Positionality, Gender and Reflexivity in Outsider-Insider Research: A case study of interviewing police officers in China

Abstract

This article examines the intricacies of researcher positionality in a study examining women in policing in China. It aims to shed light on the manifold ways in which researcher positionality – the researcher's relationship with the participants, gender and other identities – impacts the research process. The study draws from my own experiences, as a female researcher and former insider, engaging in qualitative interviews with both female and male police officers in the context of a feminist inquiry into women in Chinese policing. This article explores the advantages and challenges of outsider-insider research, dissects the role of gender in shaping the research landscape and probes how the researcher's myriad identities may influence research access, information gathering, data analysis, findings and conclusions. Moreover, it discusses strategies adopted to overcome research barriers. By presenting this outsider-insider research as a case study, the article underscores the vital role of researcher reflexivity in unearthing the truth regarding women's experiences and upholding academic rigour. It not only advocates for the use of qualitative interviewing as a tool for knowledge production, but also makes important contributes to the fields of feminist research and qualitative inquiry. In addition, it offers compelling narratives of women within Chinese law enforcement, thereby enriching the discourse on gender policing studies.

Keywords

gender, outsider-insider research, positionality, qualitative interviewing, reflexivity, women in policing

Introduction

Qualitative interviewing is commonly used in research into women in policing.[1] This method is favoured because qualitative research focuses on subjective meanings, enabling reflection on individual experiences and the generation of knowledge from women's life stories.[2] Through interviews, researchers can gather narratives that provide true and rich insights, capable of capturing the intricate challenges women encounter in real life.[3] However, research

---

[1] e.g. M Jardine, 'A Southern policing perspective and appreciative inquiry: an ethnography of policing in Vietnam' (2020) 30 *Policing and Society* 186; M Natarajan, *Women police in a changing society: Back door to equality* (Ashgate, Hampshire 2008); K Newton and K Huppatz, 'Policewomen's perceptions of gender equity policies and initiatives in Australia' (2020) 15 *Feminist Criminology* 593; C Rabe-Hemp, 'POLICEwomen or policeWOMEN? Doing gender and police work' (2009) 4 *Feminist criminology* 114; E Cunningham and P Ramshaw, 'Twenty-three women officers' experiences of policing in England: The same old story or a different story?' (2020) 22 *International Journal of Police Science and Management* 26.

[2] SN Hesse-Biber, 'Feminist approaches to mixed-methods research' in Hesse-Biber and Leavy (eds) *Feminist Research Practice* (Sage, London 2007).

[3] P-C Hsiung, 'The women's studies movement in China in the 1980s and 1990s' in Peterson, Hayhoe and Lu (eds) *Education, Culture and Identity in Twentieth-century China* (The University of Michigan Press, Ann Arbor 2001).

interviewing often lacks transparency, and reflexivity is typically given insufficient emphasis in research.[4] Reflexivity entails researchers actively acknowledging that their own actions and decisions inevitably influence the meaning and context of the experiences under investigation.[5] Researchers' understanding, actions and decisions in research are affected by a range of factors, including the dynamics of researcher-participant relationships and the often intricate and ambiguous aspects of the research process. These aspects can be thought of as 'unsettling' accounts of research practice – details, dilemmas and complexities around what exactly occurred in research – and the ramifications of these 'subtle issues.'[6] Despite the potential impact of these factors on research outcomes, they are often overlooked or insufficiently addressed in qualitative research.

The lack of transparency in research, of course, raises concerns about research validity and the accuracy of data. In qualitative interviewing, it is important to recognise that interviews are, in a way, performances. Interviewees may consciously or unconsciously exercise 'expressive control' or 'impression management'[7] and effectively 'act out' their responses.[8] Failure to consider the significant unspoken information that surfaces during interviews can considerably undermine the credibility of the data.[9] Biases can infiltrate the research process. Researchers may unintentionally or unknowingly give participants 'their own voice', especially when the researcher does not share common identities or backgrounds with those they are studying.[10] The representation of participants may be shaped by the researcher's own

---

[4] B Harries, 'What's sex got to do with it? When a woman asks questions' (2016) 59 *Women's Studies International Forum* 48.

[5] D Horsburgh, 'Evaluation of qualitative research (2003) 12 *Journal of Clinical Nursing* 307, 308.

[6] G Philip and L Bell, 'Thinking critically about rapport and collusion in feminist research: Relationships, contexts and ethical practice' (2017) 61 *Women Studies International Forum* 71; also Horsburgh (n 5).

[7] E Goffman, *The Presentation of Self in Everyday Life* (The Bateman Press, Edinburgh 1959).

[8] K Charmaz and A Bryant, 'Grounded theory and credibility' in Silverman (ed.) *Qualitative Research*, 3rd edn. (Sage, London 2011).

[9] CK Riessman, 'When gender is not enough: Women interviewing women' (1987) 1 *Gender and Society* 172; D Silverman, *Interpreting Quantitative Data*, 5th edn (Sage, London 2014).

[10] MM Fonow and JA Cook, 'Feminist methodology: New applications in the academy and public policy' (2005) 30 *Signs* 2211.

needs, desires, and academic or political agendas.[11] Furthermore, the researcher's position vis-à-vis the researched directly impacts data collection, analysis and the ultimate generation of knowledge.[12] Specifically, the researcher's positioning determines whether subtle nuances within interviews can be identified and, if so, how they are incorporated and interpreted throughout the research process, influencing the knowledge obtained.

The absence of a strong epistemological foundation – reflections on the nature and status of the knowledge – undermines the value of both research and the research methods. As regards the use of interviews as a research methodology, this may lead to erroneous beliefs, such as assuming that interviewing is a natural skill[13] or that in interviewing researchers' role is 'just asking questions.' Relatedly, some might view this method as more suitable for the preliminary or exploratory phases of qualitative research.[14] To ensure the appropriate and effective use of qualitative interviewing, emphasising reflexivity is crucial. This involves acknowledging and contemplating interviewer's own position in relation to interviewees and its impact on the research. This approach helps in obtaining more robust data, uncovering truth and establishing academic rigour.[15] Thus, reflexivity should be an integral part of research methodology, including feminist methodology.

This article places a focus on reflexivity and examines the concept of researcher positionality within the context of an empirical, feminist study on women in policing in China. The primary aim is to investigate how the dynamics of researcher-participant relationships, as well as the gender and other identities of the researcher, influence the research process. In the

---

[11] PT Clough, *The End(s) of Ethnography: From realism to social criticism* (Sage, Newbury Park 1992); M Crean, 'Minority scholars and insider-outsider researcher status: Challenges along a personal, professional and political continuum' (2018) 19 *Forum Qualitative Social Research.* ssoar-fqs-2018-1-crean-Minority_Scholars_and_Insider-Outsider_Researcher.pdf.

[12] AI Griffith, 'Insider/outsider: Epistemological privilege and mothering work' (1998) 21 *Human Studies* 361.

[13] Harries (n 4).

[14] Silverman (n 9).

[15] R Berger, 'How I see it, now I don't: Researcher's position and reflexivity in qualitative research' (2013) 15 *Qualitative Research* 219; also Horsburgh (n 5).

article, through a gender lens, I share my own experiences as a female researcher and a former insider, conducting interviews with both female and male police officers as part of a qualitative inquiry on women police. The article explores the benefits and challenges of outsider-insider research, examines the role of gender in the research journey, and scrutinises how the researcher's other identities might impact various facets of the research, including access, information gathering, data analysis, findings and conclusions. The article also discusses the strategies employed to overcome research barriers. By presenting the outsider-insider research as a case study, it underscores the importance of researcher reflexivity in finding the truth about women's experiences and securing scholarly rigour. In addition, it advocates for the value of qualitative interviewing as well as provides engaging narratives shedding light on the experiences of women in Chinese policing.

The article comprises five sections. Following the introduction, the second section sets the scene by conceptualising researcher membership status, with a specific focus on outsider-insider research, researcher's potentially multifaceted identities, and reflexivity in qualitative studies. The third section outlines the methodological context for the case study, laying the foundation for subsequent discussions. In the fourth section, I reflect on my position within the research. The final section of the article broadens the discussion, highlighting its implications and contributions to the fields.

Outsider-Insider Research, Researcher Identities and Positionality

An ample body of literature explores the concept of researcher membership status – insider, outsider or insider-outsider positioning – and its implications for research. Insider research typically involves scholars who are part of the research population they study,[16] sharing the

---

[16] M Asselin, 'Insider research: issues to consider when doing qualitative research in your own wetting' (2003) 19 *Journal for Nurses in Staff Development* 99.

same perspectives through experiencing similar circumstances.[17] They may also have mutual experiences and knowledge of particular aspects of cultural identity, which they share with the study participants.[18]

In insider-outsider research, the situation becomes more nuanced. Researchers may share certain inherent identities – such as gender, age, race, ethnicity, sexuality, social class – with the researched. Despite that they may be recognised as 'insiders' in some respects, they do not apparently belong to the research group and may be perceived as outsiders, due to other distinguishing characteristics.[19] This category includes former insiders who retain shared backgrounds – knowledge and experiences – with the research group[20] but no longer hold membership status. In practice, outsider and insider roles are relative, fluid and constantly shifting.[21] While 'insider-outsider' and 'outsider-insider' may be used interchangeably, in this article I use the term 'outsider-insider' research or researcher to emphasise that the researcher was once part of the research population but no longer belongs to it.

The challenges of negotiating one's membership positionality in qualitative research are widely acknowledged. In her self-reflective study on female senators in the United States, Brown[22] drew attention to researcher's multiple identities and their role in shaping researcher membership status, interactions with the research subjects, data collection and research outcomes. Past research indicates a diverse range of identities, including ascribed

---

[17] See Berger (n 15).
[18] See K Bhopal, 'Gender, identity and experience: Researching marginalised groups' (2010) 33 *Women Studies International Forum* 188.
[19] e.g. Harries (n 4); Crean (n 11).
[20] e.g. D Flores, 'Standing in the middle: Insider/outsider positionality while conducting qualitative research with opposing military veteran political groups' in *Sage Research Methods Cases* Part 2 (Sage, London 2018); M Young, *An Inside Job: Policing and police culture in Britain* (Clarendon, Oxford 1991).
[21] N Hayfield and C Huxley, 'Insider and outsider perspectives: Reflections on researcher identities in research with lesbian and bisexual women' (2015) 12 *Qualitative Research in Psychology* 91.
[22] NE Brown, 'Negotiating the insider-outsider status: Black feminist ethnography and legislative studies' (2012) 3 *Journal of Feminist Scholarship* 19.

characteristics aforementioned,[23] as well as researchers' political, social and cultural stances.[24] These identities all influence how researchers position themselves in their research and how they are perceived by participants, ultimately affecting the data they collect.

Positionality – a researcher's perception of their identities in relation to the participants and the research[25] – is inherently subjective. A researcher may intend to be an insider due to shared identities with participants but might inadvertently position themselves as an outsider and subsequently be considered and treated as such. In the context of outsider-insider research, the researcher's professional background – a previous occupation for example – or personal identity, like race or gender, usually remain unchanged, but their perceptions and perspectives can evolve with their shifting, newfound status.[26] Consequently, the outsider-insider researcher might no longer possess 'insider knowledge' or may misinterpret it. Therefore, critical reflection on researcher positioning becomes imperative in a qualitative feminist study, in which the goal is to explore the subjective experiences of women in Chinese policing, a domain predominantly occupied by men. In the following pages, I present this case study before discussing researcher positionality.

The Case Study: Women in policing in China

My research aimed to examine the experiences of women police in China, primarily using qualitative interviews for data collection and analysis. In this study, I assumed and positioned myself as an outsider-insider researcher. As a former female Chinese police officer, I shared a background and gender with the women officers in the People's Police, whilst my current academic affiliation with a 'foreign' (British) institution placed me in an apparent outsider

---

[23] Brown (n 22); also P Cotterill, 'Interviewing women: Issues of friendship, vulnerability, and power' (1992) 15 *Women's Studies International Forum* 593; MW Sallee and F Harris III, 'Gender performance in qualitative studies of masculinities' (2011) 11 *Qualitative Research* 409; Harries (n 4); Hayfield and Huxley (n 21).
[24] See Berger (n 15); Crean (n 11); Flores (n 20); Riessman (n 9).
[25] M Hammond and J Wellington, *Research Methods: The key concepts*, 2nd edn (Routledge, London 2020).
[26] Crean (n 11).

position. The interviews with Chinese police officers were conducted over the summer in 2019, spanning three provincial force areas. After lengthy, painstaking negotiations, I secured access to several research sites. During the fieldwork, I recruited a snowball sample through my personal and semi-professional networks and finally conducted interviews with 51 police officers, including 28 female officers.

The interviews took place in various venues, including an office in a policing environment that I was offered to stay for a short period during the fieldwork, the meeting room at the participants' workplace, interviewees' own offices, tea houses, cafés, restaurants and outdoor, convenient places. The shortest interview lasted about 25 minutes and the longest one reached three hours. The material used in this article is drawn from my fieldnotes, including the interview notes and the research diary that I created to record all research-related activities, my observations, informal conversations with police men and women in professional and social settings, my comments on the relevant events and self-reflections.

The study that I reflect upon is part of a larger research project focusing on women police in contemporary China.[27] I purposively included male officers in the sample, considering that in the male-dominated institutions like the police, it is crucial to account for the influence of men's attitudes and behaviours on how women are treated, women's self-perceptions,[28] and how they 'perform gender'.[29] Analysing men's perceptions and expectations of their female colleagues is an essential component of understanding women's experiences. Notably, the inclusion of male respondents in the interviews here was not aimed at achieving gender symmetry in the study; instead, it presented a valuable opportunity to investigate how gender dynamics shaped the research.

---

[27] A Shen, *Women Police in Contemporary China: Gender and policing* (Routledge, London and New York 2022).
[28] L Warwick-Booth, *Social Inequality*, 2nd edn (Sage, Los Angeles 2019).
[29] C West and DH Zimmerman, 'Doing gender' (1987) 1 *Gender and Society* 125.

It is also worth noting that this article does not predominantly focus on examining women's experiences in policing. Rather, it places the spotlight on self-reflexivity and probes how researcher positionality – primarily, the researcher's membership positioning and gender – can influence the research process and knowledge production. As an additional outcome, the article discusses the intricacies of research interviewing, encompassing research methodologies, data quality and rigour. It also presents narratives that provide insights into the lives of women in Chinese policing.

Self-Reflections on Positionality in the Research Process

My research subjects were police officers in China. Police are knowingly a hard-to-reach population due to the nature of their work, which applies worldwide. In Britain, Young[30] wrote that the police, despite their stated willingness to welcome research, typically 'strive to impose rigid control over a system of preferred rules and regulations to negate open enquiry'. These challenges are similarly encountered by researchers studying the Chinese police, where gaining access can be even harder due to the security-conscious approach the communist regime takes. The People's Police are often hesitant to share information with outsiders, especially foreigners.[31] Furthermore, as we will see, gender, a central theme of this research, could present its own set of difficulties. Unsurprisingly, my outsider status, especially my 'foreign' affiliation, posed an initial barrier to gaining authorisation to enter research sites. However, my previous insider experience, while not guaranteeing access, allowed me to establish connections with several key gatekeepers.

---

[30] Young (n 20) at 10.
[31] KC Wong, *Chinese Policing: History and Reform* (Peter Lang, New York 2009) at 11.

Access to police officers

Drawing from my prior research experience, I was aware that, despite the challenges, recruiting participants from the public sector through personal networks was viable.[32] However, I first attempted to secure access through official channels in the hope of achieving a more representative sample. To initiate this process, I approached M-1, the head of a police unit, who had been introduced to me by a contact within the regional police. The following excerpt documents my negotiation with this gatekeeper.

> M-1:　　Why do you have to research policewomen?
>
> Author:　... Researching women in policing has been an established sub-field in policing studies globally, but there is very limited information available about women police in China, including, for example, who they are, their roles, and their experiences as females in police work. I believe this research can fill a large void and contribute significantly to the international literature.
>
> M-1:　　So, you plan to publish your findings outside China? [pause] Why should we let other people know about our female officers and what they do? Absolutely no point[!] And, you should know that such information could be sensitive and possibly confidential.
>
> Author:　Actually, I wasn't aware that this information might be considered confidential.
>
> M-1:　　[pause] What about researching [a specific crime] that is widespread in our region and other parts of China? That kind of research could be more valuable and is something academics should spend their time on. I can help you arrange meetings with the investigators…
>
> Author:　Oh, that sounds good.

In this conversation, the male senior officer obviously recognised my former insider status, by wording such as 'why should *we* let *other people* know about *our* female officers'. He assumed

---

[32] See A Shen, *Women Judges in Contemporary China: Gender, judging and living* (London: Palgrave 2017).

that I shared with him the same perceptions – sensitiveness and the perceived confidential nature of the research – and offered me an alternative opportunity to do policing research, rather than declined my request for entry completely.

Although the result of the negotiation was not unexpected, it was concerning at the time. In my reflective journal, I documented what was said during my meeting with M-1, the barriers I faced, and what else I could possibly do to secure access. I also noted my emotional encounters: '… my feelings now resonate with other feminist researchers in similar circumstances; and yet, this failed attempt forms a part of the narrative of the research'. This experience, indeed, further reinforced my conclusion that gender is not a concern in Chinese policing, that the need of women in police work and the significance of researching women in law enforcement are often disregarded.[33]

Still regarding research access, in the same force area, I was introduced by the same contact to F-1, a female gatekeeper, who responded to my request differently. F-1 was in her early thirties and a junior member of top leadership of a police sub-bureau. She acknowledged my former insider status at the start of our first meeting and was more open and supportive of my research.

F-1:   They say you were a police officer. Did this make you study women police? What do you want to know?

Author: Indeed. Actually, I have been asking myself these questions. I think one important reason is that Chinese women police are virtually invisible in international literature, and I'd like to introduce *us* to the world, who *we* are, what *we* do and *our* experiences in the policing world. I am particularly interested in female leaders, like yourself, and wonder how you are able to reach a position of power in the male-dominated institution [original emphasis].

---

[33] See Shen (n 27).

> F-1: That's interesting [smiling]. You know part of my job is HR management and team building… Women here are rarely interested in career advancement… I hope your research can find something that motivates female officers to be a bit more ambitious.
>
> Author: Wow, you are one of a few people who truly understand why I am doing this research. Would you be interested in participating in my interviews?
>
> F-1: Sure…

This fieldnote excerpt illustrates a candid, open and enthusiastic conversation. Despite being strangers initially, our shared background might have bridged the social distance[34] between us. Our shared gender and the budding woman-to-woman bond[35] that developed during our meeting were possibly also factors contributing to the positive outcome. Not only did the female police leader herself participated in my study, but she also facilitated most interviews within her own work unit and a neighbouring police station. As a senior officer in the region, her support lent credibility to my research, making it easier to secure interviews with other officers.

Reflecting on this experience, my former insider status allowed me to approach and gain the trust of some gatekeepers. Our shared gender – characterised by shared experience, understanding and concerns – and the fact that I was a 'doubly former insider', being a former officer and a former policewoman may have played a vital role in establishing rapport with the women leaders (and female participants) in this study. This combination of outsider-insider status and gender in the case study significantly impacted research access, the sample strategy, the composition and size of the sample. Embracing researcher positionality – with a critical awareness of my own positioning and identity – was instrumental in collecting, documenting and effectively analysing the data.

---

[34] J Finch, '"It's great to have someone to talk to": Ethics and politics of interviewing women' in Bell and Roberts (eds) *Social Researching: Politics, problems and practice* (Routledge, London 1984).
[35] A Oakley, 'Interviewing women: A contradiction in terms?' in Roberts (ed.) *Doing Feminist Research* (Routledge and Kegan Paul, London 1981); also Riessman (n 9).

Interviewing as a female, outsider-insider researcher

Individually, police officers worldwide tend to hold conservative political and moral views, often cultivating a strong sense of internal solidarity and social isolation.[36] Collectively, the police profession has traditionally been male-centric, with masculinity deeply ingrained in police subculture.[37] The Chinese police are no exception.[38] In China, the law strictly prohibits police officers from challenging public policy, the Party-state or the police organisation. As a result, officers often refrain from expressing personal opinions and commonly adhere to mainstream perspectives without deviation. China's official statements and media consistently and persistently proclaim gender equality as a state policy, presenting men and women as equals within Chinese society.[39] This portrayal is widely embraced within the police.[40]

In this context, the researcher's former insider status can offer advantages in building rapport and facilitating the capture of subtle details during data collection and analysis. It is suggested that being an insider can foster a sense of trust and openness among study participants.[41] With the shared experiential position, an insider researcher, often possessing 'insights and the ability to understand implied content', is more 'sensitised'[42] – being attuned to the intricacies of the data – and better equipped to grasp nuanced details in the research. In the case study, the researcher, functioning as an outsider-insider when interviewing Chinese

---

[36] R Reiner, *The Politics of the People*, 3rd edn (Oxford University Press, Oxford 2000).

[37] See V Garcia, 'Difference in the police department: Women policing and doing gender' (2003) 19 *Journal of Contemporary Criminal Justice* 330; T Shelley, MS Morabito and J Tobin-Gurley, 'Gendered institutions and gender roles: Understanding the experiences of women in policing' (2011) 24 *Criminal Justice Studies* 351; also Young (n 20).

[38] See Z Chen, *Measuring Police Subcultural Perceptions: A study of frontline police officers in China* (Springer, Heidelberg 2016).

[39] V Garcia and A Shen, 'An Equity-First Policy for Women Police Around the World: Strategies for change' (2023) 47(2) *International Journal of Comparative and Applied Criminal Justice* 131.

[40] Shen (n 27).

[41] SC Dwyer and JL Buckle, 'The space between: On being an insider-outsider in qualitative research' (2009) 8 *International Journal of Qualitative Methods* 54.

[42] Berger (n 15) at 223.

police officers, assumed a 'dual role' benefiting from this positioning while confronting several challenges.

As regards advantages, knowing the culture, I had an overall clear understanding of what questions needed to be asked, how they should be structured, and how to pose them to participants to ensure that they responded openly and comfortably during the interviews. Past research indicates that participants are often more willing to share their stories where they feel a shared connection of feelings and experiences with the researcher.[43] This finding is corroborated in the current study.

During the interview, for instance, I asked F-2, a 47-year-old policewoman, about the issue of sexual harassment – a recurring theme in international gender policing literature.[44] Much like many other participants, she initially responded briefly, stating that, 'You should know… this sort of thing is everywhere, not an issue [only] within the police,' and halted there. Overall, my interview with F-2 proceeded well, and we even connected on Weixin, a Chinese smartphone App similar to Facebook or WhatsApp. On the following weekend, F-2 messaged me, inviting me to go cycling with her. During our 'sister-to-sister talk'[45] on this leisure activity, she revisited the topic and discussed it candidly with me.

Knowing that she had provided me with valuable 'data' for my research, F-2 requested that I not reveal her identity, despite my earlier assurances regarding anonymity. I promptly recorded her account upon returning to my hotel room. In this instance, the shared experience

---

[43] See Bhopal (n 18); Dwyer and Buckle (n 41).
[44] e.g. CS Carter, 'Sexual harassment and police discipline' (2004) 27(4) *Policing: An International Journal of Police Strategies & Management* 512; L-Y Huang and L Cao, 'Exploring sexual harassment in a police department in Taiwan' (2008) 31(2) *Policing: An International Journal of Police Strategies & Management* 324; J Brown, I Gouseti and C Fife-Schaw, 'Sexual harassment experienced by police staff serving in England, Wales and Scotland: A descriptive exploration of incidence, antecedents and harm' (2017) 91(4) *The Police Journal: Theory, Practice and Principles* 356; H Davis, S Lawrence, E Wilson, et al., '"No one likes a grass" Female police officers' experience of workplace sexual harassment: A qualitative study' (2023) 25(2) *Journal of Police Science & Management* 183; also Cunningham and Ramshaw (n 1); Garcia and Shen (n 39).
[45] Brown (n 22).

and shared gender played a pivotal role in building trust, rapport, even friendship, and ultimately obtaining reliable information. In addition, qualities such as flexibility, reciprocity and sensitivity to potential biases are essential components of successful research interviews and contribute to the generation of high-quality data.[46]

In data collection, my prior insider knowledge allowed me to remain attuned to the participants' responses, enabling me to accurately perceive explicit and implied meanings. Throughout the interviews, I diligently paid attention to all aspects of the participants' communication, including their spoken words and non-verbal expressions,[47] to ensure the fidelity of the data. A notable example emerged when discussing the deployment of female officers outdoors to respond to emergency calls. Male interviewees overwhelmingly concurred that it was appropriate not to assign female officers outdoor duties of this nature. They believed that policewomen would be reluctant to handle a wide range of situations in law enforcement, including both 'tough' scenarios like violence and 'rough' incidents which were frequently exemplified by managing a half-naked, intoxicated man. In contrast, the majority of female interviewees, especially those in grassroots policing, rejected this male perception.

Drawing on my experience as a former insider and my astute observation of participants' tones, facial expression and body language, I was convinced that the accounts of both male and female respondents were genuine and authentic. The male officers eloquently articulated their beliefs which aligned with existing literature, suggesting that the state, the gendered institution and men presume and act on the notion of women's needs and male protection, rather than women themselves.[48] In my role as the researcher, I faithfully recorded these seemingly

---

[46] Rabe-Hemp (n 1); Cotterill (n 23); Oakley (n 35).
[47] Goffman (n 7).
[48] A Shen, 'Women's motivations for becoming a police officer: A Chinese case study on women in policing. *Women & Criminal Justice* (2022). DOI: 10.1080/08974454.2022.2060898; also Shen (n 32).

contradictory accounts as they were presented and embarked on the task of deciphering and contextualising them during data analysis.

Along with the benefits, as others warned, in this outsider-insider research, I sometimes experienced a kind of 'role confusion'.[49] Initially, knowing the 'usual' cultural practice led me to engage in a degree of self-censorship that hampered data collection. My early reflection on the first few interviews indicated that I consciously eschewed several questions to evade awkwardness, inhibition and potential denial from participants. This self-censorship was, in fact, unnecessary given my particular researcher identity: I was not or no longer a colleague of the interviewees who might otherwise not want to share some of their personal experiences with me or fear being judged by a peer.[50] Reflexivity allowed me to make adjustments in the subsequent interviews.

In research interviewing, the power dynamic also significantly impacts the data obtained, often leading participants to withhold information due to the perceived researcher-researched divide.[51] This power relation is especially crucial in gender policing research, as illustrated in this case study, for two major reasons. First, policing inherently embodies authority, with police officers universally expecting a certain degree of deference from the public.[52] In China, the police belong to one of the most powerful government agencies.[53] In this research, male participants comprised frontline law enforcement officers, police academics, as well as individuals in supervisory, managerial and command positions. A small number of female respondents held mid-level police leadership roles. Paradoxically, researchers are traditionally considered to be part of a respected social class and maybe 'powerful and arrogant'. However,

---

[49] e.g. PA Adler and P Adler, *Membership Roles in Field Research* (Sage, Newbury Park 1987); Asselin (n 16).
[50] Young (n 20).
[51] Bhopal (n 18).
[52] M Silvestri, *Women in Charge: Policing, gender and leadership* (Willan, Cullompton 2003).
[53] Shen (n 48).

in some research, especially in the case of outsider researchers, they may find themselves in vulnerable or powerless positions when interacting with research participants.[54]

Second, the current research involved examining police managers – potentially a situation referred to as 'researching up'[55] – introducing an inherent power imbalance in favour of the interviewees. While in feminist research it sometimes flips the script, with female researchers asserting more control in interviews with women,[56] this did not appear to be the case when interviewing female police managers in my study. The impact of gender on power dynamics and its effect on data collection, as well as my experience in balancing these delicate researcher-participant relationships, warrant a thorough discussion, to which I will return.

Overall, in the process of data collection, I maintained honesty, sensitivity and enthusiasm. I believed that my understanding of participants' contextual circumstances, coupled with academic integrity and my passion for the study, could be seen, which might encourage the participating officers to open up and share their stories, personal views and feelings. Admittedly, not all interviews went as I had hoped. Some interviewees spoke very little, but what they did offer remained important to the research. Given the considerable restrictions on access, any insights were valuable for truth finding and knowledge production. For instance, my interview with the leader of an all-men crime investigation team lasted about 25 minutes, and my notes did not even fill one A4 page. Still, this interview provided rich and invaluable information that I have used in my research output.[57]

---

[54] Cotterill (n 23); Crean (n 11).
[55] N Puwar, 'Reflections on interviewing women MPs' (1997) 2 *Sociological Research Online*. https://journals.sagepub.com/doi/pdf/10.5153/sro.19.
[56] Ibid.
[57] Shen (n 27).

Analysing and interpretating data

A researcher's membership positioning, intertwined with other researcher identities, significantly affects data analysis. In the case study, I adopted a grounded theory approach[58] and manually analysed the interview data. While reading and re-reading the fieldnotes, my fresh memory allowed me to vividly recall the scene of each interview: the venue, the participant's appearance, voice, tones, hesitations, pauses, facial expressions and postures. All of these little details helped me discern the true and deeper meaning behind the words spoken and understand what was of particular importance to the person conveying the messages. This approach served to prevent the important information from being incidentally 'cleaned up'[59] and allowed me to thoroughly investigate how my positionality might influence the recording and interpretation of the data. Reflexivity was particularly valuable when discrepancies arose between my findings and those in previous research.

In the existing literature, the occupational environment often signals to women that policing is not their domain. Despite advancements made by women in the police profession, discrimination against female officers persists.[60] Women have been battling to secure the same roles in law enforcement as men, often feeling pressured to conform to male standards.[61] Interestingly, the female police officers in my research provided a rather different narrative.[62]

---

[58] B Glaser and A Strauss, *The Theory of Grounded Theory* (Aldine, Chicago 1967).
[59] Riessman (n 9).
[60] e.g. J Brown and M Silvestri, 'Women police in the United Kingdom: Transforming leadership' in Rabe-Hemp & Garcia (eds) *Women policing across the globe: Shared challenges and successes in the integration of women police worldwide* (Rowman & Littlefield, Lanham 2020); Shelley and others (n 37).
[61] C Rabe-Hemp, 'The status of women police across the globe: Women's voices from the field' in Rabe-Hemp and Garcia (eds), *Women policing across the globe: Shared challenges and successes in the integration of women police worldwide* (Rowman & Littlefield, Lanham 2020); Rabe-Hemp (n 1); Silvestri (n 52); J Acker, 'Gendered organisations and intersectionality: Problems and possibilities' (2012) 31 *Equality, Diversity and Inclusion: An International Journal* 214.
[62] See Shen (n 27); also Shen (n 48); A Shen and DM Schulz, 'Trajectory of women's advancement in policing: A comparative study between China and the United States' (2022) 11 *International Journal for Crime, Justice and Social Democracy*. https://www.crimejusticejournal.com/article/view/2344.

Initially, I found myself somewhat perplexed, and it would have been easy to rely on the 'commonly accepted generalisation' that the participants' accounts were 'coloured' [63] and influenced by a desire to protect the police organisation or themselves. Alternative, I could have assumed that, like other Chinese women, they might have customarily chosen not to reveal personal gender-specific challenges. [64] However, upon re-assessing the data and considering both the spoken and unspoken languages, my own previous experience, and the broader local socio-institutional context, I became convinced of the authenticity of their storytelling, reflections and narratives. During this process, I often found myself strongly concurred with the female police officers in the study. Consequently, my own positioning played a vital role in data analysis. This finding aligns with a 'Southern' point of view[65] that challenges the perception, rooted in a liberal feminist notion, that female police in Asia, Africa and Latin America, who remain in gender-specific roles, are lagging behind their Anglophone counterparts in the journey towards gender equality and are unhappy with their positions.

Notably, in my effort to comprehend the data within the Chinese context, I consistently reminded myself of research objectivity. This was to prevent any misrepresentation that might arise from my former insider status, where I could potentially engage in a 'cover-up' due to 'loyalty tugs',[66] or from an outsider perspective where I might interpret the data through a 'Western' or Northern lens. In the research, I maintained that my goal was to honestly, genuinely and accurately convey the voices and perspectives of the participants.

---

[63] Berger (n 15).

[64] C Wylie, 'Femininity and authority: Women in China's private sector' in McLaren (ed.) *Chinese Women – Living and working* (RoutledgeCurzon, London and New York 2004).

[65] See K Carrington, J Rodgers, M Sozzo and MV Puyol 'Re-theorizing the progress of women in policing: An alternative perspective from the Global South' (2023) 27(2) *Theoretical Criminology* 283.

[66] T Brannick and D Coghlan, 'In defence of being native: The case for insider academic research' (2007) 10 *Organizational Research Methods* 59.

The roles of gender and other researcher identities

A researcher's gender assumes a prominent role in studies that revolve around gender performance.[67] It can influence participants' willingness to share their thoughts on gender-related questions and lead them to varied responses to the same queries.[68] The gender of the interviewer can sometimes complicate matters, particularly when a female researcher is questioning male participants.[69] For a female interviewer, her gender status might overshadow her role as a researcher.[70] Male participants might relegate the female researcher to subordinate positions[71] and attempt to assert control during the interviews. These gender dynamics can introduce complexities in the interactions between female interviewers and male interviewees.[72] In my research, the focus was on examining women's subjective experiences in policing, and male officers were invited to partake. Essentially, it was a study on women involving male participants, conducted by a female researcher. Furthermore, as mentioned earlier, this study included interviews with police managers, potentially introducing complex power asymmetries and gender dynamics into the research. Several aspects of this complexity deserve particular consideration.

First, in the case study, male participants did not appear uncomfortable being studied by a female researcher,[73] as the study focused on women. In general, the police men and women I came across during the fieldwork were friendly and willing to help. Within the interviews, the participants all seemed at ease. However, some male police leaders were more relaxed than

---

[67] e.g. JN Gurney, 'Not one of the guys: The female researcher in a male-dominated setting' (1985) 8 *Qualitative Sociology* 42; R Horn, 'Not "one of the boys": Women researching the police' (1997) 6 *Journal of Gender Studies* 297.

[68] Sallee & Harris III (n 23).

[69] See e.g. T Arendell, 'Reflections on the researcher-researched relationship: A woman interviewing men' (1997) 30 *Qualitative Sociology* 341; D Lee, 'Interviewing men: Vulnerability and dilemmas' (1997) 20 *Women Studies International Forum* 553; Harries (n 4).

[70] Gurney (n 67).

[71] Horn (n 67).

[72] e.g. T Miller, 'Telling the difficult things: Creating spaces for disclosure, rapport and 'collusion' in qualitative interviews' (2017) 61 *Women Studies International Forum* 81.

[73] cf. Harries (n 4).

others and occasionally made contemptuous remarks about policewomen. I also observed that some policemen, typically those in supervisory or managerial positions, tended to 'manage the topics.'[74] When interviewing these male participants, I remained vigilant about maintaining control and constantly steered the conversation back on track politely. Conversely, a small number of participants, mostly female officers in rural, grassroots policing, were laconic or reserved their responses, even when there were no apparent barriers between the researcher and the participants. It is worth noting that there is not a clearly gendered pattern of power relations evident in the data obtained. Throughout the research, I maintained 'friendly working relationships'[75] with all participants, regardless of their gender, age or seniority.

Second, interviewing police officials – typically, individuals in positions of power within a remarkably powerful criminal justice institution in China – presents unique challenges. While I conducted interviews with both male and female leaders, my primary focus was on women in police leadership. Female researchers, such as Puwar[76] and Brown[77] who were then both doctoral researchers interviewing female political elites, have noted that when interviewing individuals in high-ranking positions, including powerful women, researchers often need to negotiate control of the interview situation. Talking of interviewing 'women in charge', Silvestri[78] revealed her experience, as a feminist researcher, with senior female police officers in Britain and recognised the complex nature of 'the sharing of womanhood' in the context of policing, which is heavily influenced by rank, hierarchy and the associated power dynamics.

My research was conducted within a notably distinct social setting compared to Western contexts. In China, feminism is not endorsed by the state, nor is it widely embraced within

---

[74] Arendell (n 69).

[75] J Acker, K Barry and J Esseveld, 'Objectivity and truth: Problems in doing feminist research' (1983) 6 *Women's Studies International Forum* 423; Oakley (n 35).

[76] Puwar (n 55)

[77] Brown (n 22).

[78] Silvestri (n 52) at 10.

mainstream society, and feminist ideas are often not readily accepted among female professionals.[79] Therefore, during the fieldwork, I made a conscious decision not to openly identify myself as a feminist scholar to avoid potential controversies that might hinder my access to participants. In the interviews I refrained from signalling any overtly feminist cues that might trigger participants to exercise 'expressive control'.[80] Instead, following other feminist scholars, I conveyed to the female police leaders (and any other participant) my genuine interest in women's experiences and highlighted where appropriate or insinuated our shared experiences, mutual understanding or common gender.[81] This strategy appeared to be effective, as despite the challenges, the majority of female police managers I invited to participate in the study accepted my invitation. They openly shared their perspectives on women in Chinese policing and their own personal stories as women in police and police leadership.

A noteworthy consideration when reflecting on my experience in researching female police leaders here is that none of the women managers I interviewed were on the top echelon in the regional police hierarchy (leadership of provincial or major municipal police administration). And their authority was primarily confined to the 'women's fields', which is distinct from that of their male management peers.[82] Thus, they may not be considered 'the powerful'[83] in policing, and I, as a researcher, was apparently not an early career scholar. This may have resulted in somewhat 'status matching' – a level of parity or shared status – between the researcher and the researched. An example of this parity was evident in my interaction with F-3, the highest-ranking female participant, whom I first met on the day of the interview. After

---

[79] See A Shen, 'Women judges who judge women offenders: A Chinese case study on gender and judging' (2020) 27(1) *International Journal of the Legal Profession* 63; also Shen (n 32).
[80] Goffman (n 7).
[81] e.g. A Oakley, 'Interviewing women again: Power, time and the gift' (2016) 50 *Sociology* 195; Brown (n 22); Puwar (n 55); Silvestri (n 52).
[82] J Brown and F Heidensohn, *Gender and Policing: Comparative perspective* (Macmillan, Basingstoke 2000).
[83] J Fitz and D Halpin, 'Ministers and mandarins: Educational research in elite settings' in Walford (ed.) *Researching the Powerful in Education* (Routledge, London 1994).

providing a well elaborated personal account of women in commanding positions within the People's Police, she requested that I reassure her anonymity while seeing me off at the gate of her workplace.

Third, along with gender, the multifaceted identities of both the researcher and participants were interwoven, potentially affecting the dynamics of the interviewer-interviewee interactions during the interviewing and the subsequent interpretation of data. In the interviews, I inquired male police officers about the typical roles of policewomen in their units and in policing in general. This elicited a range of responses. For instance, M-2, a senior member of top leadership in a police sub-bureau, responded with a notable degree of scepticism:

> M-2: What do they do? They do nothing [shaking his head and rolling his eyes].
>
> Author: What do you mean? They get paid and must do something…
>
> M-2: Well [pause], they don't want to work [hard]. If you ask them to work outside, they won't go. If you ask them to work in frontline policing, they'd say 'no'. [If] you ask them why, they'd say, 'I don't know how to do those jobs', or 'I cannot do it', and they do not want to learn[!] They cannot even take interview notes[!] They are lazy…

Another male manager, similar in age and rank to M-2, echoed these sentiments though with somewhat less intensity. Conversely, M-3 – the head of a rural police station in M-2's force region and a younger officer in his mid-thirties – offered his perspective, which aligned with M-2's account, but in a much milder and more amiable tone:

> M-3: They [pause] do not do much, I mean, in operational police work. Our [the only one female officer] *nei-qin* [internal operator; administrator] is unable to take interview notes, and she doesn't want to learn. She is good, though. Female officers are *also* always very busy doing *their own jobs* [original emphasis]. They are deft at what they do.

While these male participants all spoke candidly and frankly, there were noticeable differences based on their age and perhaps rank, too. For instance, when compared with the older male

officials, the younger and lower ranking policemen, like M-3, appeared to take a more thoughtful approach. This contrast is not surprising and can be attributed to several factors, including the researcher's gender, age and professional status, which may have influenced participants and introduced social desirability bias into their responses.[84] It is plausible that the younger generations of police, typically composed of degree-holding graduate entrants,[85] took into account that the researcher, in their eye an experienced scholar in Britain where modern police originated, might judge them based on their responses and behaviour. They might have considered what the researcher would like to hear about women in Chinese policing.

The older and more senior male police managers, on the other hand, may be more entrenched in traditional gender norms governing male and female behaviour.[86] Their attitudes and behaviour might be deeply embedded in masculinity discourse,[87] a result of years of socialisation within policing. Consequently, they might not find it necessary to carefully calculate and manage their responses to questions about women in the police. In a 'researching up' scenario where they feel more in control,[88] these male senior officers might 'perform' less, camouflaging little but revealing more personal views on women in policing through their language and expressions. Furthermore, in this study, my researcher status might have superseded my gender. As we have seen, reflecting on positionality allowed me to capture many nuances that might have otherwise remained hidden.[89] These subtle details have been instrumental in making sense of some unexpected and 'irregular' findings.

In addition, the researcher's multiple identities – gender, age, origin, ethnicity, social class, and professional background – all likely played significant roles in the research process.

---

[84] CL William and EJ Heikes, 'The importance of researcher's gender in the in-depth interview: Evidence from two case studies of male nurses' (1993) 7 *Gender and Society* 280.
[85] Shen (n 48).
[86] AE McLaren (ed.), *Chinese Women – Living and working* (RoutledgeCurzon, London and New York 2004).
[87] Chen (n 38).
[88] Puwar (n 55).
[89] Berger (n 15).

From the perspective of the participants in the case study, I once belonged to their community, but now I am an outsider working outside China, yet still maintaining a strong connection as a native Chinese. My appearance, in line with traditional Chinese norms for clothing, hairstyle and mannerisms, presented me as a middle-aged female academic and a typical middle-class woman in China. This enabled me to fit well into various social categories among Chinese police officers, especially among the female participants.[90] This, in turn, likely contributed to their acceptance of me and their trust that I was a perceptive listener. My researcher identity was inevitably perceived by the participants and had affected their responses.

In the case study, a sizeable number of female officers expressed hesitation in recommending other women to join the police. They feared that an increase in female recruits might dilute the 'privileges' (informal differential, compassionate treatment) that policewomen currently enjoy as a minority gender group in an organisation predominantly male. Some officers raised concerns about the 'status issue' linked to the similarity of the police uniform to those of auxiliary police (fu-jing) and civilian security guards. Others nonchalantly noted that the heavier, dirtier and more tedious 'women's jobs' were often assigned to female *fu-jing*, who, as contracted employees, received substantially lower pay compared with police officers and had no job security. Given my previous insider status and my perceived researcher identity, the participants openly shared their observations, perceptions and feelings.

These accounts must be understood within the local social and cultural landscapes. As an outsider-insider researcher, these findings underscore that not only gender but also social and class positions of female police officers – well-educated middle-class women holding secure, higher salaried jobs in an elite profession[91] – play a role in shaping their experiences within the Chinese police organisation. Reflexivity has enabled me to critically listen to participants'

---

[90] See Shen (n 48).
[91] ibid.

narratives, truthfully report their experiences and avoid imposing my own perspective or judgements on them[92]. As a researcher, my role is to learn and understand how these women police officers arrived their current positions [93] and the realities they face.

Discussion and Conclusion

This article has explored the profound impact of researcher positionality on the research process and the importance of reflexivity. Through a detailed examination of a case study – an outsider-insider feminist inquiry primarily using interviews as a methodological device – the article has shed light on the complex and dynamic nature of qualitative research. The case study centred on Chinese women's experiences within the police organisation, a domain typically restricts academic researchers. By revealing the intricate layers hidden 'behind the scenes' of the research, this article has illustrated that qualitative interviewing is a complex, multifaceted, ever-evolving endeavour, in which a researcher's positionality – encompassing factors such as membership status, gender, age, race, ethnicity and social class – plays a pivotal role. The crux of this article aligns with existing academic discourse, [94] underlining the importance of meticulous attention to subtle nuances through reflective introspection regarding researcher positionality and research activities. Such a practice is essential for the evaluation, validation and meaningful interpretation of the acquired data. Neglecting this crucial facet of research, we may be misled by 'the apparent linearity, thereby obscuring all sorts of unexpected possibilities', [95] and leading to distorted representation of findings, rather than a genuine comprehension of truths. Critical self-questioning in research, instead, positions us to unearth nuanced realities that might otherwise be obscured by a superficially linear approach.

---

[92] Clough (n 11).

[93] Crean (n 11).

[94] e.g. P Gibson and L Abrams, 'Racial difference in engaging, recruiting, and interviewing African American women in qualitative research' (2003) 2 *Qualitative Social Work* 457; Brown (n 22).

[95] GM Russel and NH Kelly, 'Research as interacting dialogue process: Implications for reflexivity' (2002) 3 *Forum: Qualitative Social Research.* https://www.qualitative-research.net/index.php/fqs/article/view/831/1807.

The primary focus of this article is outsider-insider positionality. It highlights the advantages of this researcher status, including enhanced access, trust and rapport, and a deeper understanding of data, due to the researcher's connection with the researched. However, also because of the researcher-participant connection or bond, maintaining an appropriate distance from participants can be a challenge for outsider-insider researchers. Outsider-insider researchers – in fact, all researchers – must remain sensitive to preclude imposing their own experiences, perceptions and values on participants.[96]

Indeed, insider-outsider and other identity boundaries can be blurry.[97] In the case study, there were distinct temporal, spatial and notional distances between me, the external researcher, and the Chinese female police officers I studied. Having lived and worked outside China for over two decades, my identities have naturally evolved and blended with my cultural upbringing. This has created a meaningful separation that did not need me to artificially 'manufacture.'[98] A related advantage of this distance is the minimal presence of 'comparison' and, possibly, the absence of 'competition'[99] or 'peer pressure'[100] within the researcher-researched relationship. Furthermore, my academic work in Britain allowed for a level of intellectual detachment. This detachment enabled me to observe and critically analyse the routine occurrences in Chinese policing, particularly the pervasive 'gender issues' that often disadvantage female police officers but are commonly overlooked by insiders.[101] Yet, this position came with a caveat. I remained acutely aware of the potential danger of self-

---

[96] P Drake, 'Grasping at methodological understanding: A cautionary tale from insider research' (2010) 33 *International Journal of Research and Method in Education* 85; Riessman (n 9).
[97] Hayfield and Huxley (n 21).
[98] cf. G McCraken, *The Long Interview* (Sage, Newbury Park 1988).
[99] Berger (n 15).
[100] Young (n 20).
[101] AP Cohen, 'Producing data' in Ellen (ed.) *Ethnographic Research* (Academic Press, London 1984).

importance, a pitfall that can befall outsider researchers, and diligently acted to ensure that my perspective did not block me hearing the valuable voices of the women police officers.[102]

In addition to exploring the dynamics of outsider-insider positioning in a study of women's experiences within a gendered institution,[103] this article has examined the role that gender plays in the research process. Notably, apart from my own sense of a 'bond' between me, a female researcher, and the female participants, I did not discern any clearly distinct gender-based pattern in the power dynamics between the researcher and the participants. My own experiences as a female researcher seemed to be more influenced by local circumstances than by my gender. When navigating access to the powerful law enforcement agency, I occasionally felt frustrated and even helpless, but I did not feel these challenges were inherently gender specific. Likewise, during the interviews, I discovered that the feeling of control, or the lack of it, was not strongly associated with gender. I certainly did not encounter even a hint of vulnerability or powerlessness.[104] Both male and female participants displayed a wide range of communication styles. Some were loquacious, engaging and enthusiastic particularly when discussing topics of personal interest. Others were more reserved. It became evident that beyond gender, individual factors, such as personality, professional status and age, all played significant roles in shaping the quantity and quality of the data collected.

In my reflection on the impact of gender on the research, an intriguing observation emerged: both male and female participants inevitably 'performed' the police men and women that are expected of in China but displayed interesting distinctions. Male participants did not hesitate to present themselves as dominant players within the police organisation, whilst female officers appeared to readily accept their existing status as a group. This observation seems to

---

[102] P Cloke, P Cooke, J Cursons, P Milbourne and R Widdowfield, 'Ethics, reflexivity and research: Encounters with homeless people' (2000) 3 *Ethics, Place & Environment* 133.

[103] J Acker, 'Gendered institution: From sex roles to gendered institution' (1992) 21 *Contemporary Sociology* 565.

[104] cf. C Smart, *The Ties that Bind: Law, marriage and the reproduction of patriarchal relationships* (Routledge and Kegan Paul, London 1984).

be at odds with China's stated gender equality policy, which police officers are expected to uphold. One potential explanation for this disparity lies in differing conceptions of gender equality between China and Western countries.[105] In Chinese policing, roles are traditionally segregated by gender, and there is neither an expectation nor a desire for female officers to engage in the full spectrum of police work. Consequently, there is little need for them to 'do gender' to fit within this male-centred profession. Policing in China remains a men's world,[106] where Western notions of gender equality is perceived as inapplicable.[107] Additionally, the shared gendered experience, whether among women or men, may not be adequate to surmount the structural barriers imposed by differences in status and social class.[108] This underlines the complex interplay of multiple identities, both of the researcher and the participants, and their collective influence on the research process, data obtained and the subsequent findings.

Reflexivity leads me to ponder whether a different researcher – whether they be a Chinese police academic, a complete outsider scholar, a male researcher, or any other incarnation – would have gathered the same information, interpreted the data in a similar way and reached identical or similar conclusions. What is certain is that my unique researcher identity was a vital part of the research process,[109] and it put me in a privileged position to uncover truths in this inquiry into gender policing in China.

This article makes several important contributions to academic research. First, through the case study, it makes a convincing case for the use of interviews as a deliberate and effective research method. The discussion presented here bolsters the argument that academic interviews are not coincidental but carefully constructed tools.[110] Given that interviews will continue to

---

[105] Garcia and Shen (n 39); Shen and Schulz (n 62).
[106] Shen (n 27).
[107] Shen (n 48).
[108] Cotterill (n 23).
[109] L Finlay, 'Reflexivity: An essential component for all research?' (1998) 61 *British Journal of Occupational Therapy* 453.
[110] J Potter, 'Two kinds of natural' (2002) 4 *Discourse Studies* 539.

play a major role in scholarly research,[111] especially in fields like feminist and socio-legal studies in which understanding human lives is paramount, researchers must persist in advancing this method, by demonstrating its rigour, credibility and efficacy in data collection and analysis. As illustrated earlier, reflexivity is a crucial practice that promotes transparent, rigorous and sensitised qualitative research. Importantly, it requires knowledge, experience and skills to facilitate reflection on the researcher's role in the study, thereby ensuring transparency.[112]

Second, the article underscores the intricacy of critical reflection in the research process, which can be deeply personal. It demands not only insights but also the willingness and courage to delve into the researcher's true self, inner world and emotional encounters. This undertaking is undeniably important, particularly for feminist scholars, as critical reflexivity aligns with 'the mission of constructing meaningful, trustworthy and authoritative stories of women's lives.'[113] Thus, this article makes an additional contribution to the body of feminist and qualitative research literature.

In a recent work, Carrington and colleagues[114] elucidate the unique value of Southern feminism in the global transfer of theory and practice, aligning with the perspective of Connell[115] that Southern feminist theories encompass a mosaic of epistemologies. This article reflects upon a feminist study examining women's experience in a once peripheral Southern territory.[116] It was conducted by a female outsider-insider researcher based in the North, originally hailing from a Southern country, with multiple researcher identities. Therefore, the

---

[111] Silverman (n 9).

[112] Miller (n 72).

[113] Oakley (n 81) at 209.

[114] Carrington and others (n 65).

[115] R Connell, 'Meeting at the edge of fear: Theory on a world scale' (2015) 16 *Feminist Theory* 49.

[116] Shen and Schulz (n 62).

third contribution of this article lies in enriching international epistemologies by incorporating Southern elements. Moreover, considering the scarcity of English language literature about Chinese women police, this article contributes to the corpus of gender policing research by offering valuable narratives of women in Chinese policing, which are not readily accessible.

An Insider Within: Reflections from Navigating Positionality during Doctoral Research on University Law Clinics

Anne Kotonya

Lecturer, Strathmore University, Kenya.

Contact: akotonya@strathmore.edu

Orcid ID https://orcid.org/0000-0001-5580-8291

Abstract

This article utilizes doctoral research on access to justice and clinical legal education to reflect on the positionality that the researcher embodies from their diverse professional affiliations. It adds a nuance to the debate on positionality by relaying it as a concentric experience. The article offers insights on navigating layered insider status through the use of reflexivity journals, removing familiarity in the interview environment and returning to the literature after fieldwork. Noting that one may still be perceived as 'other,' it outlines the role of go-betweens to access research participants, follow-up questions to allow for participant voices to be heard and a friendly demeanour to build rapport. The article supports training of novice researchers in reflexivity and grounded theory research as ways of facilitating rigour. It will be useful for socio-legal researchers who have a propensity to embody layered insider status from their diverse professional affiliations when researching in their own countries.

Introduction:

This article shares reflections from a doctoral researcher navigating their positionality during empirical research on access to justice work by law clinics in Kenyan universities. It draws from experiences in identifying researcher positionality and adopting strategies to navigate it by attending to its benefits and drawbacks. The research sought to address the main question 'what role do university law clinics play in enhancing access to justice in Kenya's transformative constitutional dispensation?' It was preceded by a review of literature whose justification, process and findings are discussed elsewhere.[1] Alongside the review was an examination of the legal frameworks for access to justice and clinical legal education in Kenya. The knowledge gap in the experiences of students and clinic staff in offering access to justice in the prevailing legal framework justified the fieldwork consisting of interviews with university clinic directors and key informants from legal aid institutions that collaborate with the universities. The questions included the establishment, nature, operations and challenges facing the clinics. To obtain in-depth perspectives from both the students and staff, focus group discussions on similar matters were held with student leaders of the clinics. A purposive sampling of the total population was carried out. The inclusion criteria applied was that the research was deliberately carried out only in law schools that have clinics; thus 11 law schools were eligible for the study because these comprised the population in which law clinics operate. This empirical segment was conducted after ethical clearance and obtaining the consent of the research participants.

In focusing on how positionality emerging from intertwined professional identities influences research, the article builds on the existing body of work on navigating positionality in the research field where familiarity is often only approached from recognized social identities of race, culture and class. The article may be particularly insightful for socio-legal researchers

---

[1] Anne Kotonya, 'A Systematic Quantitative Review of Literature on Social Justice and Clinical Legal Education in Africa' (2023) 30 International Journal of Clinical Legal Education 9 <https://www.northumbriajournals.co.uk/index.php/ijcle/article/view/1362/1757>; Anne Kotonya, 'A Review of the Social Justice Function of Clinical Legal Education in Africa' (2022) 14 African Journal of Legal Studies 93.

heeding the call to pay greater attention to communicating positionality in their work that links law, social science and social justice [2] as is done in the research under consideration.

Positionality

Positionality is the relationship between the researcher and the process and outcomes of the research by being an insider, outsider or a status in that continuum. Positionality and the emerging power relations are recognised through reflexivity, which is critical for grounded theory studies because of the significance of the recognition and elimination of researcher bias for data analysis in a study that can be classified as truly grounded in the data. [3] Fluidity between factors that render a researcher an insider, outsider or in-between, shapes the nature and quality of knowledge they could draw from their fieldwork experience. They likewise occasion perceptions about the rigour of the research process. Interrogation of the researcher's positionality contributes towards 'the ability to recognize the tendency towards bias that is reiterated as one of the characteristics of a grounded theorist [4] that can otherwise be explained as the researcher's reservation of their own interpretations thereby allowing the data to speak for itself as is underscored when utilising grounded theory strategies.

Attentiveness to one's positionality acknowledges that a researcher is not immune to their environment because they influence and are influenced by it. Such influence is ultimately manifested in the process or outcomes of their research.[5] Creswell approaches positionality as the relationship between a researcher and research participants. [6] This resonates with Laher et al who envisage positionality more broadly as the relationship between a researcher and their interaction

---

[2] Mark Fathi Massoud, 'The Price of Positionality: Assessing the Benefits and Burdens of Self-Identification in Research Methods' (2022) 49 Journal of Law and Society S64, S66, S72.

[3] Tracey Giles, Lindy King and Sheryl De Lacey, 'The Timing of the Literature Review in Grounded Theory Research: An Open Mind Versus an Empty Head' (2013) 36 Advances in Nursing Science 29, 30.

[4] Michael Quinn Patton, *Qualitative Research and Evaluation Methods* (2015) 588.

[5] Roni Berger, 'Now I See It, Now I Don't: Researcher's Position and Reflexivity in Qualitative Research' (2015) 15 Qualitative Research 219, 220.

[6] *Qualitative Inquiry and Research Design* (3rd edn, Sage Publications Inc 2013) 214.

with their research.[7] Interrogating positionality typifies the elusive quest for objectivity by taking cognisance of one's subjectivities.[8] Through reflexivity, the researcher honours the biases, values, experiences and influences that impact their inquiry.[9] These are often inherent in any human endeavour although they acquire particular importance in the attempt to apply grounded methodologies because these detest external influences prior to analysis of data.[10] In alignment with the argument that insider-outsider status is a dynamic reality and not a binary position,[11] the article expands the literature on navigating the limitations of insider-outsider status as a continuum during the process of qualitative research. It is responsive to challenges to 'be more explicit in discussing the ways our situated lives guide and affect our research design; the questions we ask, the methods we use to collect data, the interpretations made and the relationships we have with our research participants.'[12]

This article conflates the identities of an insider researching educational settings that are familiar,[13] academics researching universities that are not their workplaces,[14] research on one's

---

[7] 'Trends in Social Science Research in Africa: Rigour, Relevance and Responsibility' in Sumaya Laher, Angelo Fynn and Sherianne Kramer (eds), *Transforming Research Methods in the Social Sciences: Case Studies From South Africa* (Wits University Press 2019) 399.

[8] Brian Bourke, 'Positionality: Reflecting on the Research Process' (2014) 19 The Qualitative Report 1, 3 <https://nsuworks.nova.edu/tqr/vol19/iss33/3>; Andrew Gary Darwin Holmes, 'Researcher Positionality - A Consideration of Its Influence and Place in Qualitative Research - A New Researcher Guide' (2020) 8 International Journal of Education 1, 4.

[9] Creswell (n 6) 216; Holmes (n 8) 2.

[10] Kathy Charmaz and Robert Thornberg, 'The Pursuit of Quality in Grounded Theory' (2021) 18 Qualitative Research in Psychology 305, 310 <https://doi.org/10.1080/14780887.2020.1780357>.

[11] Anna Wiederhold, 'Conducting Fieldwork at and Away from Home: Shifting Researcher Positionality with Mobile Interviewing Methods' (2015) 15 Qualitative Research 600, 602; Bryan C Clift, Jenny Hatchard and Julie Gore (eds), 'How Do We Belong? Researcher Positionality Within Qualitative Inquiry', *Proceedings of 4th Annual Qualitative Research Symposium at the University of Bath.* (2018) xi.

[12] Heidi Collins and Yvonne McNulty, 'Insider Status: (Re)Framing Researcher Positionality in International Human Resource Management Studies' (2020) 34 German Journal of Human Resource Management 202, 221.

[13] Iskender Gelir, 'Can Insider Be Outsider? Doing an Ethnographic Research in a Familiar Setting' (2021) 16 Ethnography and Education 226, 228.

[14] Addisalem Tebikew Yallew and Paul Othusitse Dipitso, 'Higher Education Research in African Contexts: Reflections from Fieldwork in Flagship Universities in South Africa, Mozambique and Ethiopia' [2021] Higher Education Research and Development 10.

own organisation[15] with aspects of engaging local research assistants and respondents.[16] Unlike familiarity by a female African returning from the West as a doctoral researcher in their own country,[17] it examines the familiar context of a female African doctoral researcher based in their own country striving to represent participant voices without the influence of her familiarity[18] while explaining how the latter was done. Since the present research entails a constructivist grounded theory associated with Charmaz, it can be further differentiated from the aforementioned works by the nuances of their feminist,[19] ethnographic[20] and other theoretical and methodological lenses. Unlike in Phillippo and Nolan's work, [21] the article examines black-on-black research in which race does not confer privilege. Reflexivity and positionality are particularly significant for grounded theory strategies because of the researcher's role as a research instrument therein.[22]

---

[15] Sussane Tietze, 'Researching Your Own Organization' in Gillian Symon and Catherine Cassell (eds), *Qualitative Organizational Research: Core Methods and Current Challenges* (Sage 2012); Catherine Cassel, Anne L Cunliffe and Gina Grandy, *The SAGE Handbook of Qualitative Business and Management Research Methods* (Sage 2017) 366.

[16] David Mwambari, 'Local Positionality in the Production of Knowledge in Northern Uganda' (2019) 18 International Journal of Qualitative Methods 1.

[17] Nungari Mwangi, *'Good That You Are One of Us': Positionality and Reciprocity in Conducting Fieldwork in Kenya's Flower Industry* (L Johnstone ed, 2019) 14.

[18] P Nwabisa Shai, 'A Local Researcher's Experiences of the Insider–Outsider Position: An Exercise of Self-Reflexivity During Ethnographic GBV and HIV Prevention Research in South Africa' (2020) 19 International Journal of Qualitative Methods.

[19] Tigist Shewarega Hussen, 'Exploring "Familiar" Spaces in Feminist Ethnographic Fieldwork: Critical Reflections of Fieldwork Experience in Gurage, Ethiopia' (2014) 2 International Journal of Political Science and Development 12; Aparna Parikh, 'Insider-Outsider as Process: Drawing as Reflexive Feminist Methodology during Fieldwork' (2020) 27 Cultural Geographies 437; Morolake Josephine Adeagbo, 'An "Outsider Within": Considering Positionality and Reflexivity in Research on HIV-Positive Adolescent Mothers in South Africa' (2021) 21 Qualitative Research 181.

[20] Shai (n 18); Mwambari (n 16).

[21] 'White-on-White Research: A Study of White Qualitative Researcher Positionality Among White Participants' [2022] International Journal of Qualitative Studies in Education.

[22] Mohamed T el Hussein, Andrea Kennedy and Brent Oliver, 'Grounded Theory and the Conundrum of Literature Review: Framework for Novice Researchers' (2017) 22 The Qualitative Report 1199, 1203.

Emerging positionality paradigms

Clinical programs differ from doctrinal courses in law schools because of the practical and experiential methodology involved. Clinical legal education has been referred to as a global movement that seeks to advance justice education through clinical programs in law schools.[23] There exist regional and global clinic networks to which justice educators and their institutions belong. Additionally, the practice orientation means clinical law faculty also belong to professional legal bodies of their respective countries. The common law ones have traditionally entrenched hierarchies of seniority within them. Students training in clinical programs work under close supervision of faculty ultimately proceeding to join the same professional bodies to which the latter belong.

Professional affiliation is discussed herein in three tiers that are the legal profession, legal academy and clinic fraternity. At the cusp, the legal profession which has historically considered itself a 'learned profession' whose members operate within a unique legal culture.[24] This is manifested in power relations within the hierarchy of the profession and between the profession and 'the others,' institutional dynamics, gatekeepers and norms that belong to a self-governing professional association, which develops its own rules. Criticisms levelled against them include a dearth of legal aid orientation and practice[25] that appears contradictory to their objective of promoting access to justice in the country.

In the second tier of socialization, some members of the legal profession are occupied in academic life. These may or may not actively be engaged in the legal practice activities of the association. Law schools are governed by university legislation that sets standards for higher education and guidelines for the promotion of academic staff. Council for Legal Education, which uniquely focuses on legal education institutions, also regulates them. Despite existing hierarchical

---

[23] Frank S Bloch, 'Access to Justice and the Global Clinical Movement' (2008) 28 Washington University Journal of Law and Policy 111.

[24] Freda Mugambi Githiru, 'Transformative Constitutionalism, Legal Culture and the Judiciary under the 2010 Constitution of Kenya' (Unpublished Phd Thesis, University of Pretoria 2015).

[25] Muigai Prof Githu, 'Report of the Ministerial Task Force on the Development of a Policy and Legal Framework for Legal Education in Kenya' (2005).

status within the academy, the administrative organization within universities and law schools also establish governance structures with resulting power dynamics.

In the third tier of socialization are lecturers at university law clinics. University law clinics generally operate within law schools and are allocated to teaching staff as part of their teaching or administrative duties. They too have operational structures that include staff, students and external institutions that proffer support in the form of personnel, funding or other similar resources.

Through reflexivity, I was able to identify personal attributes that contributed to my positionality. I am a Kenyan, female, advocate of the high court of Kenya with legal practice experience in litigation and as in-house counsel. I established the clinic at the law school in my university in 2015 and served as its director. These impacted power dynamics as well as relationships with gatekeepers and research participants. The systematic literature review preceding the doctoral study likewise appears to have engendered subliminal dispositions of familiarity with aspects of the research subject, explained further on as bearing implications for grounding the study in data.

My preceding experience with non-governmental organizations and university legal aid clinics shaped my choice of research topic and questions. The research topic I selected was aligned with my professional history and roles, about which I held deeply rooted convictions. Some of these were the expectation of positive student inclinations towards clinical legal education and a belief that lawyers were generally disinclined towards legal aid work.

I had to confront the pressing matter of the place of literature in a grounded theory study, given that its application, timing and effect on the grounded nature of the methodology in its various renditions are highly contested.[26] Although the influence of literature on coding during analysis[27] is acknowledged, the supposition that literature reviews may taint the data becomes problematic for doctoral researchers who must satisfy preliminary literature requirements for the

---

[26] Robert Thornberg, 'Informed Grounded Theory' (2012) 56 Scandinavian Journal of Educational Research 243, 243.

[27] Creswell (n 6).

review boards and postgraduate committees charged with approving proposals for academic research.[28]

Reflexivity tools such as the social identity map,[29] facilitate the determination of positionality as well as the methodological impact of research and dissemination. They depict the researcher's identity as consisting of a wide range of variables that either establish or repel a connection with participants. The latter factors that brand a person as different or an outsider [30] include the researcher's age, gender, marital and parental status, race, ways of dress[31] and level of education. On the other hand, shared characteristics between the researcher and the participants establish commonalities that render the researcher an insider. While insider status facilitates the setting up of the research structures and fosters rapport with research participants, outsider status repels it. Both statuses have long been recognized as being a continuum.[32] A researcher who identifies as an insider can gain and sustain useful collaborative relationships with participants when they too recognize the researcher as an insider.[33] Whereas researchers often view the world from the lenses of their own identity, their attributes evoke perceptions in research participants that are also qualified by the kind of research questions being asked. These factors could also influence power relations during fieldwork, sometimes forming a 'power distance' between the researcher and the participants.[34] Unless the researcher intervenes,[35] the participants are likely to defer towards the person who wields power.

---

[28] Jason Luckerhoff and François Guillemette, 'The Conflicts between Grounded Theory Requirements and Institutional Requirements for Scientific Research' (2011) 16 The Qualitative Report 396, 396; Hussein, Kennedy and Oliver (n 22) 1200.

[29] Danielle Jacobson and Nida Mustafa, 'Social Identity Map: A Reflexivity Tool for Practicing Explicit Positionality in Critical Qualitative Research' (2019) 18 International Journal of Qualitative Methods 1, 6.

[30] Bourke (n 8) 5.

[31] Parikh (n 19) 9.

[32] Admire Chereni, 'Positionality and Collaboration During Fieldwork: Insights From Research With Co-Nationals Living Abroad' (2014) 15 Forum: Qualitative Social Research.

[33] Chereni (n 32).

[34] Laher, Fynn and Kramer (n 7) 399.

[35] Yallew and Dipitso (n 14) 7.

An insider within

Whereas researchers have highlighted the absence of dichotomy between being an insider and being an outsider,[36] this article treats these as a concentric relationship. It expresses this phenomenon as 'an insider within' and 'less of an insider' in the attempt to articulate the proximity to insider status in the concentric levels of the status of insider. With the layered insider status emerging from my being a Kenyan researching Kenyan institutions as well as the multiple professional affiliations discussed in the preceding section, I saw myself as an insider within- a status at the core of concentric layers of insider. This amplifies a challenge that is typical of such studies and was helpful in defining where one falls when one belongs to the same race, nationality, profession and academic role. The expectation would be that a layered insider status should therefore yield greater benefits to the researcher.

Indeed, my positionality as an insider influenced the research area, topic, and questions because of the conviction I had gained about clinical legal education from prior work experience and literature. Although some of these examples could apply to any form of qualitative research, what makes them specific to insider research is the direct contribution that insider status brings with it. Admittedly and as dealt with further on, some constructs identified from the literature review seemingly influenced aspects of the data collection process while ideas for the initial coding themes appear to have been influenced by literature with the latter ones being drawn from the data. The gaps in the documentation of clinical legal education in Kenya prompted an empirical study guided by questions inspired by the literature on the growth and history of clinics globally. My dispositions were further fortified by comparative literature on the access to justice role of clinical legal education. These exposed my predispositions about unsupportive legal frameworks and challenges that were similar to those in other countries that I, undeniably, brought with me to the fieldwork segment of the research.

Participation is a commonly acknowledged benefit that insiders gain from their status.[37] Indeed, my insider status had some impact on interviewee participation, as I was able to build on

---

[36] Clift, Hatchard and Gore (n 11) xi; Wiederhold (n 11) 602.

[37] Wiederhold (n 11) 605; Berger (n 5) 220; Phillippo and Nolan (n 21) 8–9.

my networks to achieve acceptance from interviewees. My assumptions on the responses were largely based on the strength of collegial support, the power dynamics resulting from networks, personal interest of the participants in both the doctoral research process and subject. Either consciously or subconsciously, the participants who expressed an interest in the research outcomes thereby communicated an underlying expectation of how their institutions would be presented in the report.

> Interviewee CA: But, more importantly, I would be interested in your report. Because then it would help us also know how to move forward in our engagement with law clinics. So, for me, I would say I'm very excited in [about] your area. Most people do broad theses, broadly access to justice, and there is no that focus that you've given as you have in this study, and more so on the universities…So, we would be really interested in your report, and appreciate that you are expanding that.[38]

Chances are that those who did not respond to the invitation to participate in the research were motivated by reasons of convenience, gate-keeping, institutional politics, personal or other circumstances that were unrelated to the researcher and their subject.

Nevertheless, my being an insider seemed to have influenced some participants' consent to the study and their agreeing to meet as well as the creation of a safe environment that enabled the divulging of information without embellishing it. The benefits of insider status towards accessing research participants are well documented.[39] Indeed, access to participants and information was facilitated by the sense of support towards a colleague that the insider status generated. Thus, the researcher was viewed as one of 'us' in the academy, one of 'us' clinicians as well as one of 'us' passionate about law clinics and legal aid. With the majority of lecturers undertaking or having completed doctoral studies, they were very helpful and happy to assist one of 'us' who is still in the treacherous doctoral journey.

---

[38] On file with author Protocol Number H18/10/17, 'Interview 8', *Combined Transcripts* (2019) 178.

[39] Anna Gawlewicz, 'Language and Translation Strategies in Researching Migrant Experience of Difference from the Position of Migrant Researcher' (2016) 16 Qualitative Research 27, 30; Christina Chavez, 'Conceptualizing from the Inside: Advantages, Complications, and Demands on Insider Positionality' (2015) 13 The Qualitative Report 474, 481–485.

The narratives in the interviews and focus groups were characterized by shared understandings in several respects.[40] The participants had legal knowledge and highly appreciated the informed consent process. Instead of curtailing my access to the field as may happen with untrained communities[41] or those uninformed about research ethics,[42] it created a sense of security and fostered engagement with the participants because they were confident about the legal and ethical boundaries of our interaction.

Additionally, my cognizance of the prevailing debates in the research area brought with it multiple assumptions about the research participants, particularly student and lawyer disposition towards pro bono work, and the thorny question of student representation. In identifying as an advocate and critiquing the legislation on advocates in Kenya, I became uncomfortable with the weaknesses I encountered in the law. This ignited my curiosity to ascertain whether these shortcomings were factual or merely my own perception of lawyers in society.

Considered a constant challenge,[43] my insider status meant that I entered the research with certain preconceived notions I exemplify in the subsequent paragraphs that I was frequently unconscious of. Some of these were based on my past experiences[44] with members of the professional body while others resulted from an awareness of the institutional undercurrents around these issues. A noteworthy disadvantage of my insider status was the presumption by the research participants that I was mindful of the nuances [45] and therefore there was no need to elaborate or explain further. Resultantly, my insider status influenced the quality of information I obtained, since I too presumed that I understood the participants' line of discussion. This became apparent when reflecting on the transcripts, I digressed from the interview guide each time the responses did not align with expectations I wasn't even aware I had. For instance, it became clear that I was working with the assumption that, like in my undergraduate clinic experience, the

---

[40] Holmes (n 8) 6.

[41] Hussen (n 19) 17.

[42] Yallew and Dipitso (n 14) 7.

[43] Wiederhold (n 11) 606.

[44] Berger (n 5) 220.

[45] Wiederhold (n 11) 606.

students would be interested in access to justice work and would want to engage in these tasks to make a difference in their communities. This arose during an interview in which students had misgivings about pro bono work and would therefore fail to take up opportunities presented to them by faculty.

Interviewee: So, unfortunately, most students wouldn't sign up.

Interviewer: Really? (*this is my strongest expression of surprise*)[46]

My response was one of genuine surprise; a moment of enlightenment that I had a certain expectation and that it had not been met.

The notion of student representation emerged in multiple interviews. It was always qualified by the participant in anticipation of potential rejection of the idea by the Law Society. This consistent deference to the professional society was a nuance that could have escaped me had I been a stranger to the history, operations and regulations of the Law Society that limited client representation to advocates.

Additionally, having come to the project with previous experience from legal practice, I carried some presumptions about lawyers that emerged in the research, such as the view that lawyers do not engage in legal aid work. This was manifested in scepticism whenever positive data emerged about lawyers offering services to disadvantaged persons.

Interviewee: even now law firms have a running legal aid department.

Interviewer: Really?

Interviewee: Yes, in of themselves where they have a percentage of legal aid and pro bono work that they do independent of you know? Just as their policy as law firms.[47]

Examples here include my discovery of a little-publicized pro-bono lawyers scheme managed by the Law Society, law firms that work with students and meet clinic expenditure as well as the existence of law firms with pro-bono departments. The bias was apparent from the

---

[46] On file with author Protocol Number H18/10/17, 'Interview 4', *Combined Transcripts* (2019) 115.

[47] On file with author Protocol Number H18/10/17, 'Interview 9', *Combined Transcripts* (2019) 188.

sense of vindication I felt when lawyers who formally enlisted to offer pro bono services amounted to only 8.5 per cent of the 17,000 qualified lawyers in the country; the exception and not the rule.

Less of-an-insider

The foregoing layers of alignment notwithstanding, I still encountered a subtle sense of exclusion that was generated by experiences with particular research participants. One of these was the pattern that was established in which persons, whom my school or I had not had previous interactions with, consistently failed to respond to my emails. This happened despite my having sought the relevant office-bearers' names and addressed the emails correctly. Accordingly, the majority of the institutions and persons who responded at the first instance were direct institutional or personal contacts.

Differences in institutional resourcing and the perception that my university's clinic was seemingly operating at an optimum excluded me from the participant's lived realities. This is because I worked in a private university and while the government sponsors public universities, private entities manage and operate private universities with funding obtained primarily from the fees charged to students. It is often the case that the latter institutions are smaller and better endowed economically, a factor that influences the quality and availability of facilities one finds in the respective institutions. The private institutions have the capacity for multiple projects that aren't often feasible for institutions with limited resources. Consequently, several participants shared that although I was studying their institution, my institution had a law clinic that was presumably well-staffed and run and seemingly had little or no resource challenges. Taking the position of interviewers themselves, they took the opportunity to find out about how they could develop aspects of their clinics. Additionally, there were participants from universities with nascent clinics who took a modest view of their clinical programs, presenting them in comparison to thriving clinics. They mistakenly associated the researcher with the latter, expressing the illusory view that they did not belong to the clinics within the study category. The sense of exclusion created by these factors cast me as less of an insider.

Power dynamics

Possession of the research permit from the Institutional Ethics Review Board symbolized government approval of the research.[48] Such authorization facilitated entry into the field and also appeared to positively influence institutional approvals to conduct research. The permit was therefore a subtle manifestation of power dynamics that was beneficial in obtaining research clearance from the institutional heads and in traversing institutional hierarchies and gatekeepers.

Cursory comments from some participants revealed their perception of my working at a private university as privileged. This may have fostered the erroneous view that I may not appreciate the diversity of needs of clinics in their institutions. This presumption cultivated a power asymmetry based on my apparent privileged status which hindered the data collection process because the participants were disinclined to share their experiences and instead asked about the interviewer's experiences.

Power asymmetry was also made salient by the lecturer-student dynamic in the interaction with student leaders in the clinics. Teacher authority, a power relation that is often palpable in interactions between teachers and students,[49] surfaced in the initial interviews when the students from various universities who were interviewed always responded positively to the request for a meeting. The power dynamics attributable to my being a university lecturer introduced to students by their own lecturer, who wielded power over them and their grades, were likewise manifested in some of the interviews and focus groups. Two students who happened to be in school and easily accepted to join their colleagues in the focus group at short notice became visibly restless and unsettled.

---

[48] National Commission for Science Technology and Innovation, 'Research Permit No. NACOSTI/P/18/44934/25918' (2018); University of the Witwatersrand Human Research Ethics Committee (Non-medical), 'Ethics Clearance Certificate Protocol Number H18/10/17' (2019).

[49] Edward Taylor, Elizabeth J Tisdell and Mary Stone Hanley, 'The Role of Positionality in Teaching for Critical Consciousness: Implications for Adult Education', *Adult Education Research Conference 2000 Conference Proceedings (Vancouver, BC, Canada)* (2000) 4.

> Interviewer: Okay. Yeah. Thank you. So, who would like to go next? I have a feeling you want to go next because you need to be somewhere else.

> Interviewee 1: We have a meeting with our supervisors.[50]

Several students in the interviews and focus groups were already looking to enter employment as they awaited admission to the bar school. Since my university has a graduate assistantship program, this discussion frequently came up as part of building rapport. We considered post-graduation prospects and I encouraged those who seemed interested in our program to apply. Finding out that some of them had already applied for a position at my institution inadvertently tilted the power dynamic by unveiling prospects of a potential employment relationship. Naturally, these particular students were motivated to make a positive impression in their responses during the interviews thereby influencing the data collection process.

With regard to gender dynamics, I observed that male students dominated the leadership in the clinics. The converse was true of key informants and clinic staff, the majority of whom were female. Arguments persist about an insider status rising from female researchers speaking to female participants [51] but this is distinguishable by the nature of research, and cultural norms.[52] Since the research subject and questions did not border on the personal, I felt that the effect of my femaleness was either negligible or was surpassed by other commonalities.[53] Thus, gender dynamics did not affect the research process.

The possibility of bearing both an insider and an 'other' in varying degrees and to different participants situates positionality as dynamic and contingent.[54] Even with the commonality of shared ethnicity that should render a researcher an insider, attributes such as skin colour, citizenship and educational background establish otherness that limits the connection between a

---

[50] On file with author Protocol Number H18/10/17, 'Focus Group Discussion 3', *Combined Transcripts* (2019) 97.

[51] Mwangi (n 17) 17.

[52] Shai (n 18) 7; Gelir (n 13) 238.

[53] Jacobson and Mustafa (n 29) 7.

[54] Jessica Soedirgo and Aarie Glas, 'Toward Active Reflexivity: Positionality and Practice in the Production of Knowledge' [2020] PS: Political Science and Politics 527.

researcher and the research participants.[55] Realisation of such limits helps researchers to appreciate that their self-perception does not always coincide with how the participants perceive the researcher,[56] a notion that is equally useful during data analysis. Thus, the researchers should be aware of obstacles resulting from their status of not being insiders even when researching a familiar setting.[57] They can then devise strategies for confronting such limitations.

Formulating strategies to navigate concentric insider positionality

The nuances merging from conceiving insider status as a concentric relationship is a call to the researcher to navigate the layered influences of their status on the research. Insider research remains valuable because of the given the unique qualities of each researcher. For instance, human experiences remain distinct despite shared social identities.[58] Indeed, personal attributes such as age[59] also colour insider observations. The quality of research is likely to benefit from researchers' endeavours to grapple with the tensions and limitations arising from researching the familiar. Examples here are managing aspects of the researchers' insider or outsider status by highlighting those identities which facilitate rapport and data collection[60] as well as levelling power imbalances through cultivating a more reciprocal relationship with research participants by "locally institutionalizing" the knowledge acquired from the research.[61] Additionally, tackling the

---

[55] Sarah Mayorga-Gallo and Elizabeth Hordge-Freeman, 'Between Marginality and Privilege: Gaining Access and Navigating the Field in Multiethnic Settings' (2017) 17 Qualitative Research 377, 378.

[56] Morgan L Maxwell and others, 'Conducting Community-Engaged Qualitative Research in South Africa: Memoirs of Intersectional Identities Abroad' (2016) 16 Qualitative Research 95, 106; Jacobson and Mustafa (n 29) 9.

[57] Gelir (n 13) 226.

[58] Gawlewicz (n 39) 31; Adeagbo (n 19) 10; Nompilo Tshuma, 'The Vulnerable Insider: Navigating Power, Positionality and Being in Educational Technology Research' (2021) 46 Learning, Media and Technology 218, 225.

[59] Nicole Angotti and Christie Sennott, 'Implementing "Insider" Ethnography: Lessons from the Public Conversations about HIV/AIDS Project in Rural South Africa' (2015) 15 Qualitative Research 437, 438.

[60] Hussen (n 19) 16.

[61] Mwangi (n 17) 25.

emerging limitations of insider status facilitated the implementation of grounded theory strategies that require the researcher to reserve their interpretations and allow the data to speak for itself.

Reserving the effects of familiarity

Reflexivity is widely recommended[62] throughout the research process. Such reflexivity serves to expose potential biases that are then documented.[63] The need for reflexivity is therefore more apparent in scenarios of layered insider status. A reflexivity skill I transferred from clinical practice is writing a research journal, from which this essay is drawn. This allowed me as a researcher to mentally step aside from the research and its participants. In striving to separate my own beliefs from the voices of the participants, as presented in the transcripts of the focus group discussions and interviews, I let some time pass between the interviews and reviewing of transcripts in a bid to create some distance between my ideas and those in the transcripts. I then slowly revised the transcripts, taking notes beside the sections where personal reflection and my gut feeling made me question why a particular participant said what they did, and left unsaid what had been left unsaid. I also reflected on my reactions and follow-up questions, seeking to uncover the motivations behind them. I became aware that I was listening to my participants from the standpoint of law clinics and legal practice as I had experienced them. Any divergence from this standpoint immediately drew my attention as being different or worthy of further examination. This journaling proved critical in exposing my predominant notion that the stereotypical 'shark' perpetuated in popular satire and humour represented the values and beliefs held by the legal profession. Admittedly, the foregoing process which was neither systematic nor structured helped confront possible subjective researcher influence during coding. Although reflective practice is a critical

---

[62] Berger (n 5) 221–222; Soedirgo and Glas (n 54); Collins and McNulty (n 12); Tshuma (n 58) 226; Chavez (n 39) 491.

[63] Collins and McNulty (n 12) 16; Katja Mruck and Günter Mey, 'Grounded Theory and Reflexivity' in Antony Bryant and Kathy Charmaz (eds), *The Sage Handbook of Grounded Theory* (2nd edn, Sage 2007) 518; Phillippo and Nolan (n 21) 14.

skill for clinical programs,[64] research training would serve to better prepare other novice researchers for both fieldwork and analysis.

To avoid clouded perceptions that deter objectivity in data collection and analysis, researchers are encouraged to utilize methods that deter familiarity.[65] While Wiederhold[66] disrupted familiarity by using peripatetic interviews which were practical in the particular context, Parikh[67] asked participants to explain their responses as if to an alien who knew nothing of their social identities. I, in turn, sought disruptors of familiarity that are recommended for grounded theory strategies[68] that were feasible for my research topic, budget and participants. I found that holding the interviews and focus group discussions in the participants' environments immersed me into their journeys, albeit briefly, allowing me to listen to and observe them in their settings, which differed from mine. This was my way of confronting possible subjective researcher influence during the interviews. Relatedly, theorists of place and clinical programs denote the significance of clinics for clients as physical or virtual locations for the attainment of health or access to justice and whose dynamics reflect certain power relations occasioned by law.[69] That I sat in a law school boardroom which student clinicians used as their meeting room, visited a university I had only heard about, conducted interviews at two offices in different parts of the city and was a guest at a university walk-in clinic therefore tilted the power balance from the interviewer to the interviewees. Despite these efforts, it was convenient to hold several interviews in my office during the stakeholder's workshop with participants who were visiting my university briefly from other

---

[64] Hugh McFaul, 'Towards a Capability Approach to Clinical Legal Education' in Omar Madhloom and Hugh McFaul (eds), *Thinking About Clinical Legal Education; Philosophical and Theoretical Perspectives* (Routledge 2021) 133.

[65] Wiederhold (n 11) 606.

[66] (n 11) 606.

[67] (n 19) 11.

[68] Mruck and Mey (n 63) 523.

[69] Rachel Stalker and Sarah Buhler, 'Place-Based Education: Clinical Legal Education and Ethics' in Omar Madhloom and Hugh McFaul (eds), *Thinking About Clinical Legal Education; Philosophical and Theoretical Perspectives* (Routledge 2021) 12,13.

parts of the country. In these instances, the factor that disrupted familiarity was that the majority of the interviewees were strangers.

In a departure from original grounded theorists, contemporary scholarship considers literature review as particularly important for grounded theory studies, especially if used reflexively.[70] My endeavour to determine the research gaps, its overall trajectory and frame questions for the study through a systematic review of the literature was therefore justifiable. Likewise, my reflexive journaling about the interviews and focus group discussions offered a certain degree of awareness about my expectations that emanated from the preliminary literature review that was conducted as a mandatory section of the research proposal presented for confirmation of candidature. The latter compelled my fostering the co-creation of knowledge by allowing the participants to replace, clarify and build on my predispositions. These served to align the incongruences between my expectations and their own experience of law clinics. This strategy was evident at the end of one focus group discussion when a student leader asked whether their conversation was relevant to me and whether there was specific information that I wanted from them outside of the clinic experiences they had shared. When possible, I used follow-up questions to clarify doubts or to compare the data with presumptions I was aware that I held. I endeavoured through these efforts to 'render strange what is established as normal.'[71] This was another way of confronting possible subjective researcher influence during the discussions.

In a bid to clarify the place of literature in light of the grounded theory strategies, I returned to the literature after the fieldwork. In this way, I examined my journal to attempt an evaluation of the connectedness, or lack thereof, between the empirical study and existing knowledge. Reflexivity at this level likewise elicited greater clarity on the extent to which the initial systematic review influenced the data collection process, which influence was inevitable given that both activities were conducted by the same researcher. Nevertheless, there remained a lingering doubt about reflexivity and literature, whether one can completely separate one's knowledge from the field from that of literature. Did I know this before the literature review? How much did it influence

---

[70] Giles, King and Lacey (n 3) 29.

[71] Tietze (n 15) 56.

the data collection process? Once more, these challenges may have been addressed by prior research training in both areas of reflexivity in insider research as well as in grounded theory research.

Navigating the less of-an-insider status

While I considered myself an insider within for the most part, I realized that certain participants viewed me as less of an insider because of the divergence in the resourcing and development of clinics in our respective institutions. The awareness of my positionality when perceived as 'other' was sharpened when participants did not consider me as an insider, although I considered myself as one. This presented a challenge that I had neither expected nor prepared for. It affected the research process because there were obstacles in accessing these participants and when I did, some were reticent and unconvinced about the value of their contribution. In reality, dealing with the status of less of an insider was similar to that of working with outsider status, because in both instances one was viewed as 'other' but just in different degrees.

After some thought, it was possible to resolve the difficulty of gaining access to research participants by leaning into professional networks available through my insider status. This entailed seeking the assistance of 'go-betweens' in the form of colleagues who had contacts in the institutions that had failed to respond to my communication. Such introduction by peers or familiar persons elicited a more positive reaction in potential interviewees who had previously not responded to my emails.

I perceived my status as less of an insider as affecting the disposition of the participants who considered me an 'other.' Viewing their role as unimportant, they were reluctant to divulge information. This threatened to curtail the data collection process so I quickly addressed this situation by countering their view and offering encouragement about the importance of their experiences for the research, even if this was not always successful in eliciting responses. In hindsight, it may have been helpful to ask more open-ended questions about their experiences and to ask follow-up questions in a bid to collect exhaustive data.

I attempted to compensate for my status as less of an insider by taking more time to build rapport with the participants. This was done by maintaining a friendly demeanour and engaging in small talk and peripheral conversations to help them get comfortable and ease into the interview.

Additionally, I offered a belaboured explanation of informed consent and reminded them of the purpose of the research, letting them know that they were free to participate and to discontinue their participation at any time if they felt uneasy. Although the prospect of anonymity was a relief to some participants, a significant number were comfortable waiving it. Once they gave consent to participate, I strived to ensure that the voices of these research participants were not stifled[72] by encouraging them to trust that the discussion was going to be helpful for the research even if they did not think it would. This is another instance where open-ended questions about their experiences would have proved helpful in getting participants to provide information.

Additionally, although the power balance weighed in my favour when I arrived as a researcher wielding a research permit, I endeavoured to resolve the resulting asymmetry by stemming any semblance of expertise in the subject. This was achievable by encouraging the participants to take charge of the experiences they wanted to share. Inevitably, it bore the resultant risk of collecting excess or unnecessary data.

Also, while all the students clearly stated that they were happy to be of help and were present willingly, this might have been their way of deferring to authority. It further emerged that some, to my earlier ignorance, accepted appointments occasioning unwarranted inconvenience to them. This practice was reinforced by the cultural socialization of young persons to be well-mannered and have respect for older persons, even when this entailed personal sacrifice. Endeavouring to counter this, I thereafter resolved to secure the students' convenient availability before confirming an interview by letting them select the day and time of the meeting instead of proposing these to them.

Engagement with research participants proved critical for incorporating the voices of student clinicians that were markedly absent from the review of the literature. Since clinics engage both staff and student leadership, I convened focus group discussions with student leaders from each school except on the rare occasion that a student was unable to join their colleagues. I asked a few questions and allowed the discussion to flow organically. This permitted me to observe their interactions and facilitated their spontaneous recounting of experiences with their law clinic.

---

[72] Bourke (n 8) 3.

Similarly, I held interviews with clinic directors and key informants in collaborating institutions based on an unstructured interview guide. The guide included questions such as 'what is the role of students in the clinic?' 'What is the role of staff in the clinic?' 'What sorts of challenges do you face in your work?' The guide therefore provided the flexibility for us to delve deeper into specific questions when this was necessary.

Research participants received a participant information sheet and an informed consent form offering details about the study and providing a range of choices regarding how the information they provided would be treated. Even if the participants had consented to be part of the study, most preferred to speak on the condition of anonymity. This offered them the freedom to express themselves without inhibition. This election of anonymity was beneficial for the study because it facilitated unfiltered information exchange that would otherwise not have been possible.

Conclusion

The scope of social identities is wider than classical class, ethnicity, race and personality. As such, researchers are likely to encounter insider status arising from other factors such as familiarity within professional circles. Insider status has limitations such as the fallacy of shared understanding among perceived insiders that disregards the singularity of personal experience of the world. In what may be unexpected, layered insider status emerging as a concentric reality bears challenges especially for novice researchers anticipating the benefits alone. Confronting the heightened risk of subjectivity that such insider status poses to the research therefore entails concerted reflectivity in the use of literature and indeed throughout the research process. Such reflexivity is important in gaining awareness of one's positionality and in dealing with familiarity. Reflective journals facilitate reflexivity when utilized throughout the research process. Familiarity takes many forms, and so do strategies that could be deployed to disrupt it. Thus, the researcher would have to adapt these to their needs. Strategies for the latter include consideration of familiar places for interviewees in selecting interview environments. Strategies when the researcher is not considered less of an insider are similar to those of managing outsider status because one is considered an 'other' in both instances but just to varying degrees. These are provided by using intermediaries in one's network to facilitate access to participants, promoting rapport through conversation and small talk as well as allowing the participants to co-create knowledge by actively participating and taking ownership of the discussions. This can be facilitated by using open-ended

questions and maintaining a friendly demeanour. Clinical researchers conduct reflexive practice in their programs. Nevertheless, training is recommended for novice researchers as these help sharpen skills in reflexivity for particular research such as for those doing insider research or grounded theory research.

Can ethnic disparities in sentencing be taken as evidence of judicial discrimination?

Jose Pina-Sánchez · Sara Geneletti · Ana Veiga · Ana Morales · Eoin Guilfoyle

Large research efforts have been directed at the exploration of ethnic disparities in the criminal justice system, documenting harsher treatment of minority ethnic defendants, across offence types, criminal justice decisions, and jurisdictions. However, most studies on the topic have relied on observational data, which can only approximate 'like with like' comparisons. We use causal diagrams to lay out explicitly the different ways estimates of ethnic disparities in sentencing derived from observational data could be biased. Beyond the commonly acknowledged problem of unobserved case characteristics, we also discuss other less well-known, yet likely more consequential problems: measurement error in the form of racially-determined case characteristics or as a result of disparities within the 'Whites' reference group, and selection bias from non-response and missing offenders' ethnicity data. We apply such causal framework to review findings from two recent studies showing ethnic disparities in custodial sentences imposed at the Crown Court (England and Wales). We also use simulations to recreate the most comprehensive of those studies, and demonstrate how the reported ethnic disparities appear robust to a problem of unobserved case characteristics. We conclude that ethnic disparities observed in the Crown Court are likely reflecting evidence of direct discrimination in sentencing.

J. Pina-Sánchez
School of Law, University of Leeds, UK
Liberty Building, University Western Campus, Moorland Rd, Leeds LS3 1DB, UK
ORCID: 0000-0002-9416-6022
E-mail: j.pinasanchez@leeds.ac.uk

Sara Geneletti
Department of Statistics, London School of Economics, UK
ORCID: 0000-0001-6456-7258

Ana Veiga
School of Law, University of Leeds, UK
ORCID: 0000-0002-6301-1212

Ana Morales
School of Law, University of Edinburgh, UK
ORCID: 0000-0001-8473-1502

Eoin Guilfoyle
School of Law, Brunel University, UK
ORCID: 0000-0002-2497-7735

1 Introduction

Few criminal justice questions have attracted more research attention than the exploration of ethnic disparities. Findings from the literature are not always consistent (Pratt, 1998; Wu, 2016), but a general pattern can be elicited; defendants from certain ethnic minority backgrounds tend to be treated more harshly. Sentencing, in spite of being the most visible and symbolic (Ashworth and Kelly, 2021) criminal justice process, is no exception. Meta-analyses and narrative reviews of the literature point at Black offenders receiving harsher punishments than White offenders charged with the same crime (Baumer, 2013; Franklin, 2018; Mitchell, 2005). Yet, despite scores of studies documenting such disparities, the literature on the subject is often seen as inconclusive.

Researchers, practitioners and policy-makers tend to be wary of interpreting estimates of ethnic disparities as evidence of discriminatory practices. The reason for this lies on a methodological problem affecting much of empirical sentencing research, which has, to a large extent, relied on regression modelling of administrative data made available by Sentencing Commissions and similar judicial institutions. Such research design can approximate but never lead to perfect 'like with like' comparisons, since controlling for every potentially relevant case characteristic taken into consideration by the judge (e.g. offender's degree of culpability, or harm caused to the victim) is practically impossible (Baumer, 2013; Klepper et al., 1983; Pina-Sánchez and Linacre, 2016). This limitation is commonly highlighted in most studies on the subject, with some even stating that sentencing discrimination represents an unfalsifiable hypothesis (Wilbanks, 1987; Wooldredge, 1998).

We agree that the evidence base is far from perfect. It could be expected that most studies based on court statistics are to some extent biased as a result of not being able to control for all relevant case characteristics. However, we reject the view that the evidence accrued so far should be outright dismissed. The presence of unobserved case characteristics should not be taken as a fatal, black-box type of methodological problem, rendering all findings on ethnic disparities uninformative. Rather, we posit that this is just one - and not always the largest - of the many problems affecting the validity of studies on ethnic disparities. Furthermore, we argue that, if carefully considered, we could tease out the direction and prevalence of different biases affecting typical studies from the literature, allowing us to disentangle noise from signal, and in so doing shed much needed new light on this question.

We believe such an in-depth look into the validity of sentencing research on ethnic disparities is long overdue. This will help move forward the academic debate on the subject, but also, by tackling the current methodological impasse, we will also help inform the necessary policy responses - or justify their absence - more clearly. Under the consensus of an inconclusive evidence base, the adoption of measures to redress the reported ethnic disparities in sentencing has dragged on (Justice Committee, 2019), potentially perpetuating discriminatory practices against some of the most disadvantaged groups in our society (Becares, 2015; Jivraj and Khan, 2013). Similarly, to accept the current evidence on ethnic disparities uncritically could be as problematic. The mere perception of discrimination affects trust in the criminal justice system, which in turn fosters defiant attitudes towards law enforcement authorities, ultimately reinforcing dynamics of over-criminalisation affecting ethnic minorities (Ali and Champion, 2021).

In this article we explore the validity of ethnic disparity estimates commonly reported in sentencing research, with the aim of determining whether they could be interpreted as evidence of discrimination. To attain the necessary focus, we limit the scope of our study in different ways. We concentrate on studies relying on observational data, which represent the vast majority of studies on the subject. In doing so we do not contemplate experimental studies, such as those based on vignette designs (Freiburger, 2010; Yan and Lao, 2021), which are prone to different types of biases, mainly in the form of low ecological validity. We restrict our analysis to the concept of direct discrimination. That is, we assess whether decisions made by judges reflect evidence of differential treatment - as opposed to broader differences in outcomes - according to offenders' ethnic background (Gaebler et al., 2022). Consequently, we do not explore any of the multiple paths that lead to forms of indirect discrimination

outside the remit of judicial deliberations, such as the promulgation of differential sentencing regimes for offences predominantly attributed to ethnic minorities (Davis, 2011; Sandy, 2003; Shiner et al., 2018), or the structural socio-economic inequalities leading to differential rates of criminality and incarceration (Barnes and Motz, 2018; Ulmer et al., 2012; Van Eijk, 2017).

We further restrict our analysis to England and Wales. Such jurisdiction-specific focus is necessary to rule out important differences in sentencing practice and race relations across countries, which would otherwise blunt the analytical precision that we seek. England and Wales is also an interesting case study given the renewed interest that has been placed on ethnic disparities in the criminal justice system; with recent reports from various institutions providing new evidence and oddly contradictory interpretations. The system-level exploration undertaken by the Lammy Review (2017) uncovered high disparities in the sentencing of drug offenders, with the odds of receiving a custodial sentence 140% higher for Black than for White offenders. In a follow up study, the Sentencing Council for England and Wales explored disparities amongst similar types of offenders utilising their own survey data, which has the important advantage of capturing all case characteristics explicitly mentioned in the 'Drug Offences Definitive Guideline'[1]. Even after controlling for *all* guideline factors, the Council still noted a smaller yet substantial 40% disparity in the odds of incarceration (Isaac, 2020). These types of disparities appear to be particularly strong in the sentencing of drug offenders, but they are not restricted to that offence type. A different study from the Ministry of Justice found 53% higher odds of imprisonment for Black offenders across all offences sentenced in the Crown Court after controlling for offence type, guilty plea and previous convictions (Hopkins et al., 2016).

Despite their magnitude, critics have been quick to point out that the reported disparities are not the result of discriminatory practices. For example, Cuthberston (2017) rejected the findings from the Lammy Review, claiming that it fails to prove bias in the criminal justice system since crime is disproportionately committed by young people, and the ethnic minority population is disproportionately young. This is an argument drawn from the differential involvement thesis (Beaver et al., 2013; Blumstein, 1982; Sorensen et al., 2003), which generally claims that ethnic minority people disproportionately commit more serious and violent crime, and that therefore, ethnic disparities are a product of differential criminality. More recently, the Commission on Race and Ethnic Disparities (2021) report pointed at the disproportional involvement of ethnic minority individuals in violent crime and gangs; and concluded that ethnic disparities in England and Wales are not the result of institutional racism, individual discrimination or prejudice, but rather, they can be explained by socio-economic, cultural or religious factors. Defending the findings of the report, the former Minister for Equalities – Kemi Badenoch - stated that *'just because there is a disparity, it does not mean that discrimination is the cause'*[2].

In our study we follow a twofold approach, combining theoretical and empirical analysis. The former is developed in Section 2, where we use causal diagrams to define the key assumptions invoked - more or less explicitly - in studies of ethnic disparities based on observational data, and discuss the likely implications when these assumptions are not met. Given its central role in disputing the robustness of ethnic disparities, we start with the problem of unobserved case characteristics preventing 'like with like' comparisons. However, we also engage with other - often ignored - assumptions that are not met just as commonly. Namely, that offence and offender characteristics are accurately and objectively measured (i.e. no measurement error), and that the samples used are perfectly representative (i.e. no selection bias). The latter is an assumption implicitly invoked when missing data is present and left unadjusted, but also when sentencing is studied as a separate stage, independent of upstream decisions by the criminal justice system. Given the level of theoretical abstraction, lessons from this first part of our analysis are applicable to studies on sentencing disparities from any particular jurisdiction.

---

[1] https://www.sentencingcouncil.org.uk/wp-content/uploads/Drug-offences-definitive-guideline-Web.pdf
[2] Column 872, https://hansard.parliament.uk/commons/2021-04-20/debates/1502466F-D06B-402A-B7C0-03452FFB1DA9/CommissionOnRaceAndEthnicDisparities

To assess the extent to which failing to control for relevant case characteristics could bias estimates of ethnic disparities we use sensitivity analysis in the form of simulations (Groenwold et al., 2016; Pina-Sánchez et al., 2022). This is done in Section 3, where we return our attention to the jurisdiction of England and Wales. We focus on two landmark reports, Hopkins et al. (2016) and Isaac (2020), which we use as case-studies. Since the data used in these two studies has not been published and formal requests to access them have been rejected, we were not able to replicate their findings. Instead, we proceed by simulating Hopkins results, reflecting their main sample and model parameters (e.g. their proportion of minority offenders, or the reported effect of ethnicity on the probability of receiving a custodial sentence). We choose to explore these two studies because: i) they are complementary, based on different samples of offences and sentencing datasets; ii) for their relative high robustness, in our view superior than previous academic studies on this question stemming from England and Wales; but also iii) because they were undertaken from a key ministerial department (the Ministry of Justice) and public body (the Sentencing Council for England and Wales), which makes them highly consequential. Especially so since these are the two best-placed institutions to respond to the ethnic disparities unearthed by their own studies. Hence, our choice of these two case-studies allows us to directly address the key policy-makers on the subject, and help them establish whether the disparities they have reported represent evidence of ethnic discrimination.

2 Review of Assumptions

Our focus lies on three key assumptions, or rather, on the biasing effects that could be expected when these assumptions are not met: i) all relevant case characteristics are controlled for, ii) perfectly measured case characteristics, and iii) representative court samples. This is not a comprehensive list of questionable assumptions invoked in the typical study of ethnic disparities based on observational data. However, we argue these three are the most consequential, in the sense that they are practically never met, but also because when violated they have the potential of biasing estimates of ethnic disparities severely.

To represent the above assumptions we use causal diagrams in the form of directed acyclic graphs (Pearl, 2009; VanderWeele and Staudt, 2011), where causal relationships between variables are denoted using arrows, and a continuous/dashed circles are used to denote whether variables are controlled or not. The key benefit of such diagrams lies in their capacity to make assumptions explicit, and in so doing facilitate assessments regarding the likely impact when they are breached. In this section we build three causal diagrams progressively, in increasing order of complexity, however it is worth highlighting that they all provide a simplified representation of reality.

2.1 Unobserved Case Characteristics

Figure 1 represents the main causal mechanisms commonly thought to be relevant in standard studies of sentencing disparities. From the associations presented in that diagram, researchers are generally interested in retrieving the direct effect of ethnicity, X, on sentence severity, Y. To be more accurate, we suggest it is not offenders' ethnicity per se, but how their ethnicity is perceived by the judge, X^*, that we should focus on when examining sentencing discrimination.[3] Studies that are based on self-reported measures of offenders' ethnicity will in practice neglect this mediating path and approximate $X^* \rightarrow Y$ using $X \rightarrow Y$, which could lead to bias, although its form and direction is unclear, and therefore will be ignored in this article. Nonetheless, since most studies from the literature are based on court statistics

---

[3] Theoretically, it is questionable whether immutable traits like ethnicity can have a causal effect, since they cannot be experimentally manipulated (Holland, 1986). However, by considering judicial perceptions rather than offenders' actual ethnicity, we can circumvent this problem (Greiner and Rubin, 2011; VanderWeele and Robinson, 2014).

or similar administrative data relying on measures of offenders' ethnicity recorded by the police or other criminal justice officers, which could be taken as adequate proxies of judges' perceptions of offenders' ethnicity, we would expect the presence of such hypothetical bias to be limited. At this point, the emphasis on noting judicial perceptions of offenders' ethnicity might seem superfluous, but its importance will become clearer as we upgrade our causal diagram to consider problems of measurement error and selection bias in Sections 2.2 and 2.3.
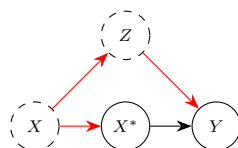

Fig. 1 Unobserved case characteristics. The effect of judicial perceptions of offenders' ethnicity on sentence severity $(X^* \to Y)$ will be biased (represented by the red path) if relevant case characteristics (Z) are not equally distributed by ethnicity (X) and left uncontrolled (represented by a dashed circle).

Next, we need to consider that sentence severity is determined by a wide range of case characteristics. These are the relevant offence and offender characteristics defining a criminal case, often listed in sentencing guidelines and/or criminal codes, which judges ought to weight in deciding the optimal sentence. Here, we summarise all of these relevant case characteristics as Z, and reflect their expected effect on sentence severity as $Z \to Y$. Broadly, the set of case characteristics controlled for in most studies from the literature is comprised of variables such as offence type, number of previous convictions, or whether a guilty plea was introduced; whereas more nuanced and harder to operationalise characteristics such as offender's dangerousness, culpability, rehabilitative potential, or harm caused to the victim, tend to be unobserved. If these case characteristics affecting sentence severity are independent of offenders' ethnicity, e.g. if the seriousness of offences committed by ethnic minority and White offenders is the same, then whether we can 'observe' such case characteristic - and therefore control for them - is to some extent irrelevant, since the direct effect of interest, $X^* \to Y$, will not be biased[4]. However, if as shown in Figure 1, case characteristics affecting sentence severity are also associated with offenders' ethnicity $(X \to Z)$, e.g. if ethnic minority offenders are more likely to use a weapon than White offenders charged with a similar violent offence, then, as long as Z remains partially uncontrolled, the effect of interest $(X^* \to Y)$ cannot be identified.

This is the main methodological problem faced by most sentencing research based on observational data. Researchers can use regression (Hester and Hartman, 2017), matching (Bales and Piquero, 2012) or weighting (**?**) methods to condition for some of the case characteristics and approximate $X^* \to Y$, but they cannot be certain their estimate is unbiased since, as long as some degree of judicial discretion is retained, the list of potentially relevant case characteristics is non-exhaustive. Technically, the backdoor path $X^* \leftarrow X \to Z \to Y$ remains partially open.[5] Intuitively, we would be ascribing differences in sentence severity to judicial perceptions of offenders' ethnicity (i.e. claiming discrimination), when the variability in sentence severity is in fact reflecting differences in the types of cases associated to White and ethnic minority offenders. Differences in case characteristics that, according to the principle of equality under the law, judges ought to take into account when determining sentence severity.

---

[4] Controlling for case characteristics known to affect sentence severity would still be desirable as that can increase the model's precision (Cinelli et al., 2020)

[5] Assuming the DAG presented in Figure 1 to be correct, and if both self-reported (X) and judicially ascribed measures of ethnicity (X^*) are recorded, then controlling for X would make the $X^* \to Y$ identifiable. However, as explained in Appendix A (Expanded Representation of Ethnic Disparities in Sentencing), Figure 1 is a simplified representation of the relationship between offender's ethnicity and case characteristics, which is likely confounded and mediated by historical and current socio-economic disparities. Hence, in reality, controlling for X will not suffice to close the backdoor-path.

As a side point, it is worth noting that Figure 1 only provides an oversimplified representation of the association between offenders' ethnicity and case characteristics. Clearly, individuals' ethnicity does not make them more inclined to commit certain offence types, but rather, a set of current and historical socio-economic disparities (e.g. unemployment, residential segregation, availability of role models) mediate and confound the relationship between ethnicity and criminality (see Appendix A (Expanded Representation of Ethnic Disparities in Sentencing), for an elaboration of this explanation). For parsimony, we have omitted such socio-economic factors from our study. Further, we have assumed that case characteristics mediate, rather than confound, the relationship between ethnicity and severity. This is because - simplifying - ethnicity is determined at birth, and as such it precedes the offence, which is why it makes more sense to see it as a cause than as an effect of case characteristics. As we will see in Section 3.1 such theoretical distinction will determine our analytical approach to explore the potential biasing effect that could be attributed to unobserved case characteristics.

2.2 Measurement Error

A second assumption implicitly invoked in the standard approach to estimating ethnic disparities in sentencing is the consideration of case characteristics as an exogenous input, independent of any judicial perceptions of offenders' ethnicity. This is a convenient assumption that helps simplify the statistical modelling of judicial decision-making, however, its validity should be questioned.

The construction of a case starts at an earlier point in the criminal justice system, with the case description presented to the judge as defined in the prosecution and other pre-sentence stages. However, it is important to note that judges do not merely decide the final sentence, but rather their discretion also extends to considering which of the case characteristics presented appear more salient. In so doing they contribute to the 'construction' of the case at the point of sentence. It is therefore likely that the ethnicity of the offender will play a role in judicial decisions of what aggravating, mitigating or other case characteristics are deemed relevant (Sargent and Bradfield, 2004). These have been referred to in the literature as 'non-neutral' legal factors (Bowling and Phillips, 2007; Omori and Petersen, 2020; Ugwudike, 2020). To avoid the use of double negatives, in this study we will denote them as 'racially-determined' cases characteristics.

We suggest that these types of case characteristics could be represented under causal diagrams as a form of measurement error (Hernán and Robins, 2020; VanderWeele and Hernán, 2012), as shown in Figure 2. Compared to Figure 1, were we took Z to represent the factual presence or absence of relevant case characteristics, we now use Z^* to indicate whether the judge considers the presence/absence of this characteristic to be constitutive of the case being sentenced, which is affected by the judge's perceived ethnicity of the offender, X^*. Notice how under this logic, it is Z^*, not Z, that affects sentence severity as only the former is deemed relevant by the judge.

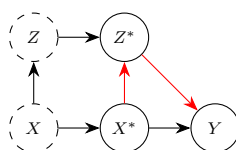**Fig. 2** Racially-determined case characteristics. The total effect of judicial perceptions of offenders' ethnicity ($X^* \to Y$) will be biased (represented by the red dashed path) when relevant case characteristics controlled for are also affected by judicial perceptions of offenders' ethnicity ($X^* \to Z^*$).

Accepting the above explanation, if judicial perceptions of an offender's ethnicity play a role in how their case was constructed, then, controlling for Z^* will make the total effect of X^* on Y unidentifiable,

as the indirect path $X^* \rightarrow Z^* \rightarrow Y$ will be blocked by Z^*. Intuitively, by controlling for racially-determined case characteristics we are explaining away a potential form of discrimination in sentencing that also stems from a judicial decision.

To see this more clearly let us take the mitigating factor 'expressing genuine remorse' as an example. We know that judges' perceptions of offenders' remorse reduce the probability of imprisonment (Sentencing Guidelines Council, 2004), however, whether a judge considers that the offender is expressing genuine remorse is a highly subjective decision, entirely at the discretion of the judge. If judges are less likely to consider Black offenders' expressions of remorse than they do for White offenders (Everett and Nienstedt, 1999), then by controlling for the mitigating factor remorse we would be masking the true extent of the effect of judicial perceptions of offenders' ethnicity on sentence severity by blocking a key discriminatory pathway.

This same argument applies to many other subjectively defined case characteristics (e.g. premeditation, good character, harm caused, etc.), but it could also be expanded to other key case characteristics like criminal record, which at first sight might seem neutrally defined. In jurisdictions like England and Wales, judges retain wide discretion to decide which of the offender's previous convictions are relevant.[6] This is not the case in many US jurisdictions, especially in those operating grid-based guidelines where the number of previous convictions is one of the two factors used to define the offence seriousness, and with that the recommended sentence. Still, even in those jurisdictions where the presence of previous convictions is so rigidly interpreted, it should be taken into consideration that a criminal record is the result of past criminal justice decisions, a proportion of which will be past judicial decisions. If those decisions were in any way discriminatory, then previous convictions should also be taken as a racially-determined case characteristic, potentially attenuating estimates of ethnic disparities when controlled for, even if the remit of the study is explicitly restricted to the sentencing stage.

2.3 Selection Bias

Finally, the standard approach to exploring ethnic disparities in sentencing usually involves the analysis of samples composed entirely of cases that went to trial or where individuals plead guilty to an offence. However, there is much evidence pointing at ethnic disparities in criminal justice decisions that precede the sentencing stage, such as investigation, arrest or prosecution (Bowling and Phillips, 2007; Lammy, 2017; Uhrig, 2016). This makes ethnic minority suspects/defendants more likely to progress through the system and find themselves over-represented at the sentencing stage, which might in turn be biasing estimates of ethnic disparities downwards when sentencing decisions are analysed as an independent stage. Such problem can be conceptualised as a form of selection bias, which can also be represented using causal diagrams (Geneletti et al., 2009; Hernán and Robins, 2020; Daniel et al., 2011).

This is shown in Figure 3, which expands Figure 2 by including S, taken to represent the probability of a case being processed through the criminal justice system up to its sentence hearing. In the presence of discriminatory practices in arrest or charge decisions, S is affected by criminal justice practitioners' perceptions of defendants' ethnicity, represented by X^*, which is now expanded to capture more than just judicial perceptions. If so, by stratifying for S (i.e. by only considering cases that were sentenced) we are blocking the indirect path $X^* \rightarrow S \rightarrow Y$, and in so doing biasing the effect of interest, $X^* \rightarrow Y$. The intuition behind is that by restricting our analysis to cases that were sentenced, we are potentially explaining away criminal justice discriminatory practices that preceded the sentencing stage.

There are however instances where ignoring upstream decisions could be justified to retrieve an unbiased estimate of ethnic disparities. That would be the case if: i) the interpretation of findings is strictly confined to the sentencing stage (as opposed to the wider criminal justice system), and ii) perceptions of offenders' ethnicity made by judges and other criminal justice practitioners that precede

---

[6] Guidance in determining the relevance of previous convictions is provided in S65 of the Sentencing Code 2020, and in the Sentencing Council Overarching Principles Guideline.
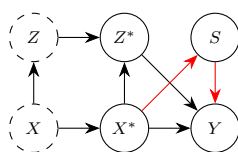
Fig. 3 Selection bias. The effect of judicial perceptions of offenders' ethnicity on sentence severity ($X^* \to Y$) will be biased (represented by the red dashed path) when the probability of cases being selected in the study (S) is affected by judicial perceptions of offenders' ethnicity ($X^* \to S$).

them are independent of each other (Gaebler et al., 2022). The latter can be defended for the case of England and Wales, where the indictment (or charge sheet) provided to judges only covers the defendant's name, address, and offence type. That is, the defendant's ethnicity as perceived by the police officer, or prosecutor who handled the case is not conveyed to the judge before she has a chance to generate her own perception.[7] Any other relevant documents that could indicate the offender's ethnicity, such as pre-sentence reports, will be handed to judges after they have come in contact with the offender themselves. For other jurisdictions where it is possible that judges come to know about the offender's ethnicity as defined by other criminal justice practitioners before they had the chance to create their own impressions, estimates of ethnic disparities based on sentencing data should be expected to be affected by an attenuation bias (Zhao et al., 2022).

Yet, even if analyses are restricted to the jurisdiction of England and Wales, the diagram depicted in Figure 3 is still relevant, as the same biasing paths noted above can also illustrate a similar form of selection bias in studies affected by missing data not at random. As we will see in the next Section, these scenarios could arise in the presence of problems of non-response or item-missingness affecting measures of offenders' ethnicity.

3 Disparities in England and Wales

We proceed to the applied part of our analysis, where we focus on the exploration of disparities reported in the jurisdiction of England and Wales. We do so by assessing the extent to which results from two recent reports, Hopkins et al. (2016) and Isaac (2020) from the Ministry of Justice and the Sentencing Council for England and Wales, respectively, are robust to problems of unobserved case characteristics, measurement error, and selection bias.

These two studies were chosen for their relevance and rigour, but also because they complement each other well. They both use logistic models to estimate the odds ratio of receiving a custodial sentence for different ethnic groups (Asian, Black, Mixed, or other)[8] compared to White offenders. They are both based on sentences imposed in the Crown Court during 2015 for the case of Hopkins, and from April 2012 to March 2015 in Isaac. Their main difference resides in the types of validity achieved. Hopkins relies on a sample of 21,639 cases, covering all offence types processed in the Crown Court, providing relatively high external validity. However, as a result of only being able to control for offenders' sex, the broadly defined offence type (seventeen in total), the number of previous convictions, and whether a guilty plea was entered, the study is largely exposed to unobserved case characteristics, which limits its internal validity substantially.

Isaac uses a sample of approximately 14,000 sentences[9], but all of them imposed on three specific drug offences: offences of supply, possession with intent to supply, and conspiracy to supply, a controlled

---

[7] Judges will be able to derive the defendant's ethnicity from their name, even if imperfectly (King and Johnson, 2016; Mateos, 2007; Pina-Sánchez et al., 2019b), however, this is a perception that each judge will undertake by themselves, uninfluenced by a defendant's ethnic classification undertaken by any other criminal justice practitioner.

[8] 'Other' and 'Mixed' are combined into the same group in Isaac.

[9] The exact figure is not reported.

drug of classes A and B. This is the group of offences for which Lammy (2017) found the largest sentencing disparities in their system-wide review, but it is just a small subset of all offences processed in the Crown Court. On the other hand, Isaac's internal validity is much higher, as the author managed to control for practically all case characteristics listed in the drug sentencing guidelines, including harm caused by the offence, offender culpability, guilty plea, number of previous convictions, a wide range of aggravating and mitigating factors, together with demographic characteristics like offenders' age and sex. As far as we are aware, this is the most thorough set of controls ever used in a study on ethnic disparities in sentencing of this scale. To do so the author relied on data from the Crown Court Sentencing Survey[10].

One limitation of this sentencing survey stems from missing data, as it achieved an approximate response rate of 60%. Furthermore, since the survey did not capture offenders' ethnicity, this had to be retrieved from administrative data from HM Courts and Tribunals System, following a matching process that led to further attrition, although the exact rate is not documented. In addition, Hopkins reports a 12% attrition rate as a result of a similar matching process from incomplete records on offenders' sex and ethnicity. Lastly, a subtle difference between the two studies needs to be noted. Even though both relied on administrative data to retrieve offenders' ethnicity, they used two different datasets. Hopkins derived it from the Court Appearance Database, while Isaac used the Court Proceedings Database. This matters not only because records on offenders' ethnicity were reported as incomplete across the two databases, but also because the former captured this information as self-reported by offenders, while the latter offenders' ethnicity was determined by either a police officer or a member of the administrative or clerical team.

Moving on to the main question, Hopkins and Isaac report significant ethnic disparities in the imposition of custodial sentences. For example, for the case of Black offenders, Hopkins and Isaac reported 53% and 40% higher odds of receiving a custodial sentence for Blacks compared to Whites after adjusting for their respective sets of controls. Admittedly, as a measure of likelihood, odds[11] are harder to interpret than simpler probabilities. Through our analysis we continue using odds ratios to express disparities in the likelihood of receiving a custodial sentence since this is the measure reported in the two case studies we explore, and across most of the literature on this topic. However, to facilitate a more intuitive interpretation of the disparities reported by Hopkins and Isaac, we proceed to transform them into risk ratios, i.e. the ratio of adjusted probabilities of receiving a custodial sentence for Black and White offenders. To undertake that transformation we use Zhang and Kai (1998) formula.[12]

Taking the custody rate for White offenders to be 53% and 38% in the samples used by Hopkins and Isaac[13], we estimate their risk ratios of incarceration for Blacks to be 1.20 and 1.21, respectively. That is, after controlling for their different set of case characteristics, both studies find that Black offenders are roughly 20% more likely to receive a custodial sentence. This is remarkable, yet, it is worth noting that these are not the strongest disparities detected in either of those studies. Hopkins reported an odds ratio of 1.81 for 'Chinese or other' compared to Whites, while Isaac reported an odds ratio of 1.50 for 'Asian or other' compared to Whites.

---

[10] https://www.sentencingcouncil.org.uk/research-and-resources/data-collections/crowncourt-sentencing-survey/

[11] The probability of the occurrence of a given event divided by the probability of that event not happening, $\frac{P}{1-P}$.

[12] $RR = \frac{OR}{(1-P_0) + P_0 \cdot OR}$, where P_0 represents the prevalence of the outcome in the 'nonexposed' group, in our case, the custody rate for White offenders, while OR stands for odds ratio and RR for risk ratio. This formula is necessary since adjusted odds ratios from a logistic regression cannot be directly transformed into risk ratios when the prevalence of the outcome modelled is common (roughly higher than 10%).

[13] The former is reported in the study, the latter is estimated from the pivot tables published alongside the 'Criminal Justice System Statistics December 2018' report Ministry of Justice (2019).

3.1 Sensitivity to Unobserved Case Characteristics

The different set of controls included in the two case studies makes their exposure to a potential problem of unobserved case characteristics highly unequal. Isaac controls for practically all case characteristics listed in the drug sentencing guidelines. The exact figure is not reported, but in a study exploring sex disparities using the same dataset Pina-Sánchez and Harris (2020) were able to control for 39 case characteristics. This includes the vast majority of factors explicitly listed in the sentencing guidelines.[14] Even factors that are difficult to measure, like offenders' rehabilitative predisposition or dangerousness, captured in the pre-sentence report but unobserved in Isaac, should not be exerting a strong influence in her findings. The former is partially controlled for by some of the personal mitigating factors captured by the Crown Court Sentencing Survey, such as 'display of genuine remorse', 'good character', or 'determination to address a problem of addiction'; while offender's dangerousness is normally taken as a more relevant factor in sentencing violent offences.

It is therefore hard to think of relevant unobserved case characteristics that could be substantially biasing her findings. Especially in a sample of such homogenous offence types. Hence, we posit that Isaac's findings are notably robust to a potential problem of unobserved case characteristics. This is not the case in Hopkins. Given the few controls used, findings from Hopkins are potentially highly sensitive to unobserved case characteristics. A problem that could be further exacerbated given the heterogeneity of her sample, which comprises all different types of indictable offences. Amongst those key relevant case characteristics left uncontrolled in Hopkins, we can identify increased culpability factors such as targeting a vulnerable victim, having a leading role in a gang, or mitigation factors such as acting in self-defence, or the exact stage in proceeding where the defendant indicated their intention to plead guilty.

However, the presence of unobserved case characteristics on its own does not automatically invalidate the reported ethnic disparities. For the effect of ethnicity on sentence severity to be explained away, we also need that: i) unobserved characteristics known to increase sentence severity (e.g. aggravating factors) are more commonly found in cases attributed to ethnic minority offenders, or equivalently, case characteristics known to decrease sentence severity (e.g. mitigating factors) are more commonly found in White offenders; and ii) the strength of those associations is large enough to sufficiently attenuate the estimated ethnic disparities to the point they are rendered negligible.

We can explore the above conditions using sensitivity analysis. However, how that is done must be informed by our causal assumptions. In the sentencing literature unobserved case characteristics are normally seen as confounders of the relationship between ethnicity and sentence severity (Mitchell, 2005; Pina-Sánchez et al., 2019b; Ward et al., 2016). Contrary to that, in Section 2.1 we defined them as mediators, which offers a more realistic representation of the temporal order of such causal relationship, i.e. from ethnicity (and ethnicity determined socio-economic conditions) to differential criminality, rather than the other way around. This distinction renders some of the latest tools developed to evaluate sensitivity to unobserved confounders, such as the *e-value* (VanderWeele and Ding, 2017) or the *robustness value* (Cinelli and Hazlett, 2020), inadequate for our study. Instead we derive our own approach based on mediation analysis processes with a binary outcome (Raggi et al., 2021; Rijnhart et al., 2021).

Formal requests were submitted to the Judicial Office and HM Courts and Tribunals Service, to access the sentencing data used in Hopkins and Isaac. Unfortunately, all of them were unsuccessful. Since it was not possible to reproduce Hopkins and Isaac directly using their own data, we did it indirectly using simulations. Specifically, we aimed to match the main parameters defining Hopkins study. We chose to simulate Hopkins over Isaac because of its superior external validity, which facilitates generalising our robustness assessment to all offences sentenced in the Crown Court, but also because Hopkins is more prone to a potential problem of unobserved case characteristics.

---

[14] The questionnaire used to collect the Council's data can be used to inspect the full list of case characteristics available; https://www.sentencingcouncil.org.uk/wp-content/uploads/Drug_Offences_-_April_2014.pdf.

3.1.1 Simulation study

The broad goal of the simulation study is to investigate whether it is likely that the estimated odds ratio of 1.53 (1.20 if expressed as a risk ratio) in Hopkins can be attributed to the presence of unobserved case characteristics; and if so, what properties these case characteristics would need to have in terms of prevalence across ethnic groups and effect on the probability of incarceration.

Our simulation study is a 'brute force' approach. We simulate a large number of scenarios by varying measures of prevalence and effect of the unobserved case characteristic and then consider only scenarios where data and parameter estimates in Hopkins are approximately found. Thus the data and estimates in Hopkins provide *constraints* for our simulation study. Investigating the scenarios that reflect or correspond to Hopkins gives us insight into whether the prevalence and impact measures are realistic. For example, if in these scenarios the relative prevalence of the unobserved case characteristics on ethnic minority offenders compared to White offenders is too high, and/or these characteristics have a large effect on the probability of incarceration, then we can cast doubts on the plausibility of such scenario.

Here, we give an intuitive overview of the simulation process, the R code covering all the scenarios considered is available in Appendix B (Simulations). First we make some simplifying assumptions. We dichotomise ethnicity into White and non-White. We do not take into account the perceived ethnicity and only simulate the true ethnicity, which more closely reflects the self-reported measure of ethnicity used in Hopkins. This also simplifies the data generating mechanism considered, which we take to follow that from Figure 1, where X^* is omitted, and $X \rightarrow Y$ is taken as the direct effect of interest. We assume that the unobserved case characteristics increase sentence severity; that is, we consider them exclusively as aggravating rather than mitigating factors. We take the adjusted odds ratio of 1.53 - which represents a *direct effect* in Hopkins - and treat it as a *total effect* in our study. This is because we want to investigate whether there are still unobserved mediators (the unobserved case characteristics, Z) present, after having adjusted for the offence and offender characteristics considered in Hopkins. We further assume that the effect of the unobserved case characteristics on custody is the same for White and non-White offenders; i.e. there is no interaction between ethnicity and the unobserved case characteristics in the simulated scenarios.

More formally, the simulation study aims to answer the following question: Given the data used by Hopkins, what relationships - expressed as logistic regression parameters - need to hold between i) the ethnicity of the offender and the unobserved case characteristics ($X \rightarrow Z$, summarised by β_{XZ}), and ii) the unobserved case characteristics and the probability of incarceration ($Z \rightarrow Y$, summarised by β_{ZY}), in order to explain away the ethnic disparities reported in Hopkins (the odds ratio of 1.53, β_{XY})? We use the decomposition of the logistic regression into parameters associated with total, direct and indirect effects in Doretti et al. (2022) and Raggi et al. (2021) as the basis for our simulations.

To explore the association of ethnicity with the unobserved case characteristic, we choose a range of values indicating the prevalence of these unobserved characteristics in White offenders (0.1, 0.2, 0.3, 0.5 and 0.7), and set their relative prevalence in non-White offenders to be a multiple (1, 1.25, 1.5, 1.75 and 2) of that. We then re-code these prevalences as logistic regression parameters, β_{XZ}. In a similar vein, we set the probability of incarceration in the absence of unobserved case characteristics at 0.4, 0.45 and 0.5, and derive the probability of incarceration in white offenders using the law of total probability and the fact that 53% of white offenders overall are incarcerated. Again we re-code these in terms of regression parameters to obtain β_{ZY}. Lastly, we consider two values for the direct effect of interest, β_{XY}, the effect of ethnicity on incarceration not mediated by any unobserved case characteristics. This is set at 1 and 1.25 odds ratios, which respectively reflect scenarios of complete absence of ethnic disparities, and a reduction of ethnic disparities to roughly half the effect size reported in Hopkins.

Combining the values considered to derive β_{XZ}, β_{ZY} and β_{XY}, gives us a total of 168 scenarios. For each of them, we run 100 repetitions of samples of 5,000 cases, and assess whether they appear 'congru-

ous' with the observed parameters from Hopkins, i.e. scenarios that given the ranges of prevalence and effects considered for hypothetically unobserved case characteristics, and the consequent reduced ethnicity effect on incarceration, match the estimates reported in Hopkins. To do so we consider whether two constraints derived from Hopkins are approximately met: the overall rate of incarceration (55%) and the total effect of ethnicity on incarceration (1.53 odds ratio). Initially, we recorded those scenarios where at least we found one of the 100 repetitions where both the overall rate of incarceration and total effect of ethnicity reported in Hopkins fall within two standard deviations of the simulated rate of incarceration and total effect. We found 19 scenarios that meet these criteria. However, here we report just six of those scenarios (in Table 1) for which the number of repetitions matching the total effect of ethnicity reached 50%. This higher threshold was decided upon inspection of the estimated total effect, which was found to vary widely through the initial 19 scenarios, ranging from 1.17 to 1.6, making it difficult to see many of them as congruous. By limiting the analysis to the six most congruous scenarios the total effects considered range from 1.41 to 1.6, much closer to the true total effect of 1.53. The values used and estimates derived from the 19 scenarios initially considered are reported in Appendix B (Simulations).

Table 1 Congruous scenarios where the ethnic disparities reported in Hopkins could be overestimated as a result of unobserved case characteristics (OR stands for odds ratio, RR for risk ratio).

prevalence of the unobserved in Whites	relative prevalence of the unobserved in minorities compared to Whites	effect of the unobserved on incarceration, OR_{UY} (RR_{UY})	direct effect, OR_{XY} (RR_{XY})
0.2	2	1.93 (1.41)	1.25 (1.10)
0.3	1.75	2.12 (1.46)	1.25 (1.10)
0.3	2	2.12 (1.46)	1.25 (1.10)
0.3	2	1.58 (1.25)	1.25 (1.10)
0.5	1.5	1.91 (1.36)	1.25 (1.10)
0.5	1.75	1.91 (1.36)	1.25 (1.10)

There are three insights that emerge from the congruous scenarios shown in Table 1. First, the prevalence of the unobserved case characteristic needs to be substantial in White offenders, and much higher in non-White offenders. Specifically, the prevalence of the unobserved characteristics in White offenders ranged across scenarios from 20% to 50%, and 40% to 87.5% for Black offenders. These are high - in some instances extreme - levels of prevalence that suggest the unobserved characteristics are widely present, but also much more so in Blacks than White offenders. To put this in context we can consider guilty pleas, which in Hopkins is controlled for, and it lowers - rather than increases - sentence severity, yet it is still a useful example as it represents one of the most common consequential and prevalent case characteristics. According to the Ministry of Justice (2021) 79% of White offenders plead guilty, while only 66% Black defendants did so, which represents a 1.2 relative difference in prevalence, substantially lower than what is observed in the congruous scenarios, ranging from 1.5 to 2. It cannot be ruled out that such unobserved case characteristic (or combination of characteristics) will reach those levels of prevalence, however such scenario seems unlikely.

Second, in addition to being highly prevalent, the unobserved characteristics also need to exert a strong influence on the probability of incarceration. In our congruous scenarios this effect ranged from 1.58 to 2.12 odds ratios, or 1.25 to 1.46 if considering risk ratios. This means that the presence of such an unobserved case characteristics should at least increase the probability of incarceration by 25%. To contextualise, that is the effect size that can only be expected in highly relevant factors such as those defining the seriousness of the case, like the deliberate targeting of a vulnerable victim, or the use of

a weapon in violent offences, all of which are observed. [15] Such highly relevant case characteristics are indeed left unobserved in Hopkins, and therefore we should see these required effect sizes as plausible.

Third, in none of the congruous scenarios were ethnic prison disparities entirely explained away, but rather were reduced to half their size. That is, the probability of receiving a custodial sentence in these congruous scenarios where the potential effect of unobserved case characteristics has been considered, is 10% higher for ethnic minority than for White offenders, as opposed to the 20% reported in Hopkins.

In summary, if we are willing to assume that some of the relevant case characteristics increasing sentence severity left uncontrolled in Hopkins have a strong effect on the probability of incarceration, while simultaneously they are widespread, and much more so in Blacks than White offenders, then we can conclude that the ethnic disparities reported in Hopkins have been overestimated. As previously noted, the least tenable of those assumptions is the much higher relative prevalence of the unobserved, which has to be at least 50% more common in Blacks than in White offenders. Most importantly, under none of the scenarios considered, did we find that the potential bias from unobserved case characteristics explained away the reported ethnic disparities completely. Furthermore, as discussed in Section 2, unobserved case characteristics is not the only assumption which violation could be biasing estimates of ethnic disparities in sentencing.

3.2 Sensitivity to Measurement Error

In Section 2.2 we discussed the likelihood of certain case characteristics being racially-determined, which can be seen as a form of measurement error. For example, when aggravating factors are disproportionally and unjustifiably more present in ethnic minority offenders, or similarly mitigating factors are used more frequently to define White offenders. Estimating the extent to which case characteristics are racially-determined is not straightforward. However, if the evidence on ethnic disparities in sentence outcomes is robust to unobserved case characteristics, as we have just suggested for the two case studies considered, then, it could be hypothesised that similar ethnic disparities are also taking place in other decisions that involve a degree of judicial discretion, such as in determining what characteristics are constitutive of a case.

Highly subjective case characteristics such as expression of remorse, or whether the offender is deemed of 'good character', are some clear examples of case characteristics that are most likely racially-determined, but as discussed in Section 2.2 the list is likely much longer. Therefore, when all case characteristics controlled for are assumed to be objectively defined (i.e. 'race-neutral'), then, it is likely that some discriminatory practices will be unduly explained away. That is, violations of the 'race-neutral' characteristics assumption are likely leading to a downward bias in estimates of ethnic disparities reported in the literature. This problem could be particularly present in Isaac's study; because of the sheer volume of case characteristics controlled for, which increases the chances of some being racially-determined, but also as a result of relying on data where those characteristics are recorded directly by the judge who imposed the sentence.

Hopkins is much less prone to this problem given her reliance on fewer controls, derived from administrative datasets. One exception could however be identified in the number of previous convictions, which even if the data is not directly retrieved by the judge (as in Isaac), still reflect discretionary judicial decisions. This reinforces our belief that the reported ethnic disparities in the two studies reviewed are not entirely spurious. In fact, it is likely that the disparities reported in Isaac have been underestimated while the view that unobserved case characteristics cannot fully explain away the ethnic disparities reported in Hopkins is further corroborated.

---

[15] Pina-Sánchez and Grech (2017) estimated 1.92 and 2.14 odds ratios of incarceration amongst assault offenders targeting a vulnerable victim and using a weapon, respectively.

Moreover, we should also consider a second measurement error problem less commonly discussed in the literature but potentially biasing estimates of ethnic disparities in a similar way. Namely, the widespread assumption that White offenders represent a homogenous group when in fact important differences should be expected within it. In the US this would most likely take place when White Hispanics are misclassified within the Whites - as opposed to the Hispanic - group (Pratt, 1998).[16] In the UK context we can think of different White ethnic groups such as Irish travellers, Romany gypsies, or other Europeans, which are subject to different forms of discrimination (Drummond, 2015; James, 2006; Lammy, 2017; Rzepnikowska, 2019). We do not know what is the percentage of these 'other Whites' offenders within the reference category of our two case studies, but based on the 2021 Census[17], and making the conservative assumption that such ethnic groups are not disproportionally present in the criminal justice system, then we could estimate that proportion at a minimum of 21.6%.[18] This is a non-negligible share, representing a substantial problem of misclassification of the reference group in the two case studies reviewed.[19]

As before, the specific effect cannot be easily estimated, since the exact composition of 'other Whites' in our two case studies, or the extent to which they are more likely to be sentenced to custody, are not known. However, as long as we can assume that such disparities exist, i.e. that other Whites are more likely to receive a custodial sentence after adjusting for case characteristics, then we can conclude that the ethnic disparities reported in those two studies are affected by yet another form of downward bias.

3.3 Sensitivity to Selection Bias

In Section 2.3 we discussed how ethnic disparities reported in standard sentencing studies often neglect cases that did not make it to the sentencing stage[20], and in so doing miss potential discriminatory practices that could have taken place in prior decisions such as arrest or charge. Although rarely stated in these terms, such approach could be justified if the researcher's aim is strictly constrained to determining discriminatory practices specifically at the sentencing hearing, i.e. dismissing potential discriminatory practices from all preceding criminal justice processes, and as long as judges' perceptions of the defendant's ethnicity can be taken as independent from other criminal justice practitioners that also 'handled' the case (Gaebler et al., 2022), as it is the norm in England and Wales. As such, and given our stated aim - determining whether ethnic disparities reported in the standard studies based on observational data represent evidence of discriminatory practices *at the sentencing stage* - we acknowledge such upstream disparities as a relevant research question but lying outside the remit of this study.

However, because of limitations in the data on which they are based, Isaac and Hopkins' studies are potentially prone to additional forms of selection bias affecting their reported disparities even when the interpretation of such disparities is strictly confined to the sentencing stage. Specifically, Isaac could be affected by a problem of differential non-response. In an earlier study, the Sentencing Council (2012) reported a 61% response rate in their sentencing survey, however, this varied markedly across Crown Court locations, with response rates ranging from 95% to 20%. Since the Council's survey was seen by

---

[16] In a meta-analysis of the American literature Pratt (1998) identified reported racial disparities varying significantly depending on how ethnicity was measured, an effect that he ascribed to the possibility of including Hispanic as well as Native American offenders in the White category.

[17] https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/ populationestimates/articles/populationestimatesbyethnicgroupandreligionenglandandwales/2019

[18] Halliday and Hewson (2022) estimate that 5% of men and 7% of women in prison self-report as Gypsy, Roma or Traveller, compared to an estimated 0.1% of the general population in England'

[19] As far as we know, this same problem affects all other research on ethnic disparities in sentencing based on the jurisdiction of England and Wales.

[20] See important exceptions in Kim et al. (2015), Kutateladze et al. (2014), or Ward et al. (2016).

some judges as a form of unwanted accountability, it could be expected that judges who might be less likely to comply with the sentencing guidelines, or more prone to discriminatory decisions, would also be less likely to participate in the survey.[21]

Hopkins is affected by a similar issue in the form of item-level missing data, potentially not at random. This is problematic because one of the three variables affected is offenders' ethnicity, which happens to be self-reported. It could then be hypothesised that offenders who perceive themselves subject to discrimination (Dodd, 2020) will be less likely to comply with data collection processes undertaken by criminal justice practitioners. However, the extent of this problem is probably limited since only 12% of their records were affected by item-missingness, and this included instances where, either ethnicity, age or sex was missing, in which case the entire record was discarded from the analysis.

These two selection bias problems affecting Isaac and Hopkins can be represented by the causal diagram in Figure 3, used in Section 2.3 to express the more general problem of neglected upstream disparities. We can take S in Figure 3, which represents the probability of participating in the study, to be negatively influenced by either perceptions of an offenders' ethnicity (X^*) in Isaac (as offenders' ethnicity is derived from criminal justice practitioners), or by the true offenders' ethnicity in Hopkins (where it is self-reported). If so, then the overall ethnic disparities will be - once again - subject to an underestimation bias as a result of stratifying by S, i.e. using a non-representative sample of sentences (Labgold et al., 2021).

4 Discussion

Most studies on ethnic disparities in sentencing are based on a traditional research design that has seen limited progress since it became mainstream over half a century ago. Namely, observational data is either accessed from Sentencing Commissions and similar judicial bodies, or derived from primary sources like sentence transcripts or court observations. This data is then used to regress the probability of incarceration or sentence length on a few offence and offender characteristics. However, studies relying on such research designs are all based on questionable assumptions, which implications are not well understood. As a result of this methodological impasse the research subject seems saturated. In many ways, new publications provide diminishing marginal contributions, while the main question bringing together this field of research, 'whether judges discriminate against ethnic minority offenders', remains as contested now as it ever was.

In this article we have developed a new analytical framework to explore the validity of estimates of ethnic disparities derived from the standard research design employed in the sentencing literature. We use causal diagrams to represent the main types of biases that could be expected when key assumptions are not met. Specifically, we turned most of our attention to the problem unobserved case characteristics; i.e. relevant features of a criminal case considered by the judge to determine the severity of the sentence, that are not controlled for in the regression model used to estimate ethnic disparities. We defined these case characteristics as mediators, as opposed to confounders, of the relationship between ethnicity and sentence severity. Taking that key distinction into consideration, we illustrate how simulations based on mediation analysis can be used to explore the robustness of estimates of ethnic disparities in such settings.

Besides unobserved case characteristics, we have also highlighted further violations of commonly invoked - albeit usually implicitly - assumptions. Namely, perfectly measured variables and representative samples. The latter points at selection bias in the form of unaccounted upstream disparities and missing data. The former, measurement error, can arise when reference categories (normally White offenders) do not represent an ethnically homogeneous group, but also when case characteristics affected by judicial perceptions of offenders' ethnicity. This, the consideration of case characteristics as 'race

---

[21] A similar mechanism has been identified as a limitation in other Sentencing Council research projects based on the voluntary participation of Magistrates and Crown Court judges (Sentencing Council, 2020).

neutral', is a an ubiquitous yet highly questionable assumption, for which neither its implications nor its solutions have been clearly articulated so far. We helped clarified this problem by distinguishing causal effects attributable to judicial perceptions of offenders' ethnicity, from all other ethnicity-related socio-economic factors affecting differential involvement in crime. In short, we show how controlling for case characteristics that are 'racially-determined' can bias estimates of ethnic disparities in sentencing in the same way as when we fail to observe - and control - for all legally relevant case characteristics. Lastly, distinguishing judicial perceptions of offender's ethnicity also helped us clarify the conditions under which upstream disparities in the criminal justice system will bias estimates of ethnic disparities in sentencing, from instances when they could be safely ignored - namely, when information regarding the defendant's ethnic background is not shared with the judge.

We applied this framework to explore the presence of sentencing discrimination in England and Wales, a particularly relevant jurisdiction to study given the ongoing political debate around ethnic disparities in the criminal justice system. We focused on two studies, published by the Ministry of Justice (Hopkins et al., 2016) and the Sentencing Council for England and Wales (Isaac, 2020). Both of them found roughly 20% higher probability of incarceration for ethnic minority than for White offenders charged with the same offence type. We noted how for the case of Isaac (2020) these disparities cannot be justified as a problem of unobserved case characteristics since most of them are controlled. For the case of Hopkins (2016) we used simulations replicating the main parameters defining the study, and explored the robustness of their findings to different types of unobserved case characteristics. This showed how under certain scenarios the reported disparities could be partially biased, specifically, when the presence of such unobserved case characteristics is much more common in minority than White offenders. However, in none of the scenarios explored did we find the sentencing disparities reported being entirely explained away.

This view was further reinforced after considering the additional types of biases likely present in those two studies. For example, we noted how Isaac is probably underestimating the true extent of ethnic disparities since many of the case characteristics controlled for are possibly affected by discriminatory decisions. We also highlighted how the reference group in both studies (White offenders) could be considered misclassified as a result of introducing other (non-British) White individuals in it, further biasing the reported ethnic disparities downwards. Lastly, we pointed at additional problems of missing data affecting both studies, likely reinforcing that attenuation bias. Taking all of these insights into consideration, our view is that the ethnic disparities observed in the Crown Court should be interpreted as evidence of discrimination in sentencing. Especially, this appears to be unequivocally the case, if we restrict generalisations to the drug offences explored in Isaac (2020).

4.1 Future Avenues of Research

We have shown how sensitivity analysis can be undertaken in the presence of unobserved case characteristics using simulations. This allows researchers to assess the robustness of their findings to violations of that particular assumption. However, much could be done to refine the approach we have suggested here. One way to do so would be to consider the interaction of multiple unobserved characteristics (Groenwold et al., 2016) as opposed to seeing them as a unique, or as a uniformly grouped set of case characteristics. Furthermore, as we have noted, there are other assumptions that are commonly violated, which impact should also be formally assessed. For example, measurement error models (Gustafson, 2003) - possibly mixture models too (Pina-Sánchez et al., 2019a) - could be considered to capture the ambiguity in racially-determined case characteristics. The adoption of such models offers a way to resolve the dilemma of whether researchers should be controlling for such factors, and lead to more accurate estimates of sentencing discrimination. Similarly, multiple imputation (Van Buuren, 2018) could be used to adjust for problems of non-response or item-missingness in ethnicity data under different scenarios.

Lastly, we have established the likely presence of discriminatory sentencing practices in the Crown Court, in the sense that we have ruled out the possibility that previously reported ethnic disparities are entirely explained away by relevant case characteristics left uncontrolled, and could even be underestimating the true extent of the problem as a result of violations of additional assumptions less commonly discussed. However, that does not mean that such unwarranted disparities should be simply attributed to racism in the judiciary. Whereas case characteristics as defined in the sentencing guidelines are likely not explaining the reported - and therefore unwarranted - ethnic disparities, these could still be due to other extralegal factors mediating or confounding the causal effect of offenders' ethnicity on severity.

Besides finding ways to explore the presence of discriminatory practices in sentencing more robustly, future research efforts should also be driven to help redress them. To do so it is key to investigate the specific extra-legal factors influencing judicial decisions, that are not equally distributed - or attributed - across White and ethnic minority offenders, such as education level (Steffensmeier and Demuth, 2000; Mamak et al., 2022), employment status (Unnever and Hembroff, 1988; Volkov, 2016), family and community connections (Dhami, 2005; Van Wingerden et al., 2016), personal income (Freiburg and Hilinski, 2010; Mustard, 2001), legal representation (Farrington and Morris, 1983; Grabosky and Rizzo, 1983), or demeanour in court (Hutton, 1995), to name a few. Identifying the specific causes of the observed ethnic disparities would avoid broad-brush - and to some extent defeatist - diagnoses, taking ethnic disparities as nothing more than the irredeemable manifestation of racism in the criminal justice system, and facilitate the design of adequately tailored and effective policy responses.

5 Conclusion

Given important limitations in the research designs employed, the literature on ethnic disparities in sentencing is fraught with bias. However, that does not mean that the evidence base on this subject should be outright disregarded. We have demonstrated how through thoughtful consideration we can tease out the direction of the different types of biases at play, and even approximate their likely extent under different scenarios.

When we apply this more comprehensive and robust analytical framework to assess the robustness of ethnic disparities reported in the England and Wales Crown Court, we demonstrate that these findings, even if not perfect, should be taken as evidence of discrimination in sentencing. This conclusion contradicts the recent interpretation of the literature undertaken by Commission on Race and Ethnic Disparities (2021), and calls for renewed commitment to the action points listed in the Lammy review (2017) to redress the problem of ethnic disparities in sentencing in England and Wales.

References

Ali A, Champion N (2021) More harm than good: A super-complaint on the harms caused by 'suspicion-less' stop and searches and inadequate scrutiny of stop and search powers. Tech. rep., Criminal Justice Alliance, URL https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/988389/CJA_super-complaint_section_60.pdf

Ashworth A, Kelly R (2021) Sentencing and criminal justice. Bloomsbury Publishing

Bales WD, Piquero AR (2012) Racial/ethnic differentials in sentencing to incarceration. Justice Quarterly 29(5):742–773

Barnes JC, Motz RT (2018) Reducing racial inequalities in adulthood arrest by reducing inequalities in school discipline: Evidence from the school-to-prison pipeline. Developmental Psychology 54(12):2328–2340

Baumer EP (2013) Reassessing and redirecting research on race and sentencing. Justice Quarterly 30(2):231–261

Beaver KM, DeLisi M, Wright JP, Boutwell BB, Barnes JC, Vaughn MG (2013) No evidence of racial discrimination in criminal justice processing: Results from the National Longitudinal Study of Adolescent Health. Personality and Individual Differences 55(1):29–34

Becares L (2015) Ethnic identity and inequalities in Britain: The dynamics of diversity, Policy Press, chap Which ethnic groups have the poorest health., pp 123–139

Blumstein A (1982) On the racial disproportionality of United States' prison populations. Journal of Criminal Law & Criminology 73(3):1259–1281

Bowling B, Phillips C (2007) Disproportionate and discriminatory: Reviewing the evidence of police stop and search. The Modern Law Review 70(6):936–961

Cinelli C, Hazlett C (2020) Making sense of sensitivity: Extending omitted variable bias. Journal of the Royal Statistical Society: Series B 82(1):39–67

Cinelli C, Forney A, Pearl J (2020) A crash course in good and bad controls. SSRN

Commission on Race and Ethnic Disparities (2021) Commission on race and ethnic disparities: The report. Tech. rep., URL https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974507/20210331_-_CRED_Report_-_FINAL_-_Web_Accessible.pdf

Cuthberston P (2017) Is there a racial disparity in the criminal justice system? A review of the Lammy review. Tech. rep., Civitas, URL https://www.civitas.org.uk/content/files/istherearacialdisparityinthecriminaljusticesystem.pdf

Daniel RM, Kenward MG, Cousens SN, De Stavola BL (2011) Using causal diagrams to guide analysis in missing data problems. Statistical Methods in Medical Research 21(3):243–256

Davis L (2011) Rock, powder, sentencing-making disparate impact evidence relevant in crack cocaine sentencing. The Journal of Gender, Race, and Justice 14(2):375–404

Dhami MK (2005) From discretion to disagreement: Explainingdisparities in judges' pretrialdecisions. Behavioral Sciences and the Law 23:367–386

Dodd V (2020) 65% of minority ethnic Britons say police are biased against them. URL https://www.theguardian.com/uk-news/2020/aug/20/65-of-minority-ethnic-britons-say-police-are-biased-against-them

Doretti M, Raggi M, Stanghellini E (2022) Exact parametric causal mediation analysis for a binary outcome with a binary mediator. Statistal Methods and Applications 31:87–108, DOI 10.1007/s10260-021-00562-w

Drummond A (2015) Becoming visible: Gypsy Roma travellers in prison. Prison Service Journal 219:19–23

Everett RS, Nienstedt BC (1999) Race, remorse, and sentence reduction: Is saying you're sorry enough? Justice Quarterly 16(1):99–122

Farrington DP, Morris AM (1983) Sex, sentencing and reconviction. British Journal of Criminology 23(3):229–248

Franklin TW (2018) The state of race and punishment in America: Is justice really blind? Journal of Criminal Justice 59:18–28

Freiburg TL, Hilinski CM (2010) The impact of race, gender, and age on the pretrial decision. Criminal Justice Review 35(3):318–334

Freiburger TL (2010) The effects of gender, family status, and race on sentencing decisions. Behavioral Sciences & the Law 28(3):378–395

Gaebler J, Cai W, Basse G, Shroff R, Goel S, Hill J (2022) A causal framework for observational studies of discrimination. Statistics and Public Policy 9(1):26–48

Geneletti S, Richardson S, Best N (2009) Adjusting for selection bias in retrospective, case–control studies. Biostatistics 10(1):17–31

Grabosky P, Rizzo C (1983) Dispositional disparities in courts of summary jurisdiction the conviction and sentencing of shoplifters in South Australia and New South Wales, 1980. Australian and New Zealand Journal of Criminology 16(3):133–145

Graetz N, Boen CE, Esposito MH (2022) Structural racism and quantitative causal inference: A life course mediation framework for decomposing racial health disparities. Journal of Health and Social Behavior

Greiner DJ, Rubin DB (2011) Causal effects of perceived immutable characteristics. Review of Economics and Statistics 93(3):775–785

Groenwold RH, Sterne JA, Lawlor DA, Moons KG, Hoes AW, Tilling K (2016) Sensitivity analysis for the effects of multiple unmeasured confounders. Annals of Epidemiology 26(9):605–611

Gustafson P (2003) Measurement error and misclassification in statistics and epidemiology: Impacts and Bayesian adjustments. CRC Press

Halliday M, Hewson A (2022) Bromley briefings prison factfile: Winter 2022. Tech. rep., Prison Reform Trust, URL https://prisonreformtrust.org.uk/wp-content/uploads/2022/02/Winter-2022-Factfile.pdf

Hernán MA, Robins JM (2020) Causal Inference: What If. Chapman & Hall/CRC, Boca Raton

Hester R, Hartman T (2017) Conditional race disparities in criminal sentencing: A test of the liberation hypothesis from a non-guidelines state. Journal of Quantitative Criminology 33:77–100

Holland PW (1986) Statistics and causal inference. Journal of the American statistical Association 81(396):945–960

Hopkins K, Uhrig N, Colahan M (2016) Associations between ethnic background and being sentenced to prison in the crown court in England and Wales in 2015. Tech. rep., Ministry of Justice, URL https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/639261/bame-disproportionality-in-the-cjs.pdf

Hutton N (1995) Sentencing, rationality, and computer technology. Journal of Law and Society 22(4):549–570

Isaac A (2020) Investigating the association between an offender's sex and ethnicity and the sentence imposed at the Crown Court for drug offences. Tech. rep., Sentencing Council for England and Wales, URL https://www.sentencingcouncil.org.uk/wp-content/uploads/Sex-and-ethnicity-analysis-final-1.pdf

James Z (2006) Policing space. The British Journal of Criminology 46(3):470–485

Jivraj S, Khan O (2013) Ethnicity and deprivation in England: How likely are ethnic minorities to live in deprived neighbourhoods. Tech. rep., Centre on Dynamics of Ethnicity

Justice Committee (2019) Oral evidence: Progress in the implementation of the Lammy review's recommendations (hc 2086). Tech. rep., URL http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/justice-committee/progress-in-the-implementation-of-the-lammy-reviews-recommendations/oral/98717.pdf

Kim B, Spohn C, Hedberg EC (2015) Federal sentencing as a complex collaborative process: Judges, prosecutors, judge–prosecutor dyads, and disparity in sentencing. Criminology 53(4):597–623

King DK, Johnson BD (2016) A punishing look: Skin tone and Afrocentric features in the halls of justice. American Journal of Sociology 122:90–124

Klepper S, Nagin D, Tierney LJ (1983) Discrimination in the criminal justice system: A critical appraisal of the literature. In: Blumstein A, Cohen J, Martin SE, Tonry MH (eds) Research on sentencing: The search for reform, vol 2, National Academy Press, Washington, DC.

Kutateladze BL, Andiloro NR, Johnson BD, Spohn C (2014) Cumulative disadvantage: Examining racial and ethnic disparity in prosecution and sentencing. Criminology 52(3):514–551

Labgold K, Hamid S, Shah S, Gandhi NR, Chamberlain A, Khan F, Kahn S, Smith S, Williams S, Lash T, Collin LJ (2021) Estimating the unknown: Greater racial and ethnic disparities in covid-19 burden after accounting for missing race/ethnicity data. Epidemiology (Cambridge, Mass), 32(2), 157 32(2):157–161

Lammy D (2017) The Lammy Review: An independent review into the treatment of, and outcomes for, Black, Asian and Minority Ethnic individuals in the Criminal Justice system. Tech. rep., Her Majesty's Government., URL https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/643001/lammy-review-final-report.pdf

Mamak K, Dudek J, Koniewski M, Kwiatkowski D (2022) Sex, age, education, marital status, numberof children, and employment – the impact of extralegal factors on sentencing disparities. European Journal of Crime, Criminal Law and Criminal Justice 30:69–97

Mateos P (2007) A review of name-based ethnicity classification methods and their potential in population studies. Population, Space and Place 13:243–263

Ministry of Justice (2019) Criminal justice system statistics december 2018. Tech. rep., URL https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1037903/Statistics_on_Ethnicity_and_the_Criminal_Justice_Sysytem_2020.pdf

Ministry of Justice (2021) Statistics on ethnicity and the criminal justice system 2020. Tech. rep., URL https://www.gov.uk/government/statistics/criminal-justice-system-statistics-quarterly-december-2018

Mitchell O (2005) A meta-analysis of race and sentencing research: Explaining the inconsistencies. Journal of Quantitative Criminology 21(4):439–466

Mustard DB (2001) Racial, ethnic, and gender disparities in sentencing: Evidence from the U.S. Federal Courts. Journal of Law and Economics 44(1):285–314

Omori M, Petersen N (2020) Institutionalizing inequality in the courts:Decomposing racial and ethnic disparities in detention, conviction, and sentencing. Criminology 58(4):678–713

Pearl J (2009) Causality. Cambridge University Press

Pina-Sánchez J, Grech D (2017) Location and sentencing: To what extent do contextual factors explain between court disparities? British Journal of Criminology 58(3):529–549

Pina-Sánchez J, Harris L (2020) Sentencing gender? investigating the extent and origin of sentencing gender disparities in the Crown Court. Criminal Law Review 1:3–28

Pina-Sánchez J, Linacre R (2016) Refining the measurement of consistency in sentencing: A methodological review. International Journal of Law, Crime and Justice 44:68–87

Pina-Sánchez J, Koskinen J, Plewis I (2019a) Adjusting for measurement error in retrospectively reported work histories: An analysis using Swedish register data. Journal of Official Statistics 35(1):203–229

Pina-Sánchez J, V RJ, Sferopoulos D (2019b) Does the Crown Court discriminate against Muslim-named offenders? A novel investigation based on text mining techniques. British Journal of Criminology 59(3):718–736

Pina-Sánchez J, Buil-Gil D, Brunton-Smith I, Cernat A (2022) The impact of measurement error in models using police recorded crime rates. Preprint

Pratt TC (1998) Race and sentencing: A meta-analysis of conflicting empirical research results. Journal of Criminal Justice 26(6):513–523

Raggi M, Stranghellini E, Doretti M (2021) Path analysis for binary random variables. Sociological Methods & Research

Rijnhart JJM, Valente MJ, Smyth HL, MacKinnon DP (2021) Statistical mediation analysis for models with a binary mediator and a binary outcome. Prevention Science

Rzepnikowska A (2019) Racism and xenophobia experienced by Polish migrants in the UK before and after Brexit vote. Journal of Ethnic and Migration Studies 45(1):61–77

Sandy KR (2003) The discrimination inherent in America's drug war: Hidden racism revealed by examining the hysteria over crack. The Alabama Law Review 54:665–694

Sargent MJ, Bradfield AL (2004) Race and information processing in criminal trials: Does the defendant's race affect how the facts are evaluated? Personality and Social Psychology Bulletin 30(8)(8):995–1008

Sentencing Council (2012) Crown Court Sentencing Survey: Annual publication, 2011. Tech. rep., Sentencing Council for England and Wales, URL https://www.sentencingcouncil.org.uk/publications/item/crown-court-sentencing-survey-annual-publication-2011-full-report/

Sentencing Council (2020) Assessing the impact and implementation of the Sentencing Council's Sentencing Children and Young People Definitive Guideline. Tech. rep., Sentencing Council for England and Wales, URL https://www.sentencingcouncil.org.uk/wp-content/uploads/November-2020-CYP-assessment-report-FINAL.pdf

Sentencing Guidelines Council (2004) Overarching principles: Seriousness. Tech. rep., URL https://www.sentencingcouncil.org.uk/wp-content/uploads/Seriousness-guideline.pdf

Shiner M, Carre Z, Delsol R, Eastwood N (2018) The colour of injustice: 'race', drugs and law enforcement in England and Wales. Tech. rep., StopWatch

Sorensen J, Hope R, Stemen D (2003) Racial disproportionality in state prison admissions: Can regional variation be explained by differential arrest rates? Journal of Criminal Justice 31(1):73–84

Steffensmeier D, Demuth S (2000) Ethnicity and sentencing outcomes in U.S. federal courts: Who is punished moreharshly? American Sociological Review 65(5):705–729

Ugwudike P (2020) Digital prediction technologies in the justice system: The implications of a 'race-neutral' agenda. Theoretical Criminology 24(3):482–501

Uhrig N (2016) Black, Asian and minority ethnic disproportionality in the criminal justice system in England and Wales. Tech. rep., Ministry of Justice, URL https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/639261/bame-disproportionality-in-the-cjs.pdf

Ulmer JT, Harris CT, Steffensmeier D (2012) Racial and ethnic disparities in structural disadvantage and crime: White, Black, and Hispanic comparisons. Social Science Quarterly 93(3):799–819

Unnever JD, Hembroff LA (1988) The prediction of racial/ethnic sentencing disparities: An expectation states approach. Journal of Research in Crime and Delinquency 25(1):53–82

Van Buuren S (2018) Flexible imputation of missing data. CRC press

Van Eijk G (2017) Socioeconomic marginality in sentencing: The built-in bias in risk assessment tools and the reproduction of social inequality. Punishment and Society 19(4):463–481

Van Wingerden S, Van Wilsem J, Johnson BD (2016) Offender's personal circumstances and punishment: Toward a more refined model for the explanation of sentencing disparities. Justice Quarterly 33(1):100–133

VanderWeele TJ, Ding P (2017) Sensitivity analysis in observational research: Introducing the e-value. Annals of Internal Medicine 167(4):268–274

VanderWeele TJ, Hernán MA (2012) Results on differential and dependent measurement error of the exposure and the outcome using signed directed acyclic graphs. American Journal of Epidemiology 175(12):1303–1310

VanderWeele TJ, Robinson WR (2014) On causal interpretation of race in regressions adjusting for confounding and mediating variables. Epidemiology 25(4):473–484

VanderWeele TJ, Staudt N (2011) Causal diagrams for empirical legal research: A methodology for identifying causation, avoiding bias and interpreting results. Law, Probability and Risk 10(4):329–354

Volkov V (2016) Legal and extralegal origins of sentencing disparities: Evidence from Russia's criminal courts. Journal of Empirical Legal Studies 13(4):637–665

Ward JT, Hartley RD, Tillyer R (2016) Unpacking gender and racial/ethnic biases in the federal sentencing of drug offenders: A causal mediation approach. Journal of Criminal Justice 46:196–206

Wilbanks W (1987) The Myth of a Racist Criminal Justice System. Brooks/Cole, Monterey

Wooldredge JD (1998) Analytical rigor in studies of disparities in criminal case processing. Journal of Quantitative Criminology 14:155–179

Wu J (2016) Racial/ethnic discrimination in prosecution. Criminal Justice and Behavior 43(4):437–458

Yan S, Lao J (2021) Sex disparities in sentencing and judges' beliefs: A vignette approach. Victims & Offenders

Zhang J, Kai F (1998) What's the relative risk? A method of correcting the odds ratio in cohort studies of common outcomes. The Journal of the American Medical Association 280(19):1690–1691

Zhao Q, Keele LJ, Small DS, Joffe MM (2022) A note on posttreatment selection in studying racial discrimination in policing. American Political Science Review 116(1):337–350

A Expanded Representation of Ethnic Disparities in Sentencing

To be able to explore the robustness of sentencing studies to unobserved cases characteristics, in this article we took the simplifying assumption of seeing a direct relationship between characteristics and offenders' ethnicity. We further argued that, since ethnicity is determined at birth (or early in life), it makes more sense to see it as 'parent' than a 'child'. However, in reality, the relationship between ethnicity and case characteristics is indirect.

As shown in Figure A, a wide range of socio-economic area and individual factors could be either mediating (D_1) or confounding (D_0) that relationship. Examples of the former could be the overpolicing of ethnic minority areas, or ethnic discrimination in education or the labour market, affecting criminal rates, and therefore the types of case characteristics attributed to White and ethnic minority offenders. Similarly, such factors could be seen as confounders (affecting both individuals' ethnicity and criminal rates) if we see them as historical disparities that affected the offenders' parents and therefore preceded her birth (Graetz et al., 2022).
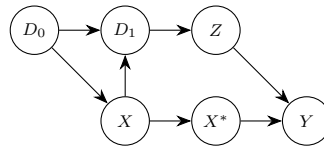

Fig. A.1 Expanded representation of the origins of ethnic disparities in sentencing, considering pre-birth (D_0) and post-birth socio-economic disparities (D_1), and assuming race-neutral case characteristics and no selection bias.

B Simulations

Table B.1 Congruous scenarios where the ethnic disparities reported in Hopkins could be overestimated as a result of unobserved case characteristics (OR stands for odds ratio, RR for risk ratio).

probability of incarceration for Whites without the unobserved	prevalence of the un-observed in Whites	relative prevalence of the unobserved in minorities com-pared to Whites	effect of the unobserved on incarceration, OR_{ZY} (RR_{ZY})	direct effect, OR_{XY} (RR_{XY})	Probability of incarceration (% of congru-ous scenarios)	Total ef-fect (% of congruous scenarios)
0.4	0.2	2	1.93 (1.41)	1.25 (1.10)	0.52 (3%)	1.41 (55%)
0.4	0.3	1.25	2.12 (1.46)	1.25 (1.10)	0.54 (70%)	1.31 (21%)
0.45	0.3	1.25	1.58 (1.25)	1.25 (1.10)	0.52 (1%)	1.3 (17%)
0.4	0.3	1.5	2.12 (1.46)	1.25 (1.10)	0.54 (82%)	1.38 (44%)
0.45	0.3	1.5	1.58 (1.25)	1.25 (1.10)	0.52 (1%)	1.33 (23%)
0.4	0.3	1.75	2.12 (1.46)	1 (1)	0.53 (42%)	1.17 (3%)
0.4	0.3	1.75	2.12 (1.46)	1.25 (1.10)	0.55 (88%)	1.47 (76%)
0.45	0.3	1.75	1.58 (1.25)	1.25 (1.10)	0.52 (2%)	1.38 (42%)
0.4	0.3	2	2.12 (1.46)	1 (1)	0.54 (63%)	1.25 (5%)
0.4	0.3	2	2.12 (1.46)	1.25 (1.10)	0.55 (95%)	1.56 (79%)
0.45	0.3	2	1.58 (1.25)	1.25 (1.10)	0.52 (1%)	1.42 (62%)
0.45	0.5	1	1.91 (1.36)	1.25 (1.10)	0.56 (67%)	1.24 (9%)
0.5	0.5	1	1.27 (1.12)	1.25 (1.10)	0.51 (1%)	1.25 (6%)
0.45	0.5	1.25	1.91 (1.36)	1.25 (1.10)	0.56 (55%)	1.34 (27%)
0.45	0.5	1.5	1.91 (1.36)	1.25 (1.10)	0.57 (28%)	1.46 (67%)
0.45	0.5	1.75	1.91 (1.36)	1 (1)	0.56 (58%)	1.27 (11%)
0.45	0.5	1.75	1.91 (1.36)	1.25 (1.10)	0.57 (8%)	1.6 (76%)
0.5	0.7	1	1.5 (1.2)	1.25 (1.10)	0.55 (94%)	1.25 (6%)
0.5	0.7	1.25	1.5 (1.2)	1.25 (1.10)	0.56 (86%)	1.34 (28%)

```r
##########################################################################
###############R Code: Simulations########################################
##########################################################################

set.seed(7)

#libraries
library(tidyverse)
library(forcats)
library(arm)
library(ggplot2)


## ----------------------------------------------------------------------
## Functions to obtain the effects based on the decompistion in Raggi et al. 2021

g.fun <- function(xx,yy, beta_00, beta_xx, beta_ww, gamma_00, gamma_xx){

  yy*(beta_ww) + #+beta_xw if there was an interaction
    log((1 + exp(beta_00 + beta_xx * xx))/
         (1 + exp(beta_00 + beta_xx * xx + beta_ww))) + #+beta_xw if there was an interaction
    gamma_00 + gamma_xx * xx
}

#g.fun evaluated at beta_xx=0
g.fun.star <-function(xx,yy, beta_00, beta_ww, gamma_00, gamma_xx){
  yy*(beta_ww) + #+beta_xw if there was an interaction
    log((1 + exp(beta_00))/
         (1 + exp(beta_00 + beta_ww))) + #+beta_xw if there was an interaction
    gamma_00 + gamma_xx * xx
}


## ----------------------------------------------------------------------
## Input values for the simulations

p.x <- 0.22 #prevalence of non-White

##x-w relationship

#gamma_0 = log(p/(1-p)) where p is the probability of having a gun
#for White offenders
# We run separate simulations for all the values of PCCW listed below
#PCCW 0.1, 0.3, 0.5, 0.7, 0.9

p.x0 <- 0.075
#parameter in the regressions as required by the decomposition in Raggi et al.
gamma_0 <- log(p.x0/(1-p.x0))

# We assume that non-White offenders are more likely
# to have the unobserved case characteristic than White offenders.
# CNNW is the factor by which to multiply PCCW to obtain the prevalence
# of the unobserved case characteristic in non-White offenders.
# A plausible set of values would be 0-2 times more likely.
# So for values of p.x0 < 0.5 use CCNW = 1,1.25,1.5, 1.75, 2
# for values of p.x0 = 0.5 use CCNW = 1-1.75
# for values of p.x0 = 0.7 use 1-1.25
# for values p.x0=0.9 use only 1

CCNW <- c(1,1.25,1.5, 1.75,2)
```

```r
p.x1w1 <-  p.x0*CCNW ## vary

#gamma_x is required to enter the decomposition equations in Raggi et al.
gamma_x <- log(p.x1w1/(1-p.x1w1)) - gamma_0

###x,w,y relationship

# beta_0 is the parameter in the decomposition that represents
# the effect on incarceratio for White offenders without the unobserved case characteristic.
# This effect only gives congruous scenarios in this small range meaning that
# the probability of incarceration for White offenders without the unobserved case
# characteristic is approximately 0.5 (which makes sense given the overall proportion)

p.yx0w0 <- c(0.4,0.45,0.5,0.53)
beta_0 <- log(p.yx0w0/(1-p.yx0w0))

#beta_x is the direct effect. We consider no discrimination and low discrimination

beta_x <- log(c(1,1.25))

# beta_w represents the additional penalty of having the
# unobserved case characteristic for White offenders
# We assume that the chance of imprisonment increases
# in the presence of the unobserved case characteristic
# We further assume that it does not depend on ethnicity

# We can reverse engineer this from p.yx0w0 using known descriptive statistics from Hopkins

p.yx0w1 <- (0.53 - p.yx0w0*p.x0)/(1-p.x0)
beta_w <- log(p.yx0w1/(1-p.yx0w1)) - beta_0

# This is the indirect effect of the unobserved case characteristic
ICC_OR <- exp(beta_w)
ICC_prob <- round(p.yx0w1/p.yx0w0,2)

## --------------------------------------------------------------------------------
## Simulation runs

# number of repetitions and sample size
n.reps <- 100
n.samp <- 5000

# size of the vector of parameter values
tot.size <- length(gamma_x)*length(beta_x)*length(beta_0)

#list to contain all the values
test<-list()

for(ii in 1:n.reps){

#set to NA
keep.py=keep.py_is_in=TE_glm=TE_is_in=TE_x_OR=TE_x=IE_x=DE_x=DE_is_in=RES_x=rep(NA,tot.size)

#initialise the vector of parameter values
l<-1
num.df<-c(CCNW[1],exp(beta_x[1]),p.yx0w0[1],p.yx0w1[1], ICC_OR[1], ICC_prob[1])

#for loop here
for(i in 1:length(gamma_x)){
  for(j in 1:length(beta_x)){
    for(k in 1:length(beta_w)){
```

```r
# generate the data

# ethnicity
x <- rbinom(n.samp, 1, p.x)

# parameters for unobserved case characterstic w given x
p_w <- invlogit(gamma_0 + gamma_x[i] * x)

# generate unobserved case characteristic
w <- rbinom(n=n.samp, size=1, p_w)

# parameters for incarceration y given x and w
p_y <- invlogit(beta_0 + beta_x[j] * x + beta_w[k] * w )

# generate incarceration
y <- rbinom(n=n.samp, size=1, p_y)

# create data set
MoJ <- data.frame(x=x,w=w,y=y)

#constraint 1: p(y)=0.55

# estimate if total proportion incarcerated
keep.py[l] <- (sum(MoJ$y)/n.samp)

# 95% interval around estimate
keep.py.se <- ((keep.py[l]*(1-keep.py[l]))/n.samp)^(0.5)

# does the interval contain the value 0.55?
keep.py_is_in[l] <- ifelse(((0.55 < keep.py[l]+2*keep.py.se) &
                                        (0.55 > keep.py[l]-2*keep.py.se)),1,0)

#constraint 2: TE/NAIVE OR 1.53
TE_glm[l]<-exp(glm(y ~ x, data=MoJ, family=binomial)$coef[2])
TE_glm_mod<-glm(y ~ x, data=MoJ, family=binomial)
TE_se<-summary(TE_glm_mod)$coefficients[2,2]
TE_is_in[l] <- ifelse(((1.53 < TE_glm[l]+2*TE_se) & (1.53 > TE_glm[l]-2*TE_se)),1,0)

### Parameter estimates using logistic regression.
# Needed for the decompostion equations

# TE
beta_glm_mod <- glm(y ~ x + w, data=MoJ, family = binomial)

beta_est <- glm(y ~ x + w, data=MoJ, family = binomial)$coef

gamma_est <- glm(w ~ x, data=MoJ, family=binomial)$coef

# Total effect calculated  using the the Raggi et al 2021 equations
TE_x[l] <- beta_est[2] +
                log((1 + exp(g.fun(1,1,beta_00 = beta_est[1], beta_xx=beta_est[2],
                beta_ww=beta_est[3], gamma_00=gamma_est[1], gamma_xx = gamma_est[2])))/
                (1+exp(g.fun(0,1,beta_00 = beta_est[1], beta_xx=beta_est[2],
                beta_ww=beta_est[3],gamma_00=gamma_est[1], gamma_xx = gamma_est[2])))) -
                log((1 + exp(g.fun(1,0,beta_00 = beta_est[1], beta_xx=beta_est[2],
                beta_ww=beta_est[3], gamma_00=gamma_est[1], gamma_xx = gamma_est[2])))/
                (1+exp(g.fun(0,0,beta_00 = beta_est[1], beta_xx=beta_est[2],
                beta_ww=beta_est[3],gamma_00=gamma_est[1], gamma_xx = gamma_est[2]))))

# As an OR
TE_x_OR[l] <- exp(TE_x[l])
```

```r
# Indirect effect calculated using the the Raggi et al 2021 equations
IE_x[l] <- log((1 + exp(g.fun.star(1,1,beta_00 = beta_est[1], beta_ww=beta_est[3],
                     gamma_00=gamma_est[1], gamma_xx = gamma_est[2])))/
                    (1+exp(g.fun.star(0,1,beta_00 = beta_est[1], beta_ww=beta_est[3],
                     gamma_00=gamma_est[1], gamma_xx = gamma_est[2])))) -
                    log((1 + exp(g.fun(1,0,beta_00 = beta_est[1], beta_xx=beta_est[2],
                     beta_ww=beta_est[3],gamma_00=gamma_est[1], gamma_xx = gamma_est[2])))/
                    (1+exp(g.fun(0,0,beta_00 = beta_est[1], beta_xx=beta_est[2],
                     beta_ww=beta_est[3],gamma_00=gamma_est[1], gamma_xx = gamma_est[2]))))

# Direct effect using the the Raggi et al 2021 equations
DE_x[l] <- beta_est[2]

# Residual caluclated using the the Raggi et al 2021 equations.
# This is non-significant in almost all the simulation studies and
# in all of the congruous ones

RES_x[l] <- TE_x[l] - DE_x[l] - IE_x[l]

#list counter increased
l<-l+1

# populate vector of estimated values
num.df <- rbind(num.df,c(CCNW[i],exp(beta_x[j]),p.yx0w0[k],p.yx0w1[k],ICC_OR[k], ICC_prob[k]))
      }
   }
}

# remove the initial 0s
num.df<-num.df[-1,]

# combine the parameter values used to generated the data with the estimated values

internal<- cbind(num.df,keep.py,keep.py_is_in, TE_glm, TE_is_in,
                               TE_x_OR, TE_x, IE_x, DE_x, RES_x)

# put into the list
test[[ii]] <- internal
}

# unlist and create an array that contains all the simulated data
# this array is used to extract means, sds etc.

testy <- unlist(test)
testy <- array(testy,dim=c(tot.size,15,n.reps))

# means
mean.vals <- data.frame(round(apply(testy,c(1,2), mean),3))
colnames(mean.vals) <- c("CCNW","DE_OR","p(Inc|W,noCC)","p(Inc|CC)","ICC_OR",
                         "ICC_prob","prop_Inc","Inc_is_in","TE_OR", "TE_is_in",
                         "TE_x_OR", "TE_x", "IE_x", "DE_x", "RES_x")

# standard deviatios
sim_sd.vals <- data.frame(round(apply(testy,c(1,2), sd),3))
colnames(sim_sd.vals) <- colnames(mean.vals)

## ------------------------------------------------------------------------------
## Write means and congruous values into a csv file

write.csv(mean.vals, "pccw0.1.csv", row.names = FALSE)
```

```
# congruous
cong <- subset(mean.vals, ((p.yx0w0 < p.yx0w1) & (Inc_is_in >0) & (TE_is_in > 0)))

write.csv(cong, "cong_pccw0.1.csv", row.names = FALSE)
```