stop and Search Suspects and Event's Characteristics

Suspects' Characteristics		Events' Characteristics	
Age (men)	23.0 (9.5) n=49,048	3 most frequent stop and search months	April = 9.9%
Age Women	22.8 (9.9) n=4,306		May = 9.3%
British-White	84%		June = 9.5%
British Nationality	82%	3 least frequent stop and search months	Sep = 5.7%
			February = 7.9%
Criminal records	65%		August = 7.6%
Average height	175 cm	3 most frequent stop and search days	Thursday = 15.3%
Build (skinny)	63%		Friday = 18.8%
Build (large and overweight)	5%		Saturday = 15.7%
		3 least frequent stop and search days	Sunday = 10.8%
			Monday = 11.1%
			Tuesday = 13.4%
		Hottest hours	9-12PM
		Coldest hours	2-4PM
		Vehicle Searches	12,000 (22%)
		Vehicles Searched more than once in six years	27%
Top 5 last names	Smith, Brown, Jones, Hussain, Taylor (collectively (7.4%)	Top five Vehicle makes (UK national sales)	Ford =22% (1st) Vauxhall=14% (2nd) Peugeot (7.7% (4th) VW=5.5% (3rd) Renault = 4.5% (--)
		Top five vehicle color (UK National sales)	Blue=19.2% (1st) White=17.0% (- -) Silver=15.1% (2nd) Red=13.9% (4th) Black=10.7%) (3rd)
		Suspicion of drugs	48% of all cases (n=24,646)
		Property" found in search	14.6%
		Overall arrest rate	7.1%
		Arrest rate for white British	6.8%
		Community Disposals	Advice = 16.5% Formal warning = 7.3% FPND = 0.8% GAP = 1.6% Other = 2.6%
		No Further Action	63.3%
		Outcomes (arrest)	Drugs=47% Stolen Property=24%
		Outcome (community disposals)	Drugs = 81% Stolen property = 7%

2. Characteristics of Suspects

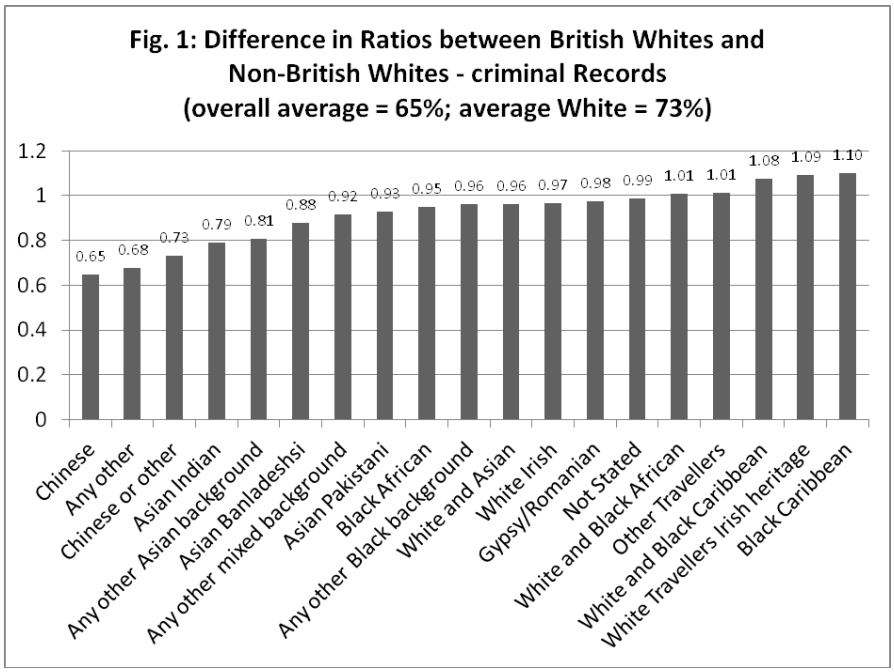
In every stop and search encounter, the police collect information on suspects' personal characteristics, such as date of birth, gender, home address, name, ethnicity, nationality and whether or not they were known to the police. In addition, the police also collect the officers' observations of the physical attributes of the suspect such as height, weight, hair color, unique characteristics, as well as apparel. These figures are summarized in Table 1 above.

Out of the 53,858 suspects who were stopped and searched in the analysed period, 48,513 were men. There is no statistically significant difference between men and women in terms of age ($t(4,965)=-1.608$; $p=.108$), with both groups peaking around the age of 17. This resembles the well-known age-crime distribution found in previous studies (e.g., Farrington 1992).

Suspects were asked by the police which ethnicity they define themselves as. Around 85% viewed themselves as either British or Other White background. Caribbean, African, Black and mixed ethnic background with a 'black' component comprised 4.3% of the entire population, with Pakistanis being 3.3%, and unstated backgrounds comprising 2.8% of the entire sample. These and other ethnic groups are listed in Table 1 as well.

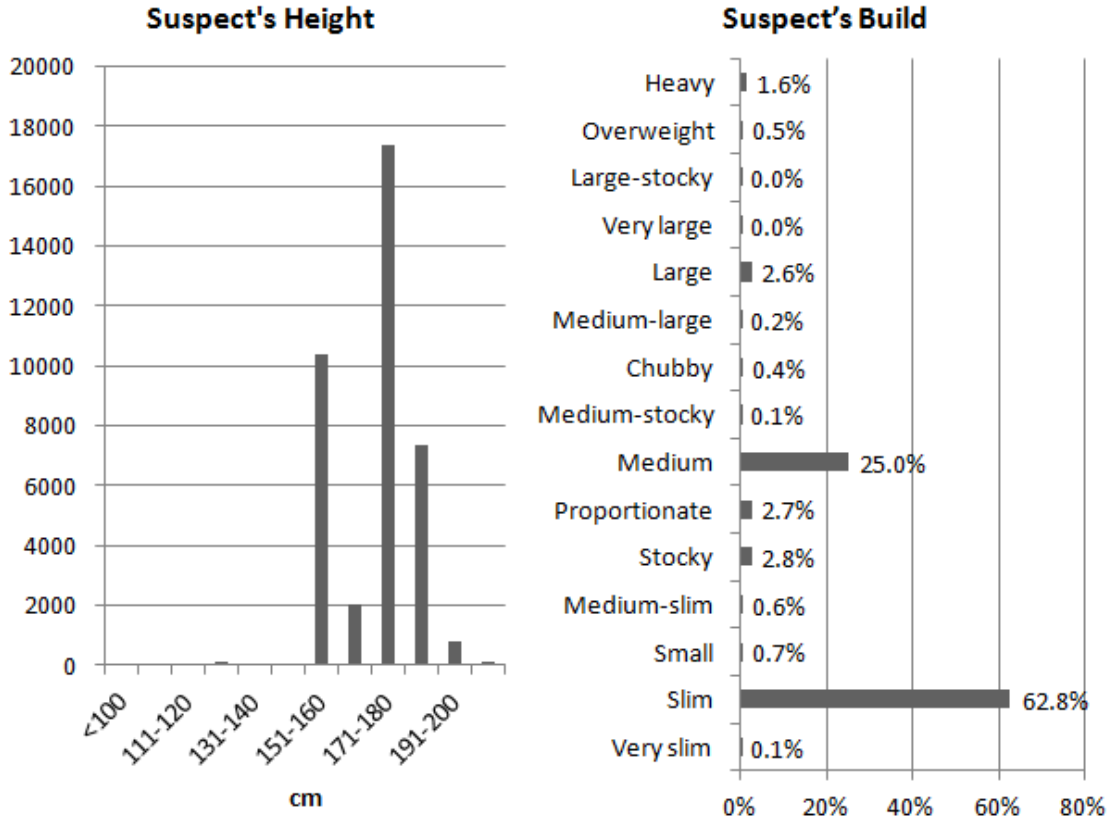
The police also inquired into the suspects' nationality: 82% held British passports, with Lithuanians (3.3%), Polish (2.7%), Latvians (1.3%) and Portuguese (1.3%) forming the most prevalent minority nationality groups.

Sixty-five percent of the total sample was already known to the police when they were stopped by the police, meaning that they have already had some prior contact with the police. Only 27% of the British White subsample have had no criminal record prior to the stop and search incident. This comparison is presented more clearly in Fig. 1 below, where the raw proportion of participants within each ethnic group that have had a criminal record is shown and contrasted with the proportion of British Whites with a criminal record. A score of "1.0" or higher means that more Whites have had a criminal record compared to the minority group, while anything below that ratio means that more minorities have had a criminal record. Only five groups (White-and-Black Africans, travellers, White-and-Black Caribbean, White Travellers with Irish heritage, and Black Caribbean) had higher rates of criminal background than British Whites, with all other ethnic groups falling below Whites. Chinese and Indians have had the lowest proportion of known offenders to the police.



Information on the recorded physical appearance of suspects shows just how difficult it is to provide a unique description of suspects (Fig. 2a-2b). Unless the suspect 'stood out' in the crowd (e.g., very overweight, very short or very tall, long ginger hair, etc.), it become very difficult to differentiate individuals by their appearances. This finding sits squarely with a growing body of evidence on people's (in)ability to give accurate details on criminal events, or life's experiences more generally (see Baddeley 1997: 206-7). For example, the top 15 categories of hair colour were so close to one another that only individuals with shaved heads or blond hair are likely to stand out in the crowd.[vii] Similarly, only a small proportion of individuals have had distinctive builds (e.g., obese or very skinny) or heights (very short or very tall), while most suspects were of average height (171-180 cm), skinny (63%) or medium build (25%). Interestingly, the weight distribution of stop and search suspects does not resemble the current national England and Wales average build, where more and more adults and young people are overweight (McPherson et al 2011).

Fig. 2a-2b: Suspects' Physical Appearance



In terms of the suspects' last name, the most common were Smith (1.9%), Brown (.6%), Jones (.5%) and Hussain (.5%). Out of the top 15 top last names, 20.6% had non-traditional English family names (i.e., Khan, Ahmed, Ali and Hussain).

Lastly, just over one fifth of all stop and searches were on vehicles. Most cars were stopped only once in the 6 years of data, however 17.1% were pulled over twice, and 9.9% were pulled over three times or more. Car make and car color usually resemble national vehicle sales in England and Wales, except White cars and Renaults, which are in the top five categories of vehicles stopped and searched in Cambridgeshire Constabulary, but are not very popular nationwide (Table 1).

3. Crime Types and Grounds for Stop and Search

Table 2 lists the reasons officers gave for stopping and searching individuals. In essence, this record provides the grounds for legally frisking people. Several patterns emerge.

First, nearly half of the stops are associated with illegal substances and, most commonly, with cannabis. Officers either directly witnessed use of drugs, smelled aroma or observed illegal paraphernalia associated with drug use, or deducted from the suspicious behavior of the suspects that he or she was using drugs. In a similar matter, "going equipped" – i.e., suspects who were seen or caught with tools used for burglary or robbery[viii] - accounted for nearly 25% of the reasons officers gave for stopping suspects. Stolen property (17%), offensive weapons (6%) and criminal damage (3%) are also noteworthy.

Table 2: Authority for Stop and Search, Success Hit Rate in Finding Paraphernalia Associated with Illegal Behaviour and Event Outcome

Grounds for Search	Incident Count (out of 53,858)	"Property"* Found in Search	Proportion of Cases resulting in arrest	Proportion of cases resulting in non-arrest disposals
Drugs	24,646	20.41%	47.1%	80.5%
Firearms	399	18.80%	1.0%	0.8%
Terrorism	21	16.67%	0.1%	--
Other	1564	12.28%	0.8%	2.7%
Stolen Property	9,176	11.26%	24.2%	6.8%
Fireworks	399	9.28%	--	0.1%
Offensive Weapons	3,463	8.23%	7.3%	1.7%
Criminal Damage	1,291	6.89%	1.1%	1.0%
Going Equipped	13,007	5.98%	18.5%	6.3%
Violence	191	4.19%	0.1%	0.1%

* objects found not necessarily associated with the recorded reason for suspicion

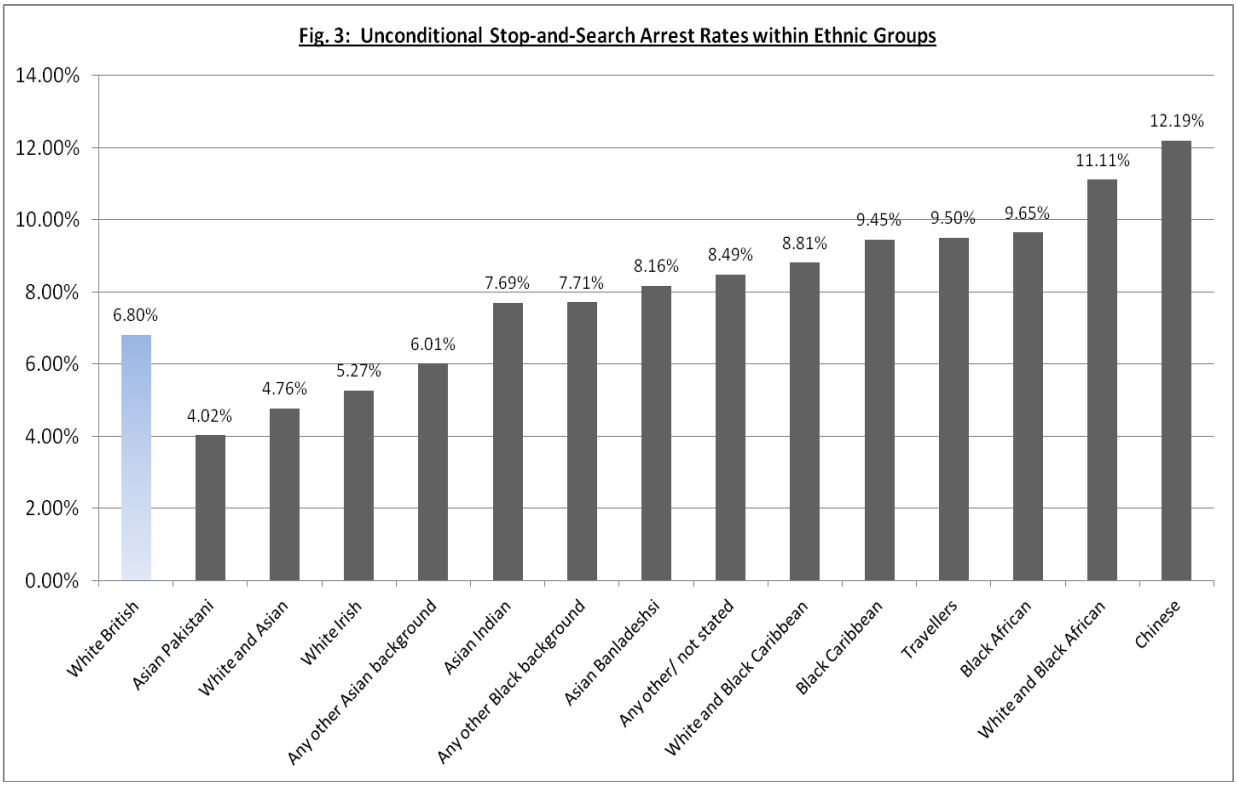
In terms of illegal property discovered – for example, stolen goods, drugs, firearms or equipment used for burglaries – the police had an overall 14.6% hit rate. They are more 'successful' with detecting drug offenses (20%), firearms (19%) and stolen property (11%), than other offenses.

4. Arrests

Table 2 further indicates that, of all the search cases that ended up in an arrest, 47% were for drug offenses, followed by stolen property (24%), going equipped (19%) and offensive weapons (7%). Similarly, of all the possible non-arrest disposals (e.g., advice, cautioning, formal warnings, etc.), drugs

were again the most prevent category (81%), followed by stolen property (7%) and going equipped (6%).

Figure 3 presents the raw figures for arrests for each ethnic group. The figure shows that with the exception of Asian Pakistani, White and Asian, and White Irish, British Whites are arrested less frequently than any other group. Chinese are almost twice as likely to be arrested as White British. What remains to be established is whether this difference is statistically significant and whether it is masked by the moderating effect of other variables.



MAGNITUDE OF DISPROPORTIONALITY

Figures 4-7 below present forest plots for the magnitude of the difference between British Whites and other groups, in terms of the stop and search outcomes. Each point estimate represents the magnitude of the difference between a minority group and Whites. Anything to the right of the null line (0.00) implies that the difference "favors" the Non-British Whites group (meaning that more arrests were made with white suspects), and point estimates to the left of the null line indicates that the Non-white group experienced less arrests. The further away the point estimate is from the null line, the larger the magnitude of the difference. Horizontal lines that cross the point estimates represent the confidence intervals, and when they cross through the vertical null line, it indicates that the effect is not statistically significant.

1. Arrests

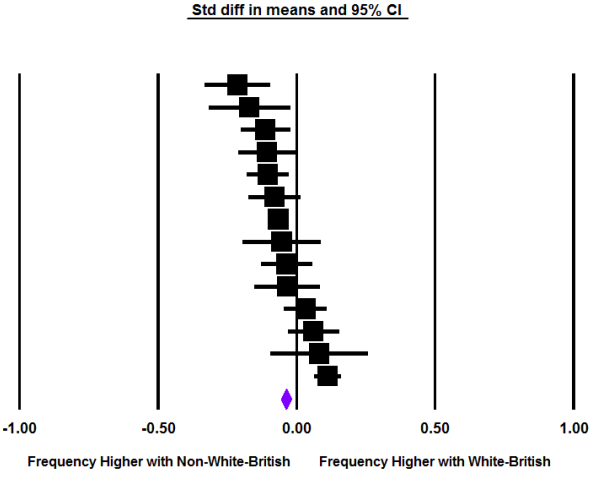
Fig. 4 presents the comparison between British Whites and nonwhites in terms of arrest rates. The direction in most point estimates is usually towards greater likelihood of arrest for nonwhite suspects. However, the overall magnitude of the difference is very small, with half the comparisons not meeting generally-accepted statistical significance threshold of .05. This was not the case, however, when looking at Chinese, White-and-Black Africans, Black Africans and Black Caribbean and unstated ethnic backgrounds - which were significantly more likely to be arrested than whites (yet still small effect sizes). Asian Pakistanis were significantly *less* likely than whites to be arrested.

Fig. 4:

White British vs. Non-White-British - Arrests (Unconditional Disproportionality Model)

Groups	Outcome	Std diff in means	Variance	Standard error	Lower limit	Upper limit	Z-Value	p-Value
Chinese	Arrest	-0.213	0.004	0.060	-0.331	-0.096	-3.552	0.000
White and Black African	Arrest	-0.171	0.006	0.075	-0.317	-0.025	-2.289	0.022
Black African	Arrest	-0.113	0.002	0.045	-0.200	-0.025	-2.525	0.012
Travellers	Arrest	-0.107	0.003	0.053	-0.211	-0.003	-2.014	0.044
Black Caribbean	Arrest	-0.105	0.001	0.038	-0.180	-0.029	-2.726	0.006
White and Black Caribbean	Arrest	-0.080	0.002	0.047	-0.172	0.013	-1.689	0.091
Any other/ not stated	Arrest	-0.066	0.000	0.013	-0.091	-0.041	-5.234	0.000
Asian Banladeshsi	Arrest	-0.054	0.005	0.072	-0.194	0.086	-0.755	0.450
Any other Black background	Arrest	-0.036	0.002	0.046	-0.126	0.054	-0.785	0.433
Asian Indian	Arrest	-0.035	0.004	0.059	-0.152	0.081	-0.597	0.551
Any other Asian background	Arrest	0.031	0.001	0.039	-0.044	0.107	0.812	0.417
White Irish	Arrest	0.061	0.002	0.046	-0.030	0.151	1.314	0.189
White and Asian	Arrest	0.081	0.008	0.089	-0.094	0.256	0.908	0.364
Asian Pakistani	Arrest	0.111	0.001	0.024	0.064	0.159	4.579	0.000
		-0.039	0.000	0.009	-0.057	-0.022	-4.410	0.000

Statistics for each study



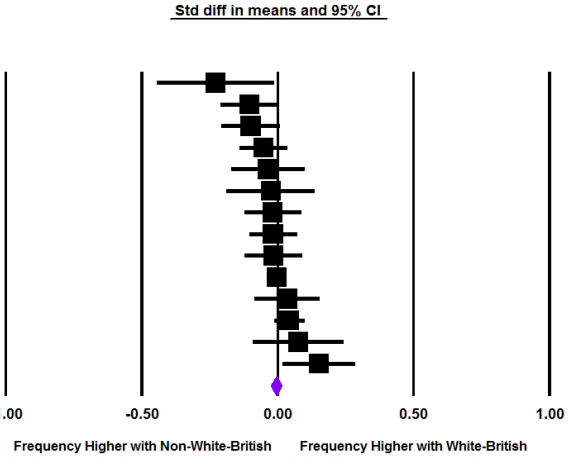
2. NFA

Next, we look at cases that did not result in 'positive outcomes' - cases that ended up with no further action because the suspicions could not be substantiated (Fig. 5). The model suggests an overall non-significant nil average effect size - or no overall bias. Only cases with White-and-Asians and Black Africans suspects were significantly different than Whites. Differences were also found for Chinese (d=.2; p<.05), who were less likely than whites to be searched without a validated reason, however this may have to do with the small number of cases in this category in the six years of data (n=41), therefore being more susceptible for the effect of outliers.

Fig. 5

White British vs. Non-White-British - NFA (Unconditional Disproportionality Model)

Groups	Outcome	Std diff in means	Variance	Standard error	Lower limit	Upper limit	Z-Value	p-Value
White and Asian	NFA	-0.229	0.012	0.110	-0.444	-0.013	-2.082	0.037
Black African	NFA	-0.105	0.003	0.053	-0.208	-0.002	-2.003	0.045
White Irish	NFA	-0.100	0.003	0.054	-0.206	0.007	-1.837	0.066
Black Caribbean	NFA	-0.053	0.002	0.045	-0.140	0.034	-1.189	0.234
Asian Indian	NFA	-0.035	0.005	0.068	-0.170	0.099	-0.518	0.604
Asian Banladeshsi	NFA	-0.026	0.007	0.082	-0.187	0.136	-0.314	0.754
Any other Black background	NFA	-0.018	0.003	0.053	-0.121	0.085	-0.342	0.733
Any other Asian background	NFA	-0.017	0.002	0.044	-0.104	0.070	-0.391	0.696
White and Black Caribbean	NFA	-0.016	0.003	0.054	-0.122	0.090	-0.297	0.767
Any other/ not stated	NFA	-0.004	0.000	0.014	-0.033	0.024	-0.295	0.768
Travellers	NFA	0.035	0.004	0.060	-0.083	0.153	0.574	0.566
Asian Pakistani	NFA	0.043	0.001	0.028	-0.011	0.097	1.551	0.121
White and Black African	NFA	0.075	0.007	0.084	-0.090	0.239	0.888	0.375
Chinese	NFA	0.151	0.004	0.067	0.020	0.282	2.260	0.024
		-0.006	0.000	0.010	-0.026	0.014	-0.612	0.541



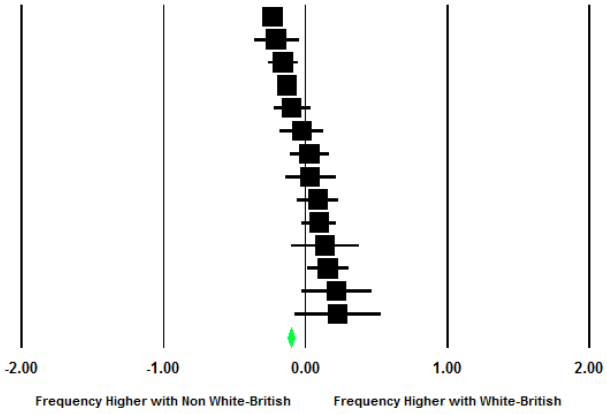
3. Informal Advice

When looking at informal advices (Fig. 6), the model shows differences between some of the groups but not others. Asian Pakistanis, Chinese, other Asian backgrounds and those that refused to identify themselves were significantly more likely to receive an informal advice than whites. Other comparisons were not statistically significant. The magnitude of the effect remains small, usually not greater than 0.2.

Fig. 6

White British vs. Non-White-British - Informal Advices (Unconditional Disproportionality Model)

Groups	Outcome	Std diff in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Asian Pakistani	advice	-0.233	0.032	0.001	-0.296	-0.169	-7.185	0.000
Chinese	advice	-0.207	0.081	0.007	-0.365	-0.049	-2.564	0.010
Any other Asian background	advice	-0.159	0.053	0.003	-0.264	-0.055	-2.995	0.003
Any other/ not stated	advice	-0.129	0.018	0.000	-0.164	-0.094	-7.199	0.000
Any other Black background	advice	-0.097	0.065	0.004	-0.225	0.031	-1.483	0.138
Travellers	advice	-0.026	0.079	0.006	-0.181	0.129	-0.329	0.742
White Irish	advice	0.027	0.071	0.005	-0.112	0.167	0.387	0.699
Asian Indian	advice	0.034	0.092	0.008	-0.145	0.213	0.373	0.709
White and Black Caribbean	advice	0.086	0.075	0.006	-0.062	0.233	1.140	0.254
Black Caribbean	advice	0.096	0.062	0.004	-0.025	0.217	1.552	0.121
White and Black African	advice	0.138	0.123	0.015	-0.103	0.380	1.121	0.262
Black African	advice	0.157	0.075	0.006	0.011	0.303	2.106	0.035
Asian Banladeshsi	advice	0.219	0.125	0.016	-0.026	0.464	1.756	0.079
White and Asian	advice	0.226	0.156	0.024	-0.081	0.532	1.443	0.149
		-0.103	0.013	0.000	-0.128	-0.078	-8.058	0.000



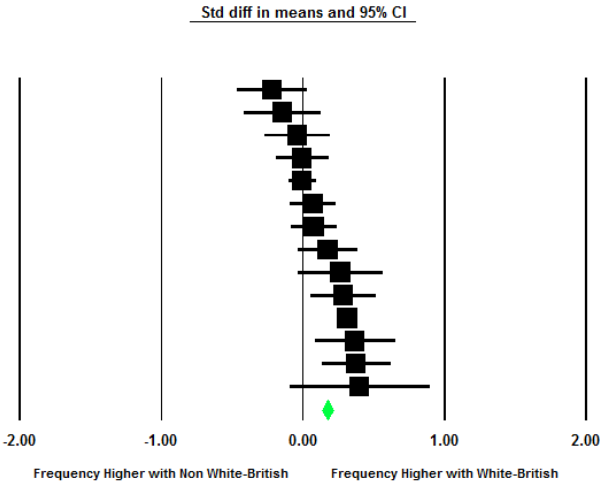
4. Formal Warning

Lastly, a mirror image was found for warnings (Fig. 7): in most comparisons, Whites were more likely to receive warnings than non-whites, with Black Africans, Travellers, unidentified groups and White Irish receiving fewer warnings than whites. All other comparisons were not statistically significant.

Fig. 7

White British vs. Non-White-British - Formal Warnings (Unconditional Disproportionality Model)

Groups	Outcome	Std diff in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Asian Banladeshsi	warning	-0.218	0.125	0.016	-0.464	0.027	-1.743	0.081
White and Black African	warning	-0.147	0.137	0.019	-0.416	0.122	-1.070	0.285
Asian Indian	warning	-0.041	0.118	0.014	-0.272	0.191	-0.343	0.731
White and Black Caribbean	warning	-0.007	0.096	0.009	-0.195	0.182	-0.068	0.946
Asian Pakistani	warning	-0.006	0.050	0.002	-0.104	0.091	-0.129	0.898
Black Caribbean	warning	0.070	0.083	0.007	-0.093	0.233	0.839	0.402
Any other Asian background	warning	0.077	0.084	0.007	-0.088	0.242	0.917	0.359
Any other Black background	warning	0.175	0.108	0.012	-0.036	0.387	1.624	0.104
Chinese	warning	0.263	0.152	0.023	-0.034	0.560	1.735	0.083
White Irish	warning	0.282	0.118	0.014	0.051	0.514	2.387	0.017
Any other/ not stated	warning	0.311	0.032	0.001	0.248	0.374	9.683	0.000
Travellers	warning	0.367	0.146	0.021	0.081	0.653	2.518	0.012
Black African	warning	0.375	0.123	0.015	0.133	0.617	3.040	0.002
White and Asian	warning	0.398	0.252	0.063	-0.095	0.892	1.582	0.114
		0.170	0.021	0.000	0.129	0.211	8.146	0.000



DISCUSSION

Before discussing the results of this analysis, it is worthwhile noting that this study looks specifically at official crime records. Indeed, police data will always be criticised as providing only but the "tip of the iceberg" of the complete disproportionality picture. What is not recorded by the police cannot be analysed directly. If racist Cambridgeshire abuse their powers but never write it down, it would prove very difficult to understand the scope and magnitude of such abuse, unless it comes to our attention through systematic observations. This piece of research was not equipped to answer such scenarios, though they are certainly conceivable.

Nevertheless, we can obtain a great deal of information on both the motivations that have led officers to stop and search a person, as well as about the event itself, from the enforcer's side. Was property found in the search? What specific legal authority served as the justifying source for the stop? How many stops were conducted that resulted in no further action, and can we deduce from these records that cops are more suspicious of Blacks or Asians? Did the search happen at night? How long did it take? What *exact* ethnic group is being targeted (as opposed to simply "non-whites")? What is the crime and delinquency distribution in the area where the search was conducted? All these questions are important and undoubtedly affect the relationship between ethnicity and stop and search.

Most of these questions cannot be answered using national police records or crime survey data. For example, NFAs and informal advices given to young people are not recorded nationally. These are crucial outcomes, because the choice between them can determine the future of the delinquent: a warning for example will be registered as a criminal record, while an advice or NFA will not. There are serious psychological, occupational and social implications to this difference. Therefore, being in a position to address whether some ethnic groups are exposed to greater likelihood than others to have a criminal record as a result of stop and search is immensely relevant. The data of this study allow us to address this more thoroughly.

One such venue of research is looking at multiple outcomes. Earlier work on stop and search generally ignored other disposals, in part because these would only appear in local forces' internal records. Phillips and Brown's (1988) seminal work looked at NFAs, but in the context of 'no action' following an arrest, charge or caution. Here, we are looking – for the first time – at NFAs at the 'unedited' level of the officer conducting the frisk. It provides valuable information on the majority of cases, which could not be substantiated and the suspect was immediately released. If the proportion of cases in which officers were erroneously suspicious of certain groups is higher than the proportion of

such cases for other groups, this ought to be interpreted as bias. Thus, disproportional rates of disposals, particularly NFAs, can indicate that some groups are treated differently, and future research should address these outcomes more enthusiastically.

SUMMARY OF FINDINGS

Most stop-and-searches occur during the spring and early summer, and take place primarily between 8PM-1AM on Thursdays through Saturdays. Based on 53,858 cases, it seems that suspects in these incidents are primarily white skinny men, 23 years old with British passports, which are likely to be called Smith, Brown or Jones. Nearly two-thirds of them are already known to the police for previous offenses. Only a fifth of the stop and searches are on vehicles, which tend to be similar to those cars most frequently sold in England (except White Renaults).

Stop-and-searches are relatively short, usually not more than 5 minutes long. Nearly half are for drug use or drug possession, and officers are correct in their suspicion in about a fifth of the cases (overall success rate of 15%). 93% of these incidents do not result in arrests, whereas most (63%) result in no further action. Advices ("don't do it again") are given in 17% of the cases, whereas formal warnings which are aimed at disposing of petty cannabis possession cases are given to 7% of all stop and search cases.

We find that minorities are arrested more frequently than British Whites; however the overall effect size is marginal. Chinese, Blacks (of any kind) and those that refuse to tell their origin are arrested significantly more than others, but similar trends were not detected for any other minority. On the other hand, Asian Pakistanis are arrested *less* frequently than whites.

In terms of erroneous suspicions (NFAs), nearly all comparisons are non-significant, except for Mixed Asians and Black African on the one hand (more NFAs) and Chinese on the other hand (less NFAs), when compared to British Whites.

When looking at community disposals, the model shows differences between some of the groups but not others. Asian Pakistanis, Chinese, other Asian backgrounds and those that refused to identify themselves were significantly more likely to receive an informal advice than whites. A mirror image was found for warning, whereby in most comparisons, Whites were more likely to receive warnings than non-whites (Black Africans, Travellers, unidentified groups and White Irish receiving fewer warnings than whites). All other comparisons were not statistically significant, and overall the magnitude of the effect remains small, usually not greater than 0.2.

STOP AND SEARCH DISPARITIES IN THE WIDER SOCIAL CONTEXT

In many comparisons, there were significantly more formal warnings given to Whites than minorities and significantly more advices given to Nonwhites than to Whites. There are possibly three ways to interpret the disparity in the utilization of non-arrest disposals - especially when taking into account that nearly half of all stop and search cases are drug-related. First, that police officers show greater leniency towards minorities and 'let drug offenses go', without ever recording the incident (i.e., unregistered NFAs), while Whites are warned more often. However, given historical racial and ethnic relationships in England and Wales, this interpretation is less plausible.

Second, a similar proportion of informal advices and warnings were given to whites and minorities when stolen property was not found in the search. When property was detected, both groups received a similar proportion of formal warnings as well. But 42% of whites received an advice compared to 28% of non-whites when paraphernalia are found. This difference cannot be explained by chance alone. It implies that when officers can substantiate a criminal offense, they treat the suspect differently – most likely with an arrest rather than an NFA.

Third, one should look at the various subgroups, instead of looking at the overall pattern. While not always statistically significant, Black groups are given less advices as well fewer warnings than whites. Taken together with the finding that shows that Blacks are arrested significantly more often than whites, this implies that the police are harsher with these minorities. The findings seem to suggest some level of overall disproportionality against blacks. Under this line of interpretation of the findings, we cannot conclude the same for Asians, simply because they cannot be collapsed under a unified subsample. Pakistanis, Chinese and other Asian backgrounds receive more advice and somewhat more warnings than whites, whereas Bangladeshis and White-and-Asians were less likely to be advised than whites. Therefore, we cannot point to an overarching bias towards Asians.

Previously, Phillip and Brown (1998) have shown that Blacks were significantly more likely to be cautioned than whites, whereas Asians were significantly *less* likely to be cautioned than whites. Therefore, this study supports this line of analyses, but the magnitude of the difference is smaller.

Across all four outcomes, the effect sizes are often small, not more than 0.2. Many of the differences may have happened by chance or sampling error. But they are of practical concern. They are substantially important, particularly when we observe that, at least for some groups, bias may be quite discernible. This is particularly noticeable for most Black groups, who seem to be arrested more often following a stop-and-search encounter, be suspected of wrongdoing without supporting evidence more

frequently, and offered informal advice and formal warnings for drugs less often than Whites are. But it is still important to note that the differences are not big.

Why are Blacks treated "worse" than Asians? One line of argument suggests that there are disproportionate levels of disrespect exhibited by black youths towards police officers (Waddington (1983) in Brogden, Jefferson and Walklate 1988). Officers are more likely to arrest rather than to deal with a matter informally when the suspects are what they perceive as rude or lacking respect (Norris et al 1992:209). This was one of the key findings by Skogan and Frydl (2004:124). Earlier evidence supports this contention as well (Smith and Gray 1983) whereby blacks are more hostile to police than any other ethnic group (Brogden et al 1988) and the police respond to this hostility by being more aggressive. Thus, cultural attitudes towards the police varied between minority groups, whose view of the police ranged from trusted guardians to bullies, whereas many young blacks viewed the police as almost exclusively as bullies in uniforms (Waddington and Braddock 1991). This finding was lately repeated in the United States as well, with significant ethnic variation in perceptions of the police, with African-Americans reporting the most negative attitudes towards the police, especially in relation to fear of the police (Schuck, Rosenbaum and Hawkings 2008). As Webster (2004:70-1) articulated this:

> "*Asian experience has been differently positioned to the kind of visceral hostility that is more typical of relationships between African/Caribbeans and the police[…]their position in terms of the treatment they receive and their perceptions and experiences of the police tends to fall between those of black and whites or are similar to whites, with African/Carribeans receiving the worst treatment and being most hostile to the police."*

POLICE PRACTICE AND CLASS RELATIONS

Bowling and Phillips (2007) argue that stop and search powers cannot be effectively regulated. Because their analysis of the available evidence suggests discriminatory application of stop and search, they recommend curtailing this tool altogether. They argue, not without reason, that the police profile and stereotype certain groups and selectively target them. Therefore, the officers should be relinquished of their power to randomly stop and search - although by this argument the stops are not truly random if the decision to stop is biased in the first place. But I think this recommendation is too harsh and in many ways unrealistic. The police, as a social institution, are founded on the notion that cops should be allowed to scrutinize suspicious characters for delinquent behaviour, when they have reasonable grounds to suspect that there is indeed 'something wrong'. Should an officer ignore cannabis smoke

when he smells it? When a group of young adults suspiciously run away when they see the officer approaching them, should the officer not chase them down? Should we ban random alcohol breath checks? Perhaps the answer to all these questions is yes. Unless there is clear evidence of crime, the police ought not to detain people completely. But to suggest this is to ignore the reality of crime and delinquency and the deterrent effect officers (should) have on members of the public. We need officers to be suspicious, and we need them to interact with offenders or prospective offenders and ask them to account for themselves. Stop and search is the vehicle through which this important service is provided. In fact, it is the most important legal way that enables police officers to allay or confirm suspicions about individuals without exercising their power of arrest[ix].

STOP AND SEARCH AND PLACE-BASED CRIMINOLOGY – A SOLUTION?

There might be two approaches that can dramatically reduce the use of disproportionate use of stop and search - one procedurally and another operationally. First, stop and search was meant to be used as investigative tool for crime prevention and crime detection on a case-specific basis (Fitzgerald 1999). However, stop and search is also used to interact with known offenders and to exercise deterrence and control, particularly with groups of young adults, even when no visible offense was observed. This practice should probably be banned, because there is no legal justification for that. Sixty-five per cent (65%) of the individuals who were stopped and searched were known to the police. This is very high and unlikely to be explained by habitual criminality by these individuals. In his ethnographic study, Quinton (2010:364) correctly point out that seeing someone 'known to the police' holds most currency with officers. These 'usual suspects' are instantly recognized and officers tend to initiate a stop and search more often and probably with low levels of suspicions. "In one example, officers searched a teenager they recognized as a car thief over an hour after a call about joy-riding. The teenager matched the suspect description, but there was no evidence any vehicle had been stolen or that he had anything illegal on him" (ibid). Thus, we need to limit these cases and train officers to be aware of the excessive false negatives associated with this approach. For example, implementing a procedure in which every stop and search of a known offender is reviewed by a senior commander can not only increase the surveillance of such offenders, but it would force the patrolling officers to exercise more discretion than to round up the usual suspects. Incidentally, this was recommended by the Macpherson Inquiry (Recommendation 61; the Macpherson Report 1999), which called the police to make a written record of all stops.

If there is one way to address 'accusations of disproportionality', it is for the police to place more emphasis on places than offenders. As alluded earlier, there is a growing body of research as well as an increasing practical attention given to hotspot policing (Boruch, Weisburd and Berk 2010; Sherman and Weisburd 1995; Weisburd and Green 1995; Braga and Bond 2008). Studies of hotspots policing which focus on small units of geography, have led to encouraging findings regarding the ability of the police to prevent crime (National Research Council 2004)[x]. In fact, most of the larger police agencies in the United States now use hot spots policing tactics (Weisburd and Braga 2006).

A few studies have taken neighbourhood-level effects into account in predicting various forms of police discretion and have found with some consistency that disadvantaged and high-crime areas are more likely to experience punitive, enforcement-oriented policing, with all other things being equal (Skogan and Frydl 2004: 189). In this respect, how police initiated stops are affected by the geographical location and socio-economic circumstances of the suspects have already been shown (Brunson and Miller 2006). But the focus should be on much smaller geographic units. By focusing on hot places instead of offenders, police legitimacy can be more readily justified and the likelihood of intentional disparity is mitigated by crime patterns. It is okay to conduct *more* stop and searches at high-crime locations, regardless of who is being stopped, because it is far more likely to interact with delinquents at these hotspots. The targeted unit is no longer the person, but the place, so the search is implicitly crime-dependent and therefore can be construed as race-neutral. Of course, if the place itself is populated mainly by people of a certain ethnic group, disproportionality will still exist, however the *justification for being there* will be unbiased. It is not a panacea, but it can potentially provide officers with a stronger argument for conducting the search.

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ENDNOTES

[i] In England and Wales, see Section 1 of the Police and Criminal Evidence Act 1984; Section 23 of the Misuse of Drugs Act 1971, Section 163 of the Road Traffic Act 1988, Section 60 of the Criminal Justice and Public Order Act 1994.

[ii] Notwithstanding, this study does not deal with the subsequent steps after arrests and all the complexity they entails. There are pertinent issues that could be raised, e.g., that arrest is not synonymous with guilt or criminal involvement; cases involving black and Asian suspects could be more likely to be terminated by the Crown Prosecution Service; and so on. These issues go beyond the scope of this research.

[iii] Indians, Pakistanis or Bangladeshis.

[iv] http://www.homeoffice.gov.uk/publications/science-research-statistics/research-statistics/crime-research/local-police-recorded-crime/reccrime-pfa1.csv

[v] Which is likely why previous stop and search studies did not take into account these important outcomes

[vi] there are far more 'going equipped', firearms, offensive weapons, stolen property and violence-related advices, than there are formal warning cases (2,005 vs. 220, 91 vs. 3, 712 vs. 18, and 1322 vs. 98, respectively, 712, 1,322, and 32 out of 8,888 advices, respectively , compared to 220, 18, 98 and 4 out of 3,917 warnings)

[vii] "short brown", "short black", "brown", "short dark", "black", "short blond", "short dark brown", "short fair", "short light brown", "shaved", "dark brown", "blond", "light brown", and "short".

[viii] such as box cutters, gloves or metal rods used to break into motor vehicles

[ix] In England and Wales, see Section 1 of the Police and Criminal Evidence Act 1984; Section 23 of the Misuse of Drugs Act 1971, Section 163 of the Road Traffic Act 1988, Section 60 of the Criminal Justice and Public Order Act 1994.

[x] *"…(S)tudies that focused police resources on crime hot spots provide the strongest collective evidence of police effectiveness that is now available*" (National Research Council 2004: 250)