The role of helplines in the anti-trafficking space: examining contacts to a major 'modern slavery' hotline

Ella Cockbain[1] · Lisa Tompson[2]

Abstract

Although increasingly deployed worldwide, human trafficking hotlines are sorely under-researched. Situated within a complex systems framework, we conceptualise such helplines as both a product of and an influence on broader anti-trafficking ecosystems. Taking the UK as a case study, we undertook exploratory analysis of potential 'modern slavery' cases (n=3,613) reported to a major independent anti-trafficking helpline. We examined who seeks help, why and what follows. Contrary to stereotypes, relatively few cases involved sexual exploitation. Many case characteristics varied significantly by exploitation type. Reports about car washes and beauty services heavily influenced overall trends, likely reflecting intense public focus on these sites. Most cases involved adults. Although people self-reporting exploitation are the core target audience, only around 1 in 10 cases derived from self-reports (with higher rates for domestic servitude). We show how third-party reporters vary in their proximity to the people about whom they raise concerns – who themselves may or may not self-identify as victims and/or welcome intervention. Findings around onward action both show a whole-systems response to addressing complex needs and raise difficult tensions around risks of police involvement. Our key contributions include showing what can (and cannot) presently be assessed from such helpline data, proposing a future research agenda and providing a tangible illustration of what it means to theorise helplines as a part of a complex system of anti-trafficking activity. We highlight how their central goal of victim support can be enabled and constrained by wider policies, funding decisions and other structures.

Keywords Human trafficking · Migration · Forced labour · Public health · Crisis hotline · Complex systems

Extended author information available on the last page of the article

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Introduction

Anti-trafficking helplines appear increasingly widespread internationally (U.S. Department of State, 2021). Helplines in the United States (US) and United Kingdom (UK), for example, play prominent roles in the national and international anti-trafficking landscapes[1]. Despite being deployed in numerous countries worldwide (U.S. Department of State, 2021), anti-trafficking hotlines have attracted remarkably little research attention. Developing a stronger knowledge-base is important to support harm reduction, particularly given tensions and complexities around anti-trafficking efforts and intense political, media and social interest in trafficking and 'modern slavery' (note on terminology to follow).

Understanding how anti-trafficking helplines are used in practice is important for several reasons. First, helplines can provide important support to marginalised, stigmatised and/or criminalised populations, necessitating better understanding about how people with lived experience of trafficking use them. Second, anti-trafficking helplines can offer valuable independent (i.e., non-state) data, enabling complementary insights into complex issues. Third, and related to imprecise definitional boundaries and moral panics around trafficking (e.g., Weitzer, 2015), insights into helpline usage can elucidate public understandings and possible effects of messaging. Fourth, careful engagement with anti-trafficking helpline data (and staff) can advance thinking around how helplines address victimisation and surface under-studied tensions and risks.

Accordingly, this article presents a novel exploratory analysis of contacts to the UK's Modern Slavery & Exploitation Helpline (hereafter the Helpline). It is based on 3,613 cases of potential trafficking and exploitation (aka 'modern slavery') reported over its first 2.5 years of operation. Our core aim was to understand who seeks help, why and what follows, also considering how reports to the Helpline compare to state datasets. Our foundational study expands the virtually non-existent literature on anti-trafficking helplines and outlines a broader research agenda.

Our key contributions include showing what can (and cannot) presently be learned from the Helpline's data, highlighting further data collection and research needs, and clearly illustrating what it means to theorise helplines as a part of a complex system of anti-trafficking policy and practice. We show how the Helpline's own processes and decisions are embedded in and constrained by broader structures and systems and explore pressing implications thereof. For example, referral patterns *both* evidence a whole-systems response to addressing people's complex needs *and* raise concerns about what widespread onward referrals to the police might trigger in terms of chains of events that could ultimately harm some marginalised people. The latter is particularly salient given that we find only a significant minority of cases involve self-reports. The rest come from third-parties, who vary in their proximity to the people about whom they are contacting the Helpline – who themselves may or may not

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[1] For example, the UK's helpline is widely publicised in third-party anti-trafficking materials, contributes to key multi-agency working groups and the private-sector-led initiative Tech Against Trafficking. The US hotline has helped establish hotlines in other countries and partnered with the Mexican government, for example.

self-identify as victims and/or welcome intervention. We find high proportions of contacts sparked by observations of activity deemed suspicious and concerns around certain contexts (especially car washes). This patterning, we argue, likely reflects intense public focus on certain issues, and tropes, rather than showing where risk and need are necessarily highest. Our results also show both considerable diversity and intense concentrations in reported cases and notable divergences from other trafficking datasets nationally.

The remainder of the article is structured as follows. First, we provide a note on terminology. Next, we contextualise the study against the international literature on helplines more generally and introduce important considerations specific to anti-trafficking helplines. We then present our guiding theoretical framework, aims and research questions, methods and results. We finish with a discussion of the findings, their limitations and implications.

Note on terminology

We typically refer here to trafficking (or trafficking and exploitation) and use quotation marks for 'modern slavery'. Our rationale is that trafficking remains a better-understood and comparatively less contentious term and is the more established focus for research and policy internationally (Dottridge, 2017). In the UK, however, the Modern Slavery Act 2015 repositioned trafficking as a form of 'modern slavery', reshaping policy and practice (Broad & Turnbull, 2019). 'Modern slavery' is an umbrella term that is *not* defined in international law but encompasses various offences that are: human trafficking (requiring movement under UK law), slavery, servitude, and forced or compulsory labour (none requiring movement). Although increasingly commonly used and an accurate reflection of UK policy, the language of 'modern slavery' has been heavily criticised for, *inter alia*, further exceptionalising an issue embedded in global economic systems, detracting from colonialism's legacies, evoking inaccurate parallels to chattel slavery, having problematic racialised overtones and further expanding an already complex and sprawling domain (Chuang, 2014; Dottridge, 2017; O'Connell Davidson, 2015). Nevertheless, we appreciate that 'human trafficking' is also disputed terrain with a problematic history (e.g., Kempadoo & Shih, 2022).

Context: helplines, awareness-raising and the international landscape

Helplines have long been used internationally for diverse sensitive and/or stigmatised issues, including child abuse and neglect (e.g., Horn et al., 2015), domestic violence (e.g., Colagrossi et al., 2022), problem gambling (e.g., Kim et al., 2016), suicide and mental health (e.g., Krishnamurti et al., 2022). Thousands of helplines (aka hotlines, crisis lines etc.) exist worldwide, typically focusing on a single issue (Ingram et al., 2008). They are often but not necessarily independent: i.e., non-state affili-

ated[2]. Their primary purpose is providing free and confidential information, advice and support, often via referrals to other services (Ingram et al., 2008; Mathieu et al., 2021). Research into various helplines has advanced understanding of complex social issues, people's support needs, the impact of awareness campaigns, barriers to contacting helplines, outcomes of contacts, and more (e.g., Colagrossi et al., 2022; Kim et al., 2016; Mathieu et al., 2021). Helplines' existence and aims are largely uncontroversial: even when addressing criminalised issues, they typically serve public health goals, prioritising prevention, harm reduction and/or pathways to support.

Anti-trafficking helplines have expanded internationally. Alongside more established national hotlines in, e.g., the US and Poland, newer helplines now operate in the UK, Ukraine, Bulgaria, Slovakia, Mexico, Argentina, Canada, South Africa, Nigeria, Angola and beyond (U.S. Department of State, 2021). There is considerable variation in the extent to which anti-trafficking helplines are interwoven with state responses. Some are run by the state (e.g., Romania and Nigeria), others by transnational organisations (e.g., Ukraine) or by non-governmental organisations (NGOs), sometimes with state funding (e.g., Poland) and/or in collaboration with government agencies (e.g., Bulgaria).

The highest-funded anti-trafficking helpline is almost certainly the US' National Human Trafficking Hotline, with over $10 million operating costs in 2021 (Polaris, 2022). It is run by the NGO Polaris, which has close ties to the US Government and is predominantly funded through state grants and corporate donations (Polaris, 2022). Polaris has attracted criticism for promoting discredited statistics, exacerbating moral panics, running anti-trafficking campaigns that fuel sexist, racist and classist profiling, and embodying white saviourism (Cole, 2021; Heynen and van der Meulen, 2022; Nolan Brown, 2019; Shih, 2021). Such critiques caution against simplistic, naïve views of anti-trafficking helplines as a panacea, showing troubling aspects to the 'rescue industry' of which they can be part (Agustín, 2008).

Increasing awareness is a core focus of anti-trafficking strategies internationally (Andrijasevic & Anderson, 2009). The politics, aims and visual imagery of anti-trafficking campaigns are well-documented, including critiques of dehumanising and voyeuristic imagery, moral panics and the oversimplification of complex issues (e.g., Andrijasevic & Anderson, 2009; Kempadoo, 2015; O'Brien, 2016). Awareness-raising campaigns are often targeted at potential migrants, whereby 'stay home'-type messaging has been criticised for outsourcing immigration control (Okyere & Olayiwola, 2022; Sharma, 2003) and assuming ignorance of risks is the main issue, not a lack of viable alternatives (Mendel & Sharapov, 2020). Despite vast investment in awareness-raising, serious questions persist around the underlying ethics, assumptions and scarcity of evidence for effectiveness in preventing harms (Szablewska & Kubacki, 2018; Tjaden et al., 2018).

Yet, there is comparatively little engagement with awareness-raising campaigns promoting reporting of possible trafficking. Known as 'spotting the signs', such campaigns are used by many NGOs. There can be tangible benefits to identifying abuse – *if* those affected are then well-supported, their rights and agency respected, and

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[2] Emergency service numbers are another example of crisis helplines, but as state-run services they fall beyond our focus.

material needs met. Encouraging people to 'spot the signs' also presents risks. As de Vries & Cockbain (2024) argue, trafficking 'indicators' are often empirically weak, contain biases that under- or over-profile various groups, and struggle to distinguish behaviour legally constituting trafficking from adjacent activity (see also Volodko et al., 2019; Kjellgren, 2022). While intentions may be good, there is virtually no empirical research into the effects of 'spotting the signs', particularly on trafficked populations. Yet, evidence exists indicating such 'citizen surveillance' can harm people profiled as trafficked (e.g., sex workers, racialised minorities) (Nolan Brown, 2019; Shih, 2021; Smith & Mac, 2018).

Compared to the literature on various other helplines, there is conspicuously little research into anti-trafficking helplines. A notable exception is a study including analysis of data obtained indirectly from the Polaris US hotline ($n = 16,956$ possible victims) (DiRienzo, 2022). It includes some interesting results showing narrow and gendered reporting of concerns: overwhelmingly around sexual exploitation of women and girls. Although the author highlights possible influences of anti-trafficking campaigns in making some people visible as (possibly) trafficked and obscuring others, she largely neglects the data's provenance and limitations. In repeatedly misrepresenting participants as 'trafficking victims'/ 'identified victims', she also erases considerable uncertainty arising from the data's lack of 'ground truth': it is unclear how many of these 'victims' self-identified as trafficked or met/might meet legal thresholds to be considered such.

There are several possible explanations for the stark research gap around anti-trafficking helplines. First, trafficking-related data are generally hard-to-access (Tyldum, 2010; Cockbain et al., 2020), and helpline data are inherently sensitive. Second, anti-trafficking helplines are a recent phenomenon: even the apparently longest-running national helpline only opened in 2007 (Polaris, 2017). Third, the organised crime frame has long dominated anti-trafficking, and calls for a public health approach are only recently becoming more mainstream (McAlpine et al., 2021; Such et al., 2021).

Our study focuses on the UK, where the Modern Slavery & Exploitation Helpline (hereafter the Helpline) was established in 2016[3] (Unseen, 2018). It is run by the NGO Unseen (established 2008), which has long provided frontline trafficking support services, advocacy and partnership work. The Helpline was developed as a free, confidential, independent, 24/7 route to help and guidance (Unseen, 2018). Although Unseen report regularly on Helpline patterns and trends (*e.g.*, Unseen, 2021), ours is among the first academic studies using its data. It holds one of the UK's largest national trafficking datasets, alongside police recorded crime data and the National Referral Mechanism (NRM)[4]. All these sources are imperfect proxies for trafficking activity, subject to various biases and constraints (*e.g.*, Cockbain & Bowers, 2019; Cockbain et al., 2020, 2024). Nevertheless, analysing their data can generate vital

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[3] Unseen won a tender launched by Polaris and funded by Google, which awarded £1 million for the start-up and initial operating costs (Unseen, 2018). Founding partners include BT (British Telecom) and Salesforce, which provide technical support, equipment and case management systems. Since 2017, the Helpline has been sustained through fundraising and business services (e.g., consultancy, training).

[4] Established in 2009 as a centralised system for the identification and support of trafficking victims, the NRM was expanded in 2015 to cover other 'modern slavery' (for further discussion of its data and limitations, see Cockbain & Bowers, 2019; Cockbain et al., 2024).

insights into how suspected trafficking/'modern slavery' is understood, identified, and reported.

The Helpline provides an alternative and complementary platform to official channels, enabling anyone to seek assistance for trafficking or exploitation they have experienced, know of, or suspect. Its independence from the state and availability for free, 24/7 and in 200 different languages is particularly important given the numerous reasons why people may feel unsafe reporting to the authorities, including mistrust, isolation, language barriers, fears and/or experiences of not being taken seriously, involvement in stigmatised and/or criminalised activity, and fear of recriminations from exploiters or the state (Farrell & Pfeffer, 2014; Cockbain et al., 2020). Such fears should be understood against the UK's history of poor policing responses to trafficking and punitive anti-immigration policy and rhetoric (HMICFRS, 2017; Cockbain & Sidebottom, 2022). Indeed, well-documented tensions exist between the UK state's jingoistic claims to lead the world in tackling 'modern slavery' and ways its own immigration-related policies can produce exploitation and impede identification and support of trafficked people (Gadd & Broad, 2018; Hodkinson et al., 2021). For example, under the 'Hostile Environment', irregular migrants reporting crimes risk detention and deportation, and anti-trafficking checks can involve Immigration Enforcement (LEAG et al., 2022). People who opt[5] to be referred to the NRM as potential victims of 'modern slavery' often face lengthy delays in decision-making, with waits recently averaging 568 days (IASC, 2022). Victims/survivors can therefore be left for long periods with no 'right to work', subsisting on minimal state support, and susceptible to further exploitation (Sharp & Sedacca, 2019). The use of tied and short-term work visas, especially but not exclusively post-Brexit, has also been criticised as increasing migrant workers' exploitability and reducing their access to redress (Sehic & Vicol, 2023).

While people who have been severely exploited constitute the Helpline's foremost intended audience, other target audiences include their professional or personal contacts, and concerned members of the public. Since its launch, the Helpline has been widely promoted, both to the public and specialist audiences (e.g., through leafleting in immigration detention centres and its inclusion in Government guidance for arrivals from Ukraine).

Our theoretical orientation

This study belongs within pragmatism: a flexible, practical philosophical and epistemological framework requiring us to 'begin with things in their *complex entanglements*' (Dewey, 1981, p.387). Trafficking recalls Rittel and Webber's (1974) classic concept of 'wicked problems' in social or policy planning. 'Wicked problems' are characterised as messy, without a 'definitive formulation', non-linear, dynamic, highly context-dependent, full of interdependencies, symptomatic of other problems and as having no 'value-free, true-false answers' or indeed 'solutions' (Rittel & Webber, 1974, p.160-9). A wicked problems frame moves away from treating trafficking as a neatly-delineated interpersonal crime, recognising instead its unclear boundar-

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[5] Adults must consent to enter the NRM – in theory, at least.

ies, inherent messiness, and the contributing roles of numerous, varied and often intersectional factors that can produce and exacerbate exploitation (e.g. economic inequalities, various forms of marginalisation, housing insecurity, weak or weakly enforced labour rights, restrictive immigration regimes etc.). Conceptualising trafficking as a wicked problem is not an excuse for inaction, but rather reinforces calls for more carefully-designed and holistic interventions that do not shy away from the complexities of risks, harms and response needs and seek to minimise harmful backfire effects (see, e.g., Jannesari et al., 2023; Zimmerman et al., 2021).

Additionally, and relatedly, both trafficking and anti-trafficking can usefully be seen as 'complex systems' – typically characterised as multi-level (micro-, meso- and macro), dynamic, adaptive, and filled with dependencies and interactions (Miller & Page, 2009). Trafficking and anti-trafficking involve temporally and spatially diverse multitudes of interconnected actors, interests, decisions, activities, processes, locations, institutions etc., all embedded in broader structures of laws, governance, economic systems *etc. (*see, e.g., McAlpine, 2021, Cockbain et al., 2022; van der Watt and van der Westhuizen, 2017). We draw here on complex systems thinking to understand how the Helpline's aims can be both enabled and constrained by broader policies, systems and structures (e.g. immigration policy, laws around sex work, funding for direct service provision), situated as it is within the UK's anti-trafficking ecosystem. Crucially, we also conceptualise and analyse Helpline data as a socially-constructed representation of concerns about and responses to (suspected) trafficking and exploitation, rather than a neat reflection of 'modern slavery' (as it is often misconstrued). While our methods are relatively straightforward (exploratory data analysis), our study not only generates much-needed empirical insights but also offers conceptual advances in demonstrating why a complex systems framework is important in understanding anti-trafficking helplines and their data.

Aim and research questions

Our overarching aim was to understand how people use the Helpline to seek help about trafficking and exploitation they have experienced, encountered or suspected. Consequently, we explored the scale and nature of all 'modern slavery'-related contacts to the Helpline over its first two and a half years. We address four interlinked research questions:

1. What instances of potential trafficking and exploitation were identified to the Helpline?
2. Who were the potential victims and offenders involved?
3. Who were the people raising concerns?
4. What onward action was taken?

Methods

Background to the data source

Contacts to the Helpline can be by phone call, email, web form or app. Trained call handlers staff the Helpline, doing an initial safety check before more thoroughly assessing the situation. Using a secure platform, staff record each contact through fixed fields and structured notes. Call handlers have a list of 'indicators'[6] that inform whether staff categorise contacts as potentially 'modern slavery'-related. Assessments are made on a case-by-case basis: where adults[7] are involved, much rests on whether control or coercion is indicated. Helpline staff stressed that they take a victim-centred approach, do not seek to verify or validate information provided, and have no investigatory powers.

Helpline staff discussed the available options with those getting in touch, which could include safety planning, referrals to other services (e.g., health, housing or social care), highlighting available support, filing reports with the police, and/or follow-up contact. Onward action is categorised in two ways – signposts and referrals. Briefly, signposting is when someone contacting the Helpline is pointed towards other organisations for further information or support (which they may or may not pursue), whereas referrals are when Helpline staff contact another organisation directly, providing information and/or advocating for certain action (e.g., that someone be referred into the NRM[8]). Multiple referrals and signposts are possible for a single case, particularly where there are complex needs and/or multiple potential victims.

The Helpline assigns contacts to distinct 'cases': situations of potential 'modern slavery' that may involve multiple potential victims, exploiters, locations, and exploitation types. Multiple contacts can relate to the same case and cases can be merged following internal scrutiny regarding similarity. The Helpline has substantive internal processes to ensure data quality. For example, supervisors advise call handlers around limited or conflicting information, as well as assisting in crisis situations. Automatic quality-control checks help detect missing or incorrect entries in mandatory data fields and data 'cleaners' are employed for manual quality assurance (e.g., checking agreement between structured notes and fixed-format fields). The Helpline's data standards are rigorously documented, regularly reviewed and updated as appropriate.

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[6] This list includes general 'indicators' (e.g., isolation, poor living conditions, restricted freedom of movement) and ones relating to specific exploitation 'types'. Unseen compiled the list, apparently based on various internationally-used 'indicators'. Unseen told us technically a case need only feature one 'indicator' to be classified as potential 'modern slavery' but that 'almost never' happens. Moreover, Unseen said cases may contain 'indicators' but not be classified as 'modern slavery'.

[7] In line with international legislation, children can be considered trafficked even without any force, deception, coercion or other 'means' of control (Cockbain & Olver, 2019).

[8] Helpline cases are referred to the Salvation Army to make NRM referrals, as the Helpline is not a designated 'first responder'.

Data cleaning, coding and analysis

Unseen extracted all data classified as potential 'modern slavery' for the nearly 2.5-year study period (10 October 2016–13 March 2019), removing personal information[9]. Given the original database's structure, we started with four separate data files:

1) Cases ($n=3,613$): reporting channels, characteristics of potential exploitation (e.g., industry, location) and relationship to potential victims.

2) Key individuals ($n=17,693$): characteristics of potential exploiters and victims indicated.

3) Sources of contact ($n=4,156$): background on people contacting the Helpline (e.g., NGO, police, public).

4) Onward action ($n=4,034$): information on referrals and onward signposting.

We began with data cleaning in R (R Core Team, 2020), including de-duplicating case reference numbers. Next, we merged the files using the case reference numbers as the unifier, aggregating data as appropriate where many-to-one relations existed between files. Table 1 details the variables used in our analysis, some of which we reclassified for consistency, analytic parsimony and meaningfulness. For example, we extensively reclassified sector types and sub-types, as these options had evolved over time and were particularly numerous and fragmented. Moreover, although the Helpline distinguishes between different categories of 'modern slavery' under English and Welsh law, we collapsed its distinction between trafficking and other 'modern slavery' (forced labour, slavery and servitude, and unknown). We did so because the trafficking category is only applied to cases where movement is explicitly known/ observed, so risked being particularly partial. Since trafficking and other 'modern slavery' are now dealt with in a combined fashion in UK policy, it made little sense to focus only on trafficking. Helpline staff confirmed in our focus group that this decision was prudent.

Our final main data set contained 3,613 cases, some of which did not have full data available. Individual data files were used for supplementary analysis. The most common fields for data that were missing and/or explicitly recorded as 'unknown' related to potential exploitation type and the characteristics of potential victims and exploiters. There were 8,535 contacts in total: predominantly via calls ($n=5,213$, 61.1%), followed by emails ($n=2,234$, 26.2%) and web forms ($n=1,067$, 12.5%). Just 21 contacts came via the app, only launched in July 2018[10].

Analysis

We used exploratory data analysis (Tukey, 1977), taking a quantitative approach informed by contextual understanding. We undertook univariate and bivariate anal-

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[9] Work compensated through a fee within the grant. Cases not classified as 'modern slavery' were not supplied (e.g. calls for general information, where people hung up, or contacted about other crimes, like domestic violence).

[10] This figure was surprisingly low, especially given considerable focus and investment around anti-trafficking apps in general (for a critique, see Mendel & Sharapov, 2020). It is likely partially explained by the recency of the Helpline app, but we suspect other reasons could include the much wider publicity around the Helpline number (including from third-parties) and Helpline users' preferences.

Table 1 Overview of the variables used in the analysis

Data field	Description	Nature of variable	Recorded as 'unknown' % (n)	Missing data % (n)	Total missing or 'unknown' % (n)
Case number	Unique identifier for each case.	Integer	*0* (0)	*0* (0)	*0* (0)
Date time of contact	Timestamps of contacts.	Date/time	*0* (0)	*3.3* (121)	*3.3* (121)
Type of potential exploitation	Broad category of exploitation (e.g., sexual, domestic servitude). (Reclassified)	Categorical	*12.0* (433)	*0* (0)	*12.0* (433)
Sector of potential exploitation	The industry/context in which exploitation was known/suspected. (Reclassified)	Categorical	*0* (0)	*0* (0)	*0* (0))
Sub-sector of potential exploitation	The industry sub-category where exploitation was known/suspected. (Reclassified)	Categorical	*0* (0)	*0* (0)	*0* (0)
Contact's relationship to the potential victim	How close the person reporting was to the subject(s) of the known/suspected exploitation.	Categorical	*3.3* (118)	*0* (0)	*3.3* (118)
Number of referrals per case	Number of direct referrals made to other organisations. (Aggregated)	Integer	*n/a*	*n/a*	*0* (0)
Number of sign-posts per case	Number of other organisations flagged to contacts as possible sources of information or support. (Aggregated).	Integer	*n/a*	*n/a*	*0* (0)
Country of potential exploitation	Country where exploitation is known/suspected to have occurred.	Categorical	*6.3* (230)	*0* (0)	*6.3* (230)
Potential victim sex/gender	Sex/gender, where known/estimated. A mix of self-reported and third-party-estimated.	Categorical	*18.2* (659)	*1.2* (43)	*19.6* (702)
Potential victim age	Age band, where known/estimated.	Categorical	*60.3* (2,179)	*1.2* (44)	*61.5* (2,223)
Potential victim nationality	Country, where known/estimated.	Categorical	*51.0* (1,845)	*1.2* (42)	*52.2* (1,887)
Potential exploiter sex/gender	Sex/gender, where known/estimated. A mix of self-reported and third-party-estimated.	Categorical	*23.2* (613)	*28.3* (1,024)	*45.3* (1,637)

N.B. As referrals and signposts are generated by Unseen, these variables do not have missing or unknown data recorded

yses, including nonparametric statistical tests where appropriate. Throughout the study, we consulted with Helpline staff to clarify data- and process-related queries. We also held a focus group with six Helpline staff in October 2019, to elicit their working theories around results of our initial analysis.

Ethics

UCL Research Ethics Committee approved the study (reference: 5160/002). All data were fully anonymised before receipt. Nevertheless, we took care throughout to uphold ethical and data protection standards and protect participants' confidentiality.

Results

This section is structured around our four interlinked research questions. Rather than repeat endlessly the qualifier 'potential' when discussing the possible exploitation reported, we stress here that it may or may not have involved behaviour experienced as or legally constituting trafficking or other 'modern slavery'.

What instances of potential trafficking and exploitation were identified to the helpline?

As shown in Table 2, just over half the cases involved 'labour exploitation': a broad category that covers a wide variety of labour markets, excluding those treated as separate exploitation 'types' according to national/international conventions[11]. Although sexual exploitation was the next most common, at 14.8% of the overall total it contributed far fewer cases (nearly 4:1 ratio of labour to sexual exploitation). Around one in ten cases involved domestic servitude and around one in twenty featured criminal exploitation. A small minority of cases involved multiple such exploitation types (3.3%) and a large minority had exploitation type recorded as unknown (12.9%). The latter was associated with scant information for other fields too (e.g., location unspecified) and short contact(s) across a case (spanning under a week). They included instances when professionals called the Helpline for advice ('technical assistance' calls) but did not share further details (e.g., due to time constraints, or data protection legislation). Around a quarter of unknown exploitation cases came from the public witnessing activity they saw as suspicious, but evidently lacked details about. More strikingly, nearly one in ten such unknown cases involved self-reports ($n = 53$).

Table 3 provides a breakdown of the sectors and sub-sectors for each exploitation type. For labour exploitation, only five sectors contributed more than 50 cases

Table 2 Breakdown of potential exploitation types within the Helpline data by case ($n = 3, 613$)

Exploitation type	n	%
Labour exploitation	1,903	52.7
Sexual exploitation	533	14.8
Unknown	465	12.9
Domestic servitude	386	10.6
Criminal exploitation	206	5.7
Various	120	3.3
Total	3,613	100.0

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[11] In using these standard terms, we do not wish to imply, for example, that consenting adult sex work is not a form of labour, or that sex trafficking' cannot involve labour abuses as well as sexual offences.

but they together accounted for over three quarters of all labour cases (77.9%). The services sector featured most heavily ($n=902$, 47.6%), followed by construction ($n=239$, 12.6%), hospitality ($n=193$, 10.2%), food production ($n=78$, 4.1%), and manufacturing ($n=63$, 3.3%). Delving deeper, the predominance of services was itself driven by two specific sub-sectors: car washes ($n=625$) and beauty/spa ($n=221$). Car washes alone accounted for one in three labour exploitation cases.

The majority (92.7%) of sexual exploitation reported was recorded as commercial, and just over half as happening in brothels specifically. Only around 3% reportedly happened on the street and <1% in private homes. The remainder was distributed over other locations or involved multiple locations.

All cases related to domestic servitude were recorded against a single sector, framed broadly as 'domestic work/ au pair/ nanny'. When we examined the locational data for these cases[12] (not shown in Table 3), we found, unsurprisingly, that reports concentrated heavily in private homes ($n=332$, 86.0% of all domestic servitude). The rest took place elsewhere, recorded as residential facilities (meaning care homes) ($n=18$), caravan sites[13] ($n=5$), farms ($n=2$), business locations ($n=5$), various (e.g., businesses, and private home) ($n=5$) or unknown ($n=19$).

Within criminal exploitation, cases related overwhelmingly to street begging (39.8% of all criminal exploitation, $n=82$) or drugs (43.7%, $n=90$). The drugs cases comprised a mixture of cannabis farms ($n=36$) and other drugs-related exploitation ($n=54$), including 'county lines'.

Finally, many cases were reported with the sector type or sub-type 'other', or 'various', about which there was little further information.

As shown in Fig. 1a, the trends in domestic servitude and various exploitation remained largely flat over the data period. In contrast, reports of sexual exploitation, criminal exploitation, and unknown exploitation types saw a modest rise. Most striking, however, is the dramatic increase in reported labour exploitation around August 2017, with another peak in Summer 2018. Since labour exploitation concentrated so heavily in certain (sub-)sectors, we disaggregated these data further. Visual inspection of Fig. 1b, which shows 'services' sub-sectors, confirms that car washes drove the notable peaks for labour exploitation, with a smaller but important contribution from nail bars and other beauty services.

Overall, 94% of cases ($n=3,381$) included information on the country (or countries, 5%, $n=191$) where exploitation had reportedly occurred[14]. Although numerous different countries (or combinations thereof) featured overall ($n=135$), most cases ($n=3,161$, 87.4% of overall sample) involved exploitation exclusively within the UK. England dominated ($n=2,890$, 80%), with smaller numbers for Scotland ($n=123$, 3.4%), Wales ($n=115$, 3.2%) and, particularly, Northern Ireland ($n=33$, 0.9%). A further nine cases (0.3%) featured England *and* other UK countries. A minority of
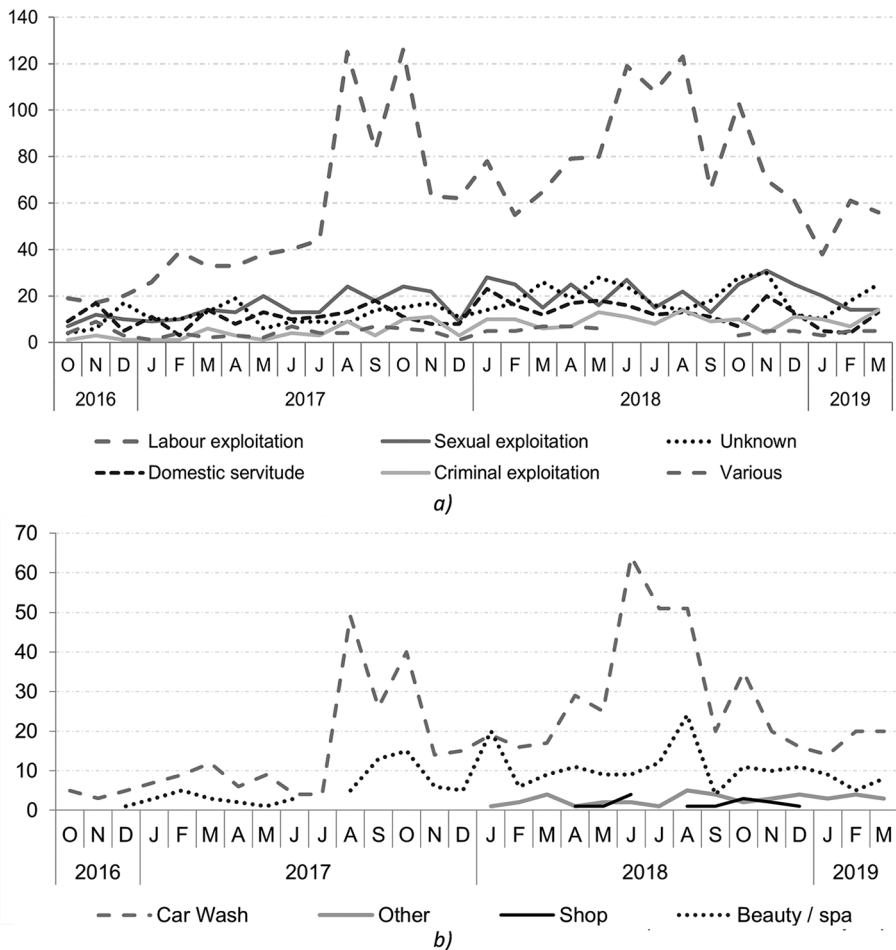
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[12] We examined location type only for domestic servitude, due to the scant information in the original 'industry' variable.

[13] Both caravan sites and farms can contain private homes and/or other properties where exploitation may occur. Listing them separately reflects the original data.

[14] The location of exploitation reported could be the same as or different from the place from which someone contacted the Helpline.

Table 3 Cases (*n*=3,613) reclassified into potential exploitation type, sectors and sub-sectors

Exploitation category	Exploitation sector category	Exploitation sector sub-category	n
Labour exploitation	Care sector	-	19
	Construction	-	239
	Entertainment	-	11
	Food production	Agriculture / Farm	74
		Factory	4
	Hospitality	Hotel / Motel	28
		Take away / Restaurant	160
		Other	5
	Manufacturing	Factory	48
		Other	15
	Maritime industry / Boat / Shipping	-	11
	Services	Beauty / Spa	221
		Car wash	625
		Shop	14
		Other	42
	Transportation	-	27
	Various	-	136
	Other	-	224
Subtotal			**1,903**
Sexual exploitation	Commercial	Brothel	298
		Hotel / Motel	12
		Private home	4
		Street	17
		Various	97
	Various	-	8
	Other	-	14
Subtotal			**533**
Unknown	Other	-	465
Subtotal			**465**
Domestic servitude	Domestic work / Au pair / Nanny	-	386
Subtotal			**386**
Criminal exploitation	Criminal	Benefit fraud	1
		Cannabis farm	36
		Other drugs	54
		Pickpocketing	1
		Shoplifting	4
		Street begging	82
		Other	20
	Various	-	1
	Other		7
Subtotal			**206**
Various	Various	-	120
Subtotal			**120**
Overall total			**3,613**

Fig. 1 Trends over time for (**a**). the broad exploitation types by case ($n=3,613$) and (**b**). cases of labour exploitation involving service sub-sectors ($n=902$)

cases involved exploitation both in the UK and abroad ($n=50$, 1.4%), or exclusively abroad ($n=163$, 4.5%). The most common non-UK countries were Italy ($n=14$), the United States ($n=13$), Libya ($n=10$), Saudi Arabia ($n=9$), and France ($n=6$).

There were further stark concentrations in UK counties of exploitation (recorded for 95% of cases where exploitation occurred in the UK, $n=3,016$). Metropolitan counties dominated, with London featuring most prominently (24.3% of such cases, $n=733$), followed by West Midlands ($n=150$, 5%) and Greater Manchester ($n=112$, 3.7%). While there were 135 counties or combinations thereof, only 16 counties contributed 50 or more cases: all in England, and together accounting for 61.3% ($n=1,850$) of all cases with county-level information.

## Who were the potential victims and offenders involved?

To understand the potential victims and offenders identified to the Helpline, we used individual-level data – since cases could involve multiple such people, with oftentimes heterogenous characteristics. In total, there were 13,504 potential victims (across 3,571 cases) and 4,189 potential exploiters (across 2,641 cases). Where only one type of actor was documented, it was overwhelmingly potential victims (936 cases) rather than offenders (six cases).

On average, there were more potential victims per case (mean=3.8, range=1-301, s.d.=11.2) than potential offenders (mean 1.6, range=1–18, s.d.=1.1). Labour exploitation had the highest average of potential victims per case (mean=5.0), domestic servitude and unknown exploitation the least (mean=1.7 and 1.6, respectively). Turning to potential victims first, just under half were recorded as male (46.1%, n=6,230), around a quarter as female (25.0%, n=3,382), a tiny proportion as transwomen (0.02%; n=3), and just over a quarter as unknown (28.8%, n=3,889). Typically, cases featured potential victims of one sex/gender only. Of those whose sex/gender was recorded as known, for some exploitation types females dominated (e.g., 95.1% for sexual exploitation and 80.2% for domestic servitude), whereas for others they were in the minority (e.g., only 20.4% for labour exploitation and 31.8% for criminal exploitation). Unknown and various exploitation had a more gender-balanced profile (54.9% and 51.1% female respectively).

Only around a quarter of potential victims (26.8%, n=3,616) had an age recorded, limiting what we can responsibly say about age profiles. Most strikingly, only a small proportion (n=504, 13.9% of those with age recorded) were known or estimated to be children (under 18 years). Like age, nationality is a challenging characteristic to record, for it depends on the contact's familiarity with the person potentially being exploited (who may be themselves, someone they know, or a stranger). The 45.9% of records (n=6,024) where nationality was provided (in the form of a country name) had 136 different countries or combinations thereof recorded[15]. However, the frequencies were highly skewed (range=1–2,191, mean=45.6, s.d.=202.7), with the most common eight countries accounting for 73.3% of people with nationality recorded. Figure 2 illustrates the distribution of exploitation types over the eight most common nationalities. Some striking differences are evident between nationalities. For example, Romania was the most recorded country for nationality overall, predominantly featuring for labour and sexual exploitation, with non-trivial numbers for criminal exploitation. Vietnam and Poland were the next highest volume countries recorded, both with labour exploitation the most reported type. England, which came next volumetrically, had the largest proportion of domestic servitude and criminal exploitation of these eight countries. Thailand had the largest proportion of sexual exploitation. These differences were statistically significant ($p<0.001$, two-tailed Fisher's exact test, Cramer's V=0.336).

For potential exploiters, the only well-populated data field was sex/gender. Disregarding the instances where the sex/gender was unknown (21.4%, n=897), three quarters of potential exploiters were recorded as male (n=2,528), 23% as female

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[15] No combinations were of multiple UK countries only.
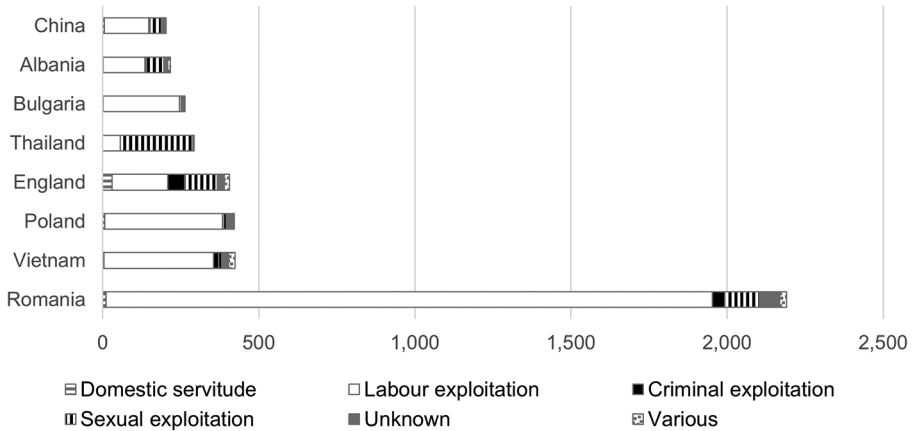
Fig. 2 Breakdown by exploitation type for the eight most common nationalities (countries) recorded for potential victims at individual level (*n*=4,419)

($n=761$), 0.09% as transgender or gender non-conforming ($n=3$). These proportions varied, however, by exploitation type. Over four in five potential labour exploiters (of all with known gender) were male. In contrast, domestic servitude showed a fairly even split between males (51.8% of all with known gender) and females. The other exploitation types conformed to the overall pattern (i.e., three-quarters male). These differences were statistically significant ($p<0.001$, two-tailed Fisher's exact test, Cramer's V=0.240).

Who were the people raising concerns?

There was data on the relationship between a contact and the potential victim(s) in question for 96.7% of cases ($n=3,495$). Just over half of cases ($n=2,016$, 55.8%) arose from a single contact (mean=1.09, range=1–6, s.d.=0.34). The remainder involved multiple contacts from the same and/or different people. Where multiple relationships were recorded ($n=18$), we focused on the closest one (listed in decreasing proximity in Table 4).

The closest possible relationship is when people report their own exploitation: the most important group for the Helpline to reach and support. As shown in Table 4, self-reporting was relatively uncommon overall, accounting for only 10.7% of cases. There were, however, statistically significant differences between exploitation types for contacts' relationships to potential victims ($p<0.001$, two-tailed Fisher's exact test, Cramer's V=0.154). Thus, self-reporting for domestic servitude (17.3%) and various exploitation types (18.3%) was higher than the overall average, and self-reporting was also somewhat more common for sexual exploitation (14.1%). In contrast, self-reporting rates were notably lower for both labour (8.0%) and criminal exploitation (9.2%).

The patterns in contacts seeking help about people other than themselves are also instructive. Overall (43.1%) and for all exploitation types except labour, direct contact with a potential victim was the most common relationship, often by far. Here,

Table 4 Breakdown of only or closest contact to a potential victim(s) by exploitation type, by case ($n=3,613$)

Contact's relationship to potential victim(s)	Domestic		Labour		Criminal		Sexual		Unknown		Various		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Victim self-report	67	17.4	152	8.0	19	9.2	75	14.1	53	11.4	22	18.3	388	10.7
Direct contact with potential victim(s)	214	55.4	667	35.0	105	51.0	265	49.7	251	54.0	57	47.5	1,559	43.1
Indirect contact with potential victim(s)	41	10.6	167	8.8	15	7.3	70	13.1	60	12.9	14	11.7	367	10.2
Observation of suspicious activity	57	14.8	861	45.2	64	31.1	105	19.7	72	15.5	22	18.3	1,181	32.7
Unknown	7	1.8	56	2.9	3	1.5	18	3.4	29	6.2	5	4.2	118	3.3
Total	386	100	1,903	100	206	100	533	100	467	100	120	100	3,613	100

those contacting the Helpline had direct communication with people potentially being exploited, which covers personal and professional relationships that may vary considerably in their length, closeness, and trust. To illustrate the range of contacts under this category, direct contacts for sexual exploitation were most commonly recorded as a community member ($n=64$), NGO ($n=40$), medical or mental health professional ($n=37$), police ($n=25$), friend ($n=21$), and local authority ($n=20$). Additionally, Helpline staff explained that callers reporting domestic servitude are often close to a family exploiting someone, and that they do a more detailed risk assessment since action taken may have grave consequences for those being exploited.

Indirect contact was less common and means people reporting were drawing on third-party information (10.2% of all cases). In contrast, 'observations of suspicious activity', the least close relationship recorded, was the second most common source of contact overall (32.7% of cases). Here too, there was considerable variation between exploitation types: such observations featured prominently for labour exploitation (45.3% of cases, the most common relationship) and criminal exploitation (31%). They were far less common for domestic servitude (14.7%), traditionally seen as the most 'hidden' form of trafficking and, somewhat surprisingly, for sexual exploitation (19.7%).

Given these pronounced differences, and the fact 'observations of suspicious activity' are arguably the clearest reflection of how the general public encounters situations and identifies them as possible 'modern slavery', we looked further at what drove the prevalence of such observations for these two particular types. For criminal exploitation, cases of 'suspicious activity' overwhelmingly related to begging ($n=56$). For labour exploitation, such cases concentrated heavily in services ($n=539$): primarily car washes ($n=408$) and, to a lesser but still notable extent, nail bars ($n=105$)[16]. Beyond services, the key contributing sector was construction ($n=118$), and after that the picture was fragmented (takeaways/restaurants ($n=43$) and farms ($n=26$) were the only other specified sectors contributing over 20 such cases).

What onward action was taken?

Around three quarters of cases overall ($n=2,641$) cases included records of what onward action was taken, categorised in terms of (a) signposting and (b) referrals (hence the remaining 26.9% or 972 cases involved no such onward action). Our data contained no information about the *outcomes* of onward action, and these are not tracked as standard (the Helpline is dependent on ad hoc updates from others). As shown in Table 5, referrals were most common. There were substantial and significant differences between exploitation types ($p<0.001$, two-tailed Fisher's exact test, Cramer's V$=0.261$), with far higher rates of referrals for labour exploitation than for other exploitation types. The low rates of referral for cases of exploitation of unknown type (around a quarter) is consistent with the scant information available for these cases in general. The experiential knowledge of Helpline staff suggested

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[16] Nail bars are a subset of 'beauty/spa'. Another eight cases involved suspicious activity reports related to 'beauty/spa' more generically, and three were for hair salons.

Table 5 Breakdown of onward action taken by potential exploitation case, by case ($n=3,613$)

Exploitation type	Neither referrals nor signposts % (n)	Just signposts % (n)	Just referrals % (n)	Both % (n)	Total % (n)
Labour	13.5 (257)	4.0 (76)	78.8 (1,499)	3.7 (71)	100.0 (1,903)
Sexual	28.9 (154)	15.4 (82)	49.7 (265)	6.0 (32)	100.0 (533)
Domestic servitude	34.2 (132)	14.5 (56)	41.2 (159)	10.1 (39)	100.0 (386)
Criminal	36.9 (76)	10.7 (22)	46.6 (96)	5.8 (12)	100.0 (206)
Unknown	51.8 (241)	22.6 (105)	23.9 (111)	1.7 (8)	100.0 (465)
Various	39.2 (47)	15.0 (18)	43.3 (52)	2.5 (3)	100.0 (120)

that people being exploited sexually or in domestic servitude were often reticent to engage with other agencies.

Furthermore, referral actions concentrated notably in particular categories. For instance, over four in five of all referrals (83.3%, $n=2,111$) were to law enforcement for investigation. The next most common category was referrals to local authorities for child safeguarding (8.7%, $n=221$). The remainder were fragmented, with no category comprising >4% of referrals overall.

We suspected the unusually high overall referral rate for labour exploitation might be a function of a larger proportion of such cases arising from the public 'spotting the signs', and thus triggering onward referrals to law enforcement for investigation. We therefore looked in more detail at referrals to law enforcement only, examining referral rates by both exploitation type and source of contact. The results (Table 6) show statistically significant differences between categories ($p<0.001$, two-tailed Fisher's exact test, Cramer's V$=0.128$). They suggest that 'observations of suspicious activity' are indeed a key driver of onward referrals to law enforcement, but differences by exploitation type remain. For example, the proportion of such observations resulting in referral to law enforcement is highest for criminal exploitation and lowest for domestic servitude. Notably, cases involving direct contact with potential victims led to a police referral in around a third of cases for criminal and sexual exploitation and over half in potential domestic servitude cases.

Signposts displayed a greater diversity of action. The most common category of signpost was 'other' (36.5% of all signposts, $n=878$), suggesting recommendations were tailored to the specifics of individual cases. A further seven different categories each contributed between 6.9% and 12.3% of all signposts apiece, exemplifying this bespoke treatment, including NRM guidance, counselling, legal advice in general, immigration advice specifically, and general modern slavery advice/information. Finally, the records documented considerable variation in the specific organisations to which the referrals and signposts related, with a wide range of different public sector organisations, embassies, charities and other civil society organisations.

Given the patterns identified, particularly around referrals, we spoke to senior Helpline staff to better understand the principles and processes around consent and

Table 6 Breakdown of referrals to law enforcement by exploitation case and proximity of caller to victim ($n = 2,111$)

	Exploitation type												
	Domestic servitude		Labour		Criminal		Sexual		Unknown		Various		Total
Proximity	n	%	n	%	n	%	n	%	n	%	n	%	n
Victim self-report	25	14.2	129	9.1	9.1	6.3	29	11.4	7	5.6	11	20.4	206
Direct contact with potential victim	96	54.5	449	31.6	31.6	34.2	89	34.9	51	41.1	18	33.3	730
Indirect contact with potential victim	15	8.5	114	8.0	8.0	1.3	43	16.9	4	3.2	5	9.3	182
Observation of suspicious activity	37	21.0	687	48.3	48.3	57.0	80	31.4	49	39.5	15	27.8	913
Unknown	3	1.7	44	3.1	3.1	1.3	14	5.5	13	10.5	5	9.3	80
Total	176	100	1,423	100	9.1	100	255	100	124	100	54	100	2,111

onward action. They explained their guiding principle is 'to do no further harm', and they seek to establish consent for any referrals from the contact(s) *and* the person/people potentially being exploited (who may be one and the same). All decisions to refer are reviewed by a second person (in complex cases, a senior manager). The Helpline is *not* legally required to report to the authorities, they said, and staff are led above all by individual cases' specifics. Broadly speaking, however, if someone self-reports, their case would *not* be referred to the authorities without their explicit consent *unless* they were a minor, and/or assessed to be at 'immediate risk of harm', and/or others involved met these criteria. In such circumstances, the case handler would reportedly tell them as soon as possible – ideally before sensitive information is disclosed – that they will call the police/other authorities. We probed on the meaning of 'immediate risk of harm' and were told it is assessed on a case-by-case basis but is broadly akin to '999 type situations' (i.e., ones that could involve the emergency services): e.g., if someone calls from a locked bathroom having been badly beaten and fearing for their safety.

When a third-party contacts the Helpline about *someone elses* exploitation, the third-party is asked to try establish that person's consent before any onward referrals, if safe and feasible. Helpline staff explained, however, that safely establishing consent is rarely possible when members of the public 'spot the signs'. In such instances, staff generally refer cases to the authorities for investigation/further action (e.g., police, Gangmasters and Labour Abuse Authority, local authority safeguarding teams) – *unless* there is something suggesting that the person/people in question would not welcome intervention and/or another overriding factor could put them at risk. Staff then assess together whether they believe it is victim-centred to refer or not. Case handlers, they said, strive to protect people's immigration status, never highlight it in referrals and always try to establish if involving the authorities could pose risks around immigration enforcement. Nevertheless, the possibility of irregular immigration status alone does not in itself preclude such referrals. Their referrals to police also have a caveat that potential victims may not know the police have been informed and the situation should be treated cautiously. They said on principle the Helpline never refers to Immigration Enforcement[17], but will refer to Border Force if deemed necessary to respond to people reportedly at risk and due to be moved into or out of the UK.

Discussion

Through a case study of the UK's Modern Slavery & Exploitation Helpline, our exploratory analysis offers vital foundational insights into anti-trafficking helpline usage and highlights the importance of complex systems thinking. Overall, our results underscore the scale and complexity of instances reported as *potential* trafficking and exploitation – which may or may not have been experienced as such or meet legal

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[17] Both part of the Home Office, Border Force is responsible for immigration and customs control at entry to the UK, whereas Immigration Enforcement focuses on people already in the UK and is responsible for immigration raids and detention.

thresholds. Notably, we found both diversity and concentrations in Helpline cases. Alongside a varied overall set of exploitation types, sectors, and sub-sectors, reported labour exploitation concentrated heavily within a few sectors. Although largely driven by such specific concerns, the overall growth in cases over time also fits with the UK's wider trend towards increased identification of trafficking/exploitation by police and referrals into the NRM (ONS, 2020; Cockbain et al., 2024). Yet, despite increased prioritisation and investment around anti-trafficking, only 98 defendants were prosecuted (and 20 convicted) under the Modern Slavery Act from 2016 to 2018 (HM Government et al., 2019): underscoring the limits of the dominant criminal justice paradigm of anti-trafficking (Broad & Gadd, 2022).

Our results reveal both similarities and divergences between issues identified to the (independent) Helpline and the authorities via the NRM[18]. Comparing Helpline cases to NRM referrals of adults[19] in 2017 and 2018 combined ($n = 6,883$) (NCA, 2018, 2019), we see, for example, similar proportions of domestic servitude (10.6% versus 11.4% respectively) but far less sexual exploitation (14.8% versus 35.9%). For the Helpline, children accounted for only 13.9% of the (minority of) potential victims of specified age, compared with 43.3% of NRM referrals. This discrepancy may reflect the fact children need not consent to NRM referrals and better-established pathways other than the Helpline exist to raise concerns about children (e.g., Childline[20], safeguarding protocols etc.). Nationality may be particularly susceptible to stereotyping (e.g., of East Asian nail bar workers as Vietnamese) and much data was missing. Caveats notwithstanding, the Helpline results show both diversity (136 different nationalities/combinations thereof) and pronounced concentrations: just eight countries accounted for 73.3% of potential victims of specified nationality. These countries overlap only somewhat with the top nationalities for NRM referrals. Overall, there appear to be clear differences in who (and for what exploitation contexts) is identified by designated 'first responders' and consents to enter the NRM, versus who self-reports to the Helpline or is the subject of concerns raised by a far broader set of people through this independent and informal channel. That likely reflects a complex intersection of factors, e.g., variations in these two reporting groups' perceptions around 'modern slavery', contact with people who have potentially been trafficked/exploited, awareness of the NRM and Helpline respectively, and levels of trust and motivation to report. Particularly notably, very few (4.5%) Helpline cases related to exploitation exclusively abroad, compared with a third of NRM referrals (30.9%). That suggests people report to the Helpline primarily regarding current concerns, rather than past exploitation (also less easily 'spotted' by bystanders). The spatial patterning evident in our results further emphasises the need for more research into the geographies of trafficking (Cockbain et al., 2022).

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[18] The comparability of the datasets is limited by differences in precise time periods, denominators (cases versus people) and categories (e.g., at that time, in NRM statistics criminal exploitation was subsumed under labour exploitation).

[19] Adults were a more appropriate comparator since Helpline cases indicated few children and the NRM shows very different patterns for adults than children.

[20] www.childline.org.uk.

The significant differences between exploitation 'types' in terms of the closest contact (e.g., self-report), potential victims' and offenders' characteristics, and onward action echo prior research showing exploitation-type-specific differences in officially identified trafficking victims/survivors' characteristics in the UK (Cockbain & Bowers, 2019; Cockbain et al., 2024), including around health impacts and support needs (Rose et al., 2021). Our findings add to calls for more nuanced, disaggregated approaches to analysis and intervention (Efrat, 2016; Rose et al., 2021; Cockbain & Bowers, 2019; Cockbain et al., 2024). Indeed, our analysis revealed Helpline trends around labour exploitation were strongly driven by 'suspicious activity' observed at car washes and beauty premises. That likely reflects new discourse around the alleged threat of 'modern slavery' in hand car washes, with high-profile news stories, advertising campaigns, a new app[21], and a parliamentary inquiry (O'Connell Davidson, 2018). While labour trafficking *has* occurred at hand car washes, the sheer dominance here indicates something of a moral panic around this particular context – particularly since many contexts commonly associated with labour trafficking in the UK featured only marginally in the Helpline data (e.g., food production, construction) (Cockbain et al., 2022).

While data on potential offenders was scant, that a quarter (where known) were reportedly female adds to the literature emphasising female offenders' role in trafficking (Broad, 2015; Wijkman & Kleemans, 2019). With Helpline cases averaging 1.6 potential offenders and 3.8 potential victims – and 62.6% of cases implicating one offender only – our results further challenge the pervasive framing of trafficking/'modern slavery' as an 'organised crime' problem (Broad & Gadd, 2022; Cockbain, 2018).

The proportions of different exploitation types in our results contrast sharply with DiRienzo's (2022) analysis of 2015–2017 data from the US Polaris hotline. There, the majority (91%) of potential victims were linked to sexual exploitation and a substantial proportion (41.4%, where known) were reportedly minors. Given gendered differences between trafficking types (Cockbain & Bowers, 2019), it is unsurprising that the proportion of female potential victims was much lower in our data (35.2%) than these US data (93.3%). The far broader mix of different potential exploitation types reported to the UK Helpline indicates a national shift away from perceiving trafficking as a problem primarily or exclusively of sexual exploitation. Various factors are salient here, including the broadening of policy, media and public discourse, and professionals' understanding towards a more inclusive conceptualisation of trafficking (see, e.g., Robinson, 2015; Cockbain et al., 2018). While there *is* growing acknowledgment of trafficking for non-sexual labour in the US too, the pace of change appears to have been far slower there (e.g., Zhang, 2012; Farrell et al., 2020).

From a complex systems perspective, our results demonstrate the wide range of actors involved in actual or suspected trafficking/exploitation and responses to it: e.g., known/suspected offenders, known/suspected victims, people in their social networks, professionals who identify and/or support them, and citizen observers. Our analysis helped unpick some of the distinctions and relations between such actors. Our findings about who contacts the Helpline underscore its multiple roles. It *is* a

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[21] The Safe Car Wash App, launched 2018 by faith group The Clewer Initiative.

crisis helpline, but far from exclusively: self-report accounted for only a minority of cases (10.7%). It also serves many people in direct or indirect contact with those potentially being exploited (43.1% and 10.2% of cases respectively). Most notably, it also acts as a Crimestoppers-style tip-line for the concerned public, whose 'spotting the signs' accounted for 32.7% of cases overall, and proportionately more for labour exploitation. The scale of reports of 'suspicious activity' reflects a broader phenomenon of the 'responsibilisation' of the public and private companies to detect and report crime (Koning, 2023). Informal 'guardianship' can help address various crimes (Reynald, 2010), but the concept's applicability to trafficking and related issues is virtually unexamined (Koning, 2023). Beyond the question of whether the public *should* be called upon to identify trafficking, the extent to which they are (or could be) sufficiently informed and motivated to report remains unclear – as does the reliability and potential repercussions of their reports. Trafficking's complexity, ambiguity and context-dependency presents considerable challenges for 'sign spotting', and more research is needed here. Sensitising specific constituencies (e.g. healthcare professionals) likely has real value but we are concerned about the utility and ethics of asking the general public to 'spot' trafficking (particularly in brief interactions with strangers): most commonly-used 'indicators' are of questionable utility and there are clear risks of discriminatory profiling and unintended harms (de Vries & Cockbain, 2024; National Survivor Network, 2023). From the available data, however, it was impossible to compare the quality of Helpline reports from different groups, let alone potential differences in impacts.

Our analysis of onwards actions shows the Helpline's whole-system-response to supporting those who contact it and highlights its role as part of a complex system and gateway to other support. The range of signposts and referrals, including but not limited to services traditionally read as 'anti-trafficking' (e.g., police, anti-trafficking NGOs), indicates concern with people's varied and often complex material needs. Such direct support services must be adequately funded if they are to provide much-needed support to people who have been trafficked/exploited (see also Jannesari et al., 2023). Yet, years of cuts to public services (including legal aid) raise stark concerns here. From a complex systems perspective, there is obvious value in trying to close the missing feedback loop around onward action: other organisations do not currently provide information back as standard about the outcomes of referrals received from the Helpline. A better understanding of the impacts of anti-trafficking helplines requires more concrete knowledge of the chains of events triggered by contacts and the eventual outcomes for affected groups.

From a complex systems perspective, pressing questions arise about the Helpline's interactions and interdependencies with wider laws, policies, and other organisations' practices, which can enable or impede its core aim of victim support. While acknowledging the challenges involved[22], we see a particular need for more transparency around the Helpline's policies around consent and referrals to the authorities.

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[22] E.g., fears of deterring contact, limited space, and lack of control over third-party promotion of the Helpline.

At present, Unseen's website[23] clearly addresses informed consent for those getting in touch and the exceptions around minors and situations of immediate danger, and the same is communicated during calls. However, we think it vital to communicate more explicitly and widely the current policies for referrals arising from third-party reports – i.e., where the consent of people suspected to have been trafficked/exploited cannot itself be established. We recognise that Helpline staff are in a very challenging position: not acting on concerns raised could enable further harm (and reputational risks), but so too could involving the authorities.

Nevertheless, we are concerned about the high volume of referrals to the police (made in half of all cases), especially given the relatively low prevalence of self-reports and noteworthy prevalence of public 'sign spotting'. Crucially, and despite the Helpline's safeguards and good intentions, the broader systemic environment means their current practices regarding third-party reports pose tensions around their efforts to be victim-centric. Unfortunately, referrals to the police can pose risks to people flagged as potential victims, particularly if they are engaged in criminalised activity[24] (e.g., sex work[25], drugs, or working without regular status) (see Platt et al., 2022; Smith & Mac, 2018, Cockbain, 2020). Particularly in a political climate where immigration control is increasingly prioritised over trafficking protections (Roberts, 2022), sharing case-specific information with the police without informed consent of the suspected victims concerned may set off procedural processes that could ultimately harm them (e.g., earnings being seized, fines and/or criminal charges, immigration detention and even deportation). The magnitude of such risks remains uncertain, especially given the opacity around how much the police and labour market enforcement agencies actively collaborate with Immigration Enforcement on anti-trafficking investigations, joint checks/raids etc. (LEAG et al., 2022). Our results and these discussions are also salient for other anti-trafficking helplines internationally. Notably, State Attorney Generals have been trying to compel the US Polaris anti-trafficking hotline to share *all* reports with the police. Resisting this pressure, the National Survivor Network (2023, p.3) emphasised the deleterious effects of 'non-consensual law enforcement' on deterring contacts, increasing vulnerability and fuelling racialised and gendered harassment of marginalised communities: 'A hotline', they warn, 'can either be for survivors or to increase policing and prosecution but trying to be for both is a conflict of interest'.

Given the nature of our data, this study has well-rehearsed limitations. First, there is a lack of 'ground truth': only a certain (but unknown) proportion of Helpline cases will actually have involved activity that meets UK legal definitions of trafficking/'modern slavery'. Second, there are likely systematic biases in who is (not) willing and able to seek assistance through the Helpline and under what circumstances. Consequently, the data give a partial and likely skewed picture of a subset

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[23] See www.modernslaveryhelpline.org/ and www.modernslaveryhelpline.org/uploads/201702161119 47558.pdf.

[24] In such referrals, staff also include information on the statutory defence (Section 45) against criminalisation for acts committed during 'modern slavery'.

[25] Selling sex is legal in the UK, but many attendant activities are not. Northern Ireland recently implemented asymmetric criminalisation (legal to sell sex, illegal to buy). Notably, Unseen's CEO is unusual in the UK anti-trafficking field in having openly supported full decriminalisation (Wallis, 2021).

of trafficking-related activity and concerns. Third, missing information – common in secondary data – limited the analysis of nuanced issues and may have prevented cases from being merged in the original data (hence possible duplication). Fourth, the relatively short study period precluded detailed investigation of temporal patterns. Fifth, it was beyond scope to examine possible influences on reporting patterns (e.g., media coverage, enforcement activity, public awareness).

Our study will hopefully stimulate further empirical research into anti-trafficking helplines, such as analyses of contacts to other helplines internationally, trends over time, and changes relating to disruptive events (e.g., Russia's war in Ukraine, COVID-19, or new laws). Researchers could also usefully explore how anti-trafficking helplines are advertised (problem framing, discourses etc.) and perceived by various audiences (awareness, trust, willingness to contact, concerns etc.). With helplines becoming an increasingly important part of anti-trafficking toolkits internationally, evaluation research is especially vital and overdue – particularly from the perspectives of target audiences/service-users with lived experience of trafficking/exploitation. Evaluations could provide much-needed insights into users' experiences of helplines and the immediate and longer-term *outcomes* of their contacts – including both benefits and any unintended consequences. Research into the perspectives and experiences of people identified (or misidentified) through helplines as trafficked would also greatly advance understanding of this domain.

Data availability Because of the sensitivities of the data and the terms of the legal agreement governing their provision, we are unable to make the data available for onward use.

Declarations

Ethics approval UCL Research Ethics Committee approved the study (reference: 5160/002). All data were fully anonymised before receipt. Nevertheless, we took care throughout to uphold ethical and data protection standards and protect participants' confidentiality.

Competing interests The authors have no relevant financial or non-financial competing interests to declare.

References

Agustín, L. M. (2008). *Sex at the margins: Migration, labour markets and the rescue industry*. Bloomsbury Publishing.

Andrijasevic, R., & Anderson, B. (2009). Anti-trafficking campaigns: Decent? Honest? Truthful? *Feminist Review*, *92/1*, 151–155.

Broad, R. (2015). A vile and violent thing': Female traffickers and the criminal justice response. *British Journal of Criminology*, *55/6*, 1058–1075.

Broad, R., & Gadd, D. (2022). *Demystifying Modern Slavery*, Routledge.

Broad, R., & Turnbull, N. (2019). From human trafficking to modern slavery: The development of anti-trafficking policy in the UK. *European Journal on Criminal Policy and Research*, *25/2*, 119–133.

Chuang, J. A. (2014). Exploitation Creep and the unmaking of human trafficking Law. *American Journal of International Law*, *108/4*, 609–649.

Cockbain, E. (2018). *Offender and victim networks in human trafficking*. Routledge.

Cockbain, E. (2020). From conflict to common ground: Why anti-trafficking can be compatible with challenging the systemic drivers of everyday abuses. *Anti-trafficking Review, 15*, 155–161.

Cockbain, E., Ashby, M., Bowers, K. & Zhang, S. (2024). *Concentrations of harm: Geographic and demographic patterning in human trafficking and related victimisation.* Criminology & Criminal Justice.

Cockbain, E. & Bowers, K. (2019). Human trafficking for sex, labour and domestic servitude: How do key trafficking types compare and what are their predictors? *Crime, Law and Social Change, 72*(1), 9–34.

Cockbain, E., Bowers, K., & Dimitrova, G. (2018). Human trafficking for labour exploitation: The results of a two-phase systematic review mapping the European evidence base and synthesising key scientific research evidence. *Journal of Experimental Criminology, 14*(3), 319–360.

Cockbain, E., Bowers, K. & Hutt, O. (2022). Examining the geographies of human trafficking: Methodological challenges in mapping trafficking's complexities and connectivities. *Applied Geography, 139*, 102643.

Cockbain, E., Bowers, K. & Vernon, L. (2020). Using law enforcement data in trafficking research. In J. Winterdyk & J. Jones, (Eds.), *The palgrave international handbook of human trafficking* (pp. 1709–1732). Springer International Publishing.

Cockbain, E., & Olver, K. (2019). Child trafficking: Characteristics, complexities and challenges. In I. Bryce, W. Petherick, & Y. Robinson (Eds.), *Child Abuse and Neglect: Forensic Issues in Evidence, Impact and Management* (pp. 95–116). Elsevier.

Cockbain, E. & Sidebottom, A. (2022). War, displacement, and human trafficking and exploitation: Findings from an evidence-gathering roundtable in response to the war in Ukraine. *Journal of Human Trafficking*. Advance online publication. https://doi.org/10.1080/23322705.2022.2128242

Colagrossi, M., Deiana, C., Geraci, A., & Giua, L. (2022). Hang up on stereotypes: Domestic violence and an anti-abuse helpline campaign. *Contemporary Economic Policy*, *40/4*, 585–611.

Cole, S. (2021). Anti-Trafficking Group Deletes Massage Parlor Fear-Mongering After Shooting. *Vice*, 22 Mar 2021.

De Vries, I. & Cockbain, E. (2024). Governing through indicators: Structural biases and empirical challenges in indicator-based approaches to human trafficking research and policy. In E. Faulkner, (Ed.), *Modern slavery in the global context*. Bristol University Press.

Dewey, J. (1981). *The Collected Works of John Dewey. Volume 1: 1925, Experience and Nature (edited by J. A. Boydston)*, South Illinois University Press.

Dirienzo, C. E. (2022). Human trafficking: What the new IOM dataset reveals. *Journal of Human Trafficking*, *8/3*, 294–308.

Dottridge, M. (2017). Eight reasons why we shouldn't use the term 'modern slavery'. *Open Democracy*, 17 Oct 2017.

Efrat, A. (2016). Global efforts against human trafficking: The misguided conflation of sex, labor, and organ trafficking. *International Studies Perspectives*, *17/1*, 34–54.

Farrell, A., Bright, K., de Vries, I., Pfeffer, R., & Dank, M. (2020). Policing labor trafficking in the United States. *Trends in Organized Crime*, *23*, 36–56.

Farrell, A., & Pfeffer, R. (2014). Policing human trafficking: Cultural blinders and organizational barriers. *The Annals of the American Academy of Political and Social Science*, *653/1*, 46–64.

Gadd, D., & Broad, R. (2018). Troubling recognitions in British responses to modern slavery. *The British Journal of Criminology*, *58*(6), 1440–1461.

Heynen, R., & Van Der Meulen, E. (2022). Anti-trafficking saviors: Celebrity, slavery, and branded activism. *Crime Media Culture*, *18/2*, 301–323.

HM Government, Department of Justice Northern Ireland The Scottish Government & Government., Welsh Government. (2019), 2019 UK Annual Report on Modern Slavery. London.

HMICFRS. (2017). *Stolen freedom: The policing response to modern slavery and human trafficking*. Her Majesty's Inspectorate of Constabulary and Fire & Rescue Services.

Hodkinson, S. N., Lewis, H., Waite, L., & Dwyer, P. (2021). Fighting or fuelling forced labour? The Modern Slavery Act 2015, irregular migrants and the vulnerabilising role of the UK's hostile environment. *Critical Social Policy*, *41*(1), 68–90.

Horn, J. V., Eisenberg, M., Nicholls, C. M., Mulder, J., Webster, S., Paskell, C., Brown, A., Stam, J., Kerr, J., & Jago, N. (2015). Stop it now! A pilot study into the limits and benefits of a free helpline preventing child sexual abuse. *Journal of Child Sexual Abuse*, *24/8*, 853–872.

IASC (2022). Independent Anti-Slavery Commissioner Annual Report 2021–2022. Independent Anti-Slavery Commissioner.

Ingram, S., Ringle, J. L., Hallstrom, K., Schill, D. E., Gohr, V. M., & Thompson, R. W. (2008). Coping with crisis across the lifespan: The role of a telephone hotline. *Journal of Child and Family Studies*, *17/5*, 663–674.

Jannesari, S., Damara, B., Witkin, R., Katona, C., Sit, Q., Dang, M., Joseph, J., Howarth, E., Triantafillou, O., & Powell, C. (2023). *The modern slavery core outcome set: A survivor-driven consensus on priority outcomes for recovery, wellbeing, and reintegration*. Trauma, Violence, & Abuse.

Kempadoo, K. (2015). The modern-day white (wo) man's burden: Trends in anti-trafficking and anti-slavery campaigns. *Journal of Human Trafficking*, *1/1*, 8–20.

Kempadoo, K., & Shih, E. (2022). *White Supremacy, Racism and the coloniality of Anti-trafficking*. Taylor & Francis.

Kim, H. S., Hodgins, D. C., Bellringer, M., & Abbott, M. (2016). Gender differences among helpline callers: Prospective study of gambling and psychosocial outcomes. *Journal of Gambling Studies*, *32/2*, 605–623.

Kjellgren, R. (2022). Good tech, bad tech: Policing sex trafficking with Big Data. *International Journal for Crime Justice and Social Democracy*, *11/1*, 149–166.

Koning, A. (2023). *Return to sender: A multi-method study of guardianship against transnational sexual exploitation of children*, PhD thesis, University of Leiden.

Krishnamurti, L. S., Monteith, L. L., Mccoy, I., & Dichter, M. E. (2022). Gender differences in use of suicide crisis hotlines: A scoping review of current literature. *Journal of Public Mental Health*, *21/2*, 152–161.

LEAG (Labour Exploitation Advisory Group), LAWRS, JCWI & Step Up Migrant Women UK. (2022). *Safety for migrant workers: The case for safe reporting mechanisms*. Labour Exploitation Advisory Group.

Mathieu, S. L., Uddin, R., Brady, M., Batchelor, S., Ross, V., Spence, S. H., Watling, D., & Kõlves, K. (2021). Systematic review: The state of Research Into Youth helplines. *Journal of the American Academy of Child & Adolescent Psychiatry*, *60/10*, 1190–1233.

Mcalpine, A., Kiss, L., Zimmerman, C., & Chalabi, Z. (2021). Agent-based modeling for migration and modern slavery research: A systematic review. *Journal of Computational Social Science*, *4/1*, 243–332.

Mcalpine, A. M. (2021). *Mediated labour migration in the Myanmar-Thailand corridor and precarious outcomes: A mixed methods social network analysis and agent-based model* PhD thesis, London School of Hygiene & Tropical Medicine.

Mendel, J., & Sharapov, K. (2020). Stick them to the cross': Anti-trafficking apps and the production of ignorance. *Journal of Human Trafficking*, *8/3*, 1–17.

Miller, J. H., & Page, S. (2009). Complex adaptive systems. *Complex adaptive systems*. Princeton University Press.

National Survivor Network (2023). *A victim centred hotline (letter)*. https://nationalsurvivornetwork.org/wp-content/uploads/2023/03/2023-A-victim-centered-hotline.pdf.

NCA. (2018). *National Referral Mechanism Statistics - end of Year Summary 2017*. National Crime Agency.

NCA. (2019). *National Referral Mechanism Statistics - end of Year Summary 2018*. National Crime Agency.

Nolan Brown, E. (2019). Are You a Woman Traveling Alone? Marriott Might Be Watching You. *Reason*, 2 May 2019.

O'Brien, E. (2016). Human trafficking heroes and villains: Representing the problem in anti-trafficking awareness campaigns. *Social & Legal Studies*, *25/2*, 205–224.

O'Connell Davidson, J. (2015). *Modern slavery: The margins of Freedom*. Palgrave Macmillan.

O'Connell Davidson, J. (2018). Why Marronage not Slavery? The Case of UK Hand Car Washes. *Modern Marronage: The Pursuit and Practice of Freedom in the Contemporary World*. 28 Nov 2018.

Okyere, S., & Olayiwola, P. (2022). Anti-trafficking and Anti-smuggling campaigns in West Africa as New Racialised Migration Deterrence efforts. In K. Kempadoo, & E. Shih (Eds.), *White Supremacy, Racism and the coloniality of Anti-trafficking* (pp. 17–32). Routledge.

ONS. (2020). *Modern slavery in the UK: March 2020*. Office for National Statistics.

Platt, L., Bowen, R., Grenfell, P., Stuart, R., Sarker, M., Hill, K., Walker, J., Javarez, X., Henham, C., & Mtetwa, S. (2022). The effect of systemic racism and homophobia on police enforcement and sexual and emotional violence among sex workers in East London: Findings from a cohort study. *Journal of Urban Health*, *99/6*, 1127–1140.

Polaris (2017). *The typology of modern slavery: Defining sex and Labor Trafficking in the United States*. Polaris.

Polaris (2022). Polaris Annual Report 2021. Polaris.

R Core Team. (2020). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing.

Reynald, D. M. (2010). Guardians on guardianship: Factors affecting the willingness to supervise, the ability to detect potential offenders, and the willingness to intervene. *Journal of Research in Crime and Delinquency*, *47/3*, 358–390.

Rittel, H. W., & Webber, M. M. (1974). Wicked problems. *Man-made Futures*, *26/1*, 272–280.

Roberts, K. (2022). Raising the threshold: Recent government changes to the modern slavery system will significantly harm victims. 20 Dec 2022.

Rose, A. L., Howard, L. M., Zimmerman, C., & Oram, S. (2021). A cross-sectional comparison of the mental health of people trafficked to the UK for domestic servitude, for sexual exploitation and for labor exploitation. *Journal of Human Trafficking*, *7/3*, 258–267.

Sehic, A., & Vicol, D. O. (2023). *Systemic drivers of migrant worker exploitation in the UK*. Work Rights Centre.

Sharma, N. (2003). Travel agency: A critique of anti-trafficking campaigns. *Refuge: Canada's Journal on Refugees*, *3*, 53–65.

Sharp, A., & Sedacca, N. (2019). Dignity Not Destitution: The Impact of Differential Rights of Work for Migrant Domestic Workers Referred to the National Referral Mechanism. Kalayaan.

Shih, E. (2021). The Fantasy of spotting human trafficking: Training spectacles in Racist Surveillance. *Wagadu: A Journal of Transnational Women's and Gender Studies*, *22/1*, 105–137.

Smith, M., & Mac, J. (2018). *Revolting Prostitutes: The Fight for Sex Workers' Rights*, Verso.

Such, E., Hayes, K., Woodward, J., Campos-Matos, I., & Mccoig, A. (2021). *Refining a public health approach to modern slavery*. IASC.

Szablewska, N., & Kubacki, K. (2018). Anti-human trafficking campaigns: A systematic literature review. *Social Marketing Quarterly*, *24/2*, 104–122.

Tjaden, J., Morgenstern, S., & Laczko, F. (2018). Evaluating the impact of information campaigns in the field of migration. *Central Mediterranean Route Thematic Report Series*. IOM.

Tukey, J. W. (1977). *Exploratory Data Analysis*, Pearson.

Tyldum, G. (2010). Limitations in research on human trafficking. *International Migration*, *48/5*, 1–13.

Unseen (2018). *Modern slavery helpline: Annual Assessment 2017*. Unseen.

Unseen (2021). *Modern Slavery & Exploitation Helpline: Annual Assessment 2020*. Unseen.

U.S. Department of State. (2021). *2021 trafficking in persons Report*. U.S. Department of State.

Van Der Watt, M., & Van Der Westhuizen, A. (2017). Re) configuring the criminal justice response to human trafficking: A complex-systems perspective. *Police Practice and Research*, *18/3*, 218–229.

Volodko, A., Cockbain, E. & Kleinberg, B. (2019). "Spotting the signs" of trafficking recruitment online: Exploring the characteristics of advertisements targeted at migrant job seekers. *Trends in Organized Crime, 23*(1), 7–35.

Wallis, A. (2021). Criminalising sex workers' clients makes trafficking worse. *Open Democracy*, 18 Aug 2021. https://www.opendemocracy.net/en/beyond-trafficking-and-slavery/criminalising-sex-workers-clients-will-make-trafficking-worse-in-the-uk/

Weitzer, R. (2015). Human trafficking and contemporary slavery. *Annual Review of Sociology*, *41*, 223–242.

Wijkman, M., & Kleemans, E. (2019). Female offenders of human trafficking and sexual exploitation. *Crime Law and Social Change*, *72/1*, 53–72.

Zhang, S. X. (2012). Measuring labor trafficking: A research note. *Crime Law and Social Change*, *58*(4), 469–482.

Zimmerman, C., Mak, J., Pocock, N. S., & Kiss, L. (2021). Human trafficking: Results of a 5-year theory-based evaluation of interventions to prevent trafficking of women from South Asia. *Frontiers in Public Health*, *9*, 645059.

Authors and Affiliations

Ella Cockbain[1] · **Lisa Tompson[2]**

✉ Ella Cockbain
e.cockbain@ucl.ac.uk

[1] Department of Security and Crime Science, UCL, 35 Tavistock Square, London WC1H 9EZ, UK

[2] Te Puna Haumaru NZ Institute for Security and Crime Science, University of Waikato, Hamilton, New Zealand