

# The current role and contribution of “behavioural investigative advisers” (BIAs) to criminal investigation in the United Kingdom

Tinna Dögg Sigurdardóttir, Lee Rainbow, Adam Gregory, Pippa Gregory and Gisli Hannes Gudjonsson

Tinna Dögg Sigurdardóttir is based at the Department of Psychology, Reykjavik University, Reykjavik, Iceland. Lee Rainbow, Adam Gregory and Pippa Gregory are all based at the Serious Crime Investigative Team Support, National Crime Agency, London, UK. Gisli Hannes Gudjonsson is based at the Department of Psychology, King’s College London, London, UK.

Received 6 July 2023  
Revised 28 July 2023  
15 August 2023  
Accepted 19 August 2023

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## Abstract

**Purpose** – *The present study aims to examine the scope and contribution of behavioural investigative advice (BIA) reports from the National Crime Agency (NCA).*

**Design/methodology/approach** – *The 77 BIA reports reviewed were written between 2016 and 2021. They were evaluated using Toulmin’s (1958) strategy for structuring pertinent arguments, current compliance with professional standards, the grounds and backing provided for the claims made and the potential utility of the recommendations provided.*

**Findings** – *Consistent with previous research, most of the reports involved murder and sexual offences. The BIA reports met professional standards with extremely high frequency. The 77 reports contained a total of 1,308 claims of which 99% were based on stated grounds. A warrant and/or backing was provided for 73% of the claims. Most of the claims in the BIA reports involved a behavioural evaluation of the crime scene and offender characteristics. The potential utility of the reports was judged to be 95% for informative behavioural crime scene analysis and 40% for potential new lines of enquiry.*

**Practical implications** – *The reports should serve as a model for the work of behavioural investigative advisers internationally.*

**Originality/value** – *To the best of the authors’ knowledge, this is the first study to systematically evaluate BIA reports commissioned by the NCA; it adds to previous similar studies by evaluating the largest number of BIA reports ever reviewed, and uniquely provides judgement of overall utility.*

**Keywords** *Offender profiling, Behavioural investigative advice, Crime scene analysis, Criminal investigations, Toulmin’s structure of arguments, Utility of advice*

**Paper type** *Research paper*

There is no one agreed definition of the term “offender profiling” (Fox *et al.*, 2020a, 2020b). There is, however, a general agreement that it involves a behavioural knowledge-based process to assist police investigators with reviewing evidence from a crime scene and other relevant material to “help identify key personality, behavioural, and demographic characteristics of an offender based on an analysis of the crimes that he or she has committed” (Fox and Farrington, 2018, pp. 3 and 28, citing Douglas *et al.*, 1986).

After 40 years of extensive research into “offender profiling”, a comprehensive review and meta-analysis of 426 publications between 1976 and 2016 (Fox and Farrington, 2018) shows that there have been improvements in the scientific rigour of studies conducted, but there remains relative absence of studies examining the utility and accuracy of profiles. As far as the offender profiling process is concerned, there is evidence that it has become

more professional and evidence based (Almond *et al.*, 2007; Chai *et al.*, 2021; Beauregard *et al.*, 2017; Yaksic, 2020). In the United Kingdom (UK) offender profiling has become a recognised and regulated endeavour with clear professional guidelines and standards (Fox *et al.*, 2020a, 2020b; Rainbow *et al.*, 2011; Rainbow and Gregory, 2011).

The current study aims to investigate the methodology, professional practice and potential utility of behavioural investigative advice (BIA) in the UK, which is currently managed and governed by the National Crime Agency (NCA).

## Early offender profiling advice in the United Kingdom

Since the 1980s, law enforcement agencies in the UK regularly sought to engage the assistance of psychologists, psychiatrists and academics when investigating serious crimes (Copson, 1995; Gudjonsson and Copson, 1997). Copson's research was commissioned by the Metropolitan Police in 1992 following concerns that, despite over 200 investigations using "profilers", there was no evidence to support its utility or accuracy in investigations.

Copson surveyed detectives who had commissioned operational profiling advice on 184 occasions from 29 different "profilers". The profiles were provided between 1981 and 1994. Most of the offences were murder (113; 61%) and sexual offences (50; 27%). The "profilers" were mainly forensic psychologists (6; 21%), academic psychologists (4; 14%), psychiatrists (4; 14%), police officers (4; 14%) and clinical psychologists (3; 10%). Most of the reports were commissioned from forensic psychologists (60; 33%) and academic psychologists (59; 32%).

Based on the findings, the report concluded:

The most compelling recommendation arising from this study concerns the need for further action to be taken to educate police on the potential value and limitations of offender profiling, so there is a clearer understanding of what can be expected from it, what kind of expertise is most appropriate for different situations, and in what circumstances operational profiling advice should and should not be commissioned. (Copson, 1995; p. vi. 1).

Although the above quote is not directly relevant to the purpose of the present study, it highlights the need for education within law enforcement agencies about the appropriate commissioning of BIA advice (Cole and Brown, 2011).

## New era of offender profiling: "behavioural investigative advice"

Offender profiling and an undercover ("honey trap") sting operation came under scrutiny and criticism at a murder trial at the Old Bailey in September 1994 (Alison and Rainbow, 2011; Ormerod and Sturman, 2005). Soon after the murder of Rachel Nickell at Wimbledon Common (London) in July 1992, the Metropolitan Police had commissioned the services of a then leading UK profiler, Dr Paul Britton, who earlier that year had produced an influential confidential report on offender profiling (Britton, 1992).

Dr Britton produced a psychological profile of the murderer in the case, which concluded that the murderer had deviant sexual fantasies rarely seen in the general population and was at an extremely high risk of committing another similar murder (Kessler, 1999). Following his profile, Britton then reportedly assisted police with planning and implementing a seven-month undercover operation aimed to manipulate Mr Stagg, the prime suspect at the time, into making self-incriminating comments, allegedly facilitated by his assumed deviant sexual fantasies (Alison and Canter, 2005; Ormerod and Sturman, 2005).

At trial, the prosecution argued that there was an overlap between Britton's profiled killer and that of Mr Stagg (i.e. based on assumed sexual fantasies). The trial judge, Mr Justice Ognall was highly critical of Dr Britton's involvement in the case and excluded the entrapment evidence during legal arguments, which was the pillar of the case. This resulted

in the prosecution withdrawing the charges against Mr Stagg, and he was acquitted. Mr Stagg had spent over one year in prison on bail (Ormerod and Sturman, 2005) for a crime he had not committed. This is one of Britain's most notorious cases of a miscarriage of justice in the UK and involved a fundamentally flawed undercover operation.

In 2004 during a cold case review, forensic tests finally linked Robert Napper to the killing of Rachel Nickell, and, in 2008, he pleaded guilty to manslaughter based on diminished responsibility due to severe mental disorder (Gallop, 2019). He had been in Broadmoor Hospital since 1995 for murdering another woman and her four-year-old daughter, a murder that had happened after the murder of Rachel Nickell.

The three events discussed above, Dr Britton's (1992) early customer review of offender profiles, inspiring Copson's landmark research (1995) and the tragic saga of the wrongful arrest and detention of Colin Stagg in 1992 with the involvement of Dr Britton, led to a sea change in offender profiling practice and governance in the UK. In 1999, the first full-time national profiler (Lee Rainbow) was appointed by the then National Crime Faculty and placed the service provision delivery firmly within the law enforcement domain (Rainbow, 2008).

Prior to that profiling was provided on a consultancy basis from within or outside the police service. From the mid-1990s, the Association of Chief of Police Officers (ACPO) was governing, to some degree, profiling in the UK. A sub-committee introduced an early accreditation system, which was not without its issues, but it did establish minimum criteria that profilers needed to fulfil and, therefore, provided some reassurance to investigators.

In 2001, a sub-committee of the ACPO introduced a set of working conditions for all BIA and the term BIA replaced the term "offender profiling" (Rainbow, 2008).

The ACPO Sub-Committee also introduced a regular (annual) audit and evaluation of BIA reports, which provided constructive verbal and written feedback, and was aimed at stimulating evidence-based strategic development of behavioural science and appointments of BIAs. Two of the current authors were a part of that early developmental process of the BIAs via the ACPO Sub-Committee, which remained in existence until 2017 when oversight of the BIAs was transferred to the NCA.

Currently, there is no formal audit and evaluation of BIA reports within the NCA, although BIAs have always conducted their own peer review process. The current research is, therefore, very timely for current developments within the NCA, which involves a recently created behavioural and social science (BaSS) capability development governed by the NCA science, technology and innovation section.

There are currently three full-time BIAs used by the NCA, two part-time forensic clinical psychologists (FCPs) and one geographical profiler. Each speciality makes a distinct contribution to criminal investigations and provides in different ways valuable insight into understanding crime scene behaviours and offender characteristics. Their contribution is to provide rigorous behavioural advice in serious criminal cases.

Each of the three separate areas of specialism generally has different professional backgrounds, theoretical focus, skill sets and investigative focus (Alison *et al.*, 2004; Fox *et al.*, 2020a, 2020b; Knabe-Nicol and Alison, 2011; Rainbow, 2011; Rainbow and Gregory, 2011; West, 2000). All BIAs have a dual background of psychology qualifications and investigative experience, which allows them to approach each case with a psychological reconstruction of the crime scene and behavioural understanding of the offender, his or her mindset (e.g. psychological perspective), background, motivation and past and future offending.

The BIAs may occasionally consult with an FCP or geographical profiler and include the advice in their report. In complicated cases, a BIA and an FCP may work together on a case to combine their individual expertise in a joint report.

Rainbow and Gregory (2011) have helpfully outlined areas where BIA may contribute to the investigation process. These include the following:

- “Crime scene assessment and hypothesis generation” (i.e. a thorough evaluation of the criminal event and hypothesis generation based on the available information).
- “Offence linkage analysis” (i.e. linking series of crimes through consistency and distinctiveness in offender behaviour, a task which may include access to available police databases and consultation with relevant law enforcement analysts).
- “Predictive profiling” (i.e. based on the crime scene evaluation inferences are drawn about a particular offender, such as their age, offending history and where they may reside).
- “Nominal generation” (i.e. this is an extension of the predictive profiling and uses available local crime and intelligence bases, as well as the Police National Computer to generate a pool of possible suspects).
- “Prioritisation matrices” (i.e. uses the predictive profiling process to generate a matrix where each of a potential suspects’ facets is given a numerical value and appropriate ranking for prioritisation, such as intelligence-led DNA screening).
- “Interview advice” (i.e. this includes either “interview-specific” or “crime scene-specific” advice for investigative purposes). It complements the advice of the NCA FCPs and National Interview Advisor (Rainbow and Gregory, 2011).
- “Media advice” (i.e. when appropriate provide advice about media involvement in the investigation).
- “Risk assessment” (i.e. the nature of the offence, the offender’s background and history of offending, if known, can provide information from which risk of future offending can be evaluated). This role falls more within the domain of FCPs than the BIAs (Rainbow and Gregory, 2011; Sigurdardottir *et al.*, 2023).
- “Veracity assessment” (i.e. based on knowledge of the relevant literature and investigative experience). The role of the BIA here is to identify where there are behavioural inconsistencies in the account, which could be explored through further lines of inquiry, rather than to offer an opinion on the victim’s credibility. It is important to acknowledge that at times witnesses may be honest but mistaken (Gudjonsson *et al.*, 2021).
- “Search advice” (e.g. from a behavioural perspective contributing advice to searches about missing persons; for a case study see Rainbow and Gregory, 2011, Case Study 3).
- “Investigative suggestions” (i.e. to optimise their utility, the reports should be “investigative-focused” and based on the cumulative case experience over many years).
- “Familial DNA prioritisation” (i.e. this is an extension of the use of prioritisation matrix above and focuses on facets such as likely age and geographical location of the offender and their relatives; see Gregory and Rainbow, 2011 for a detailed review of the BIA role).

The above list provides a helpful framework for understanding and evaluating the varied roles and contributions of the BIAs in criminal investigations. It will also assist with the interpretation of the current findings and placing them in appropriate context.

Rainbow and Gregory (2011) argue that “BIAs can offer SIOs [senior investigative officers] an additional perspective and decision support throughout a serious crime investigation through the pragmatic application of behavioural theory, research and experience” (p. 33). They emphasise that BIA advice does not focus on a criminal’s personality, it is not based

on established science, it is not expert evidence and it does not aim to “solve” the case (i.e. it only forms a part of the broader investigative decision-making).

### The current study

The current study will make several important contributions to the literature regarding the working practice of BIAs. Firstly, it provides knowledge about the current role and contribution of BIAs to criminal investigations in the UK, which will feed into BaSS. Secondly, it replicates the studies of [Alison \*et al.\* \(2003\)](#) and [Almond \*et al.\* \(2007\)](#) by categorising the specific nature of the grounds and backing in the BIA reports. This makes it possible to explore changes and improvements in professional contributions and practice over time. Thirdly, it provides important information on how and the extent to which the reports meet professional guideline standards originally set for BIA reports by an ACPO Sub-Committee ([Rainbow, 2008](#)). Fourthly, the apparent utility of the overall report in terms of crime scene evaluation (e.g. hypothesis generation) and potential for new leads is provided, based on two researchers' judgement. This adds to previous research that has focused on the published evaluation of the police customer in the USA ([Pinizzotto, 1984](#)), UK ([Copson, 1995](#)) and Canada ([Snook \*et al.\*, 2007](#)).

Additionally, the current research findings will assist the NCA with current developments of a new “best practice” (“gold standard”) guideline within the NCA for behavioural scientists. One of the teams within the NCA that uses behavioural expertise is major crime investigative support (MCIS), which provides specialist advice to any criminal investigation in the UK, free of charge.

The current study is exploratory rather than hypothesis driven. The primary focus is on the quality of the BIA reports and their utility to criminal investigations.

In the current study, the focus is only on the work of BIAs. This is for pragmatic and strategic reasons. It includes considerations of limited journal space for a single article and a decision to analyse in detail the role, contribution, grounds and backing of the claims for each of the three specialisms prior to realistic comparisons being made about their distinct contributions and working practice.

### Method

#### *The reports*

The 77 BIA reports reviewed and analysed were drawn from a total of 209 BIA reports completed between 2016–2020 by the three BIAs who between them had 86 years of profiling experience (i.e. 26, 30 and 30 years, respectively). The 209 reports included familial DNA search results enhancements or paragraphs which were included within multi-disciplinary reports. It also included some reports which were too sensitive to be included in the sample even once redacted.

The lead BIA in the NCA sent the last author sample reports of the range of different types. In discussion between the last and first authors, it was agreed that random examples of a range of different reports should be reviewed with a focus on behavioural interpretation of the crime scene or characteristics of the offender, along with some reports of Nominal Prioritisation Matrix, Familial DNA Prioritisation Matrix and Media Advice Reports. This left 127 BIA reports of which 77 were full reports from all three BIAs. For pragmatic reasons, including time constraints of the two researchers, it was decided to focus in this study on the full reports rather than a mixture of full and briefing reports. The 77 reports that were included represented all BIA reports that were suitable to be made available for the research project. The average number of pages for the 77 BIA reports was 19 (SD = 5.05; range 11–39; Median = 18).

The NCA had redacted some confidential information from the submitted reports for this research. This included the name of the author of the report and names of people mentioned within the report.

*Professional standards.* This section included variables derived from the ACPO internal evaluation checklist of BIA reports' professional working standards (Rainbow, 2008, 2011). The current list was provided by the NCA for the purpose of the current study.

Each variable was rated as 1 when the specific standard was met; 0 was coded when the standard was not met except for whether sources of inferences were articulated when appropriate, which was coded as 0 (i.e. "never"), 1 (i.e. "some of the time") and 2 ("mostly/always"); pages of the reports; and number of terms of references (TORs) stated.

TOR refers to explicit statements of the purpose of the report (e.g. "to consider and provide the possible characteristics of the offender responsible and associated investigative strategies informed from a behavioural science perspective that have a realistic potential of progressing the enquiry").

### **General framework for analysis**

The general framework for the analysis of the BIAs reports is a pragmatic approach, which incorporates the use of Toulmin's strategy for structuring arguments and behavioural advice (Alison *et al.*, 2004, 2010). The pragmatic approach emphasises the transparency of the overall BIA process, the need for understanding context, methodological rigour in the collection, evaluation and presentation of the pertinent crime scene information (Alison *et al.*, 2004). Toulmin's (1958) strategy more specifically focuses on the application of pertinent arguments to the evaluation process (Almond *et al.*, 2007; Alison *et al.*, 2003), which can be provided by a content analysis dictionary (Alison *et al.*, 2003).

### **Content analysis dictionary [1]**

A content analysis dictionary was constructed, where the dictionary variables were broadly categorised into separate sections in terms of the nature of the data coded:

A. *Claims.* Each individual claim made by the BIAs was recorded. A claim was described as any behavioural opinion given by the BIA. The different types of claims were added up and determined whether there was supported evidence for each claim. These variables were derived from "Toulmin's strategy" for structuring arguments. The variables were coded as *present* or *absent* for each separate claim in the following way:

- *General claim* was coded if the claim contained information about characteristics of an offender in general and not an interpretation of the offender in the specific case (e.g. "sexual homicide offenders often evidence psychopathic traits").
- *Just a claim* was coded if the claim contained *no modality or grounds*.
- *Modality* was coded if the strength of the claim was provided or inferred, categorised as either "possible" (e.g. "The offender may have a history of past offending") or "probable" (e.g. "The offender is likely to have a history of violence").
- *Grounds* (for the claim) were coded if the claim included a clear description of the conditions on which a specific claim had been developed.
- *Warrant* was coded when there was deductive reasoning provided for the link between the claim and grounds.
- *Backing* was coded if the explicit support of the grounds was provided.
- *Rebuttal* was coded if the claim was provided conditionally.



*B. Confirmability of the claims.* The confirmability of each independent claim made by the BIAs. These variables were coded as *present* or *absent* for each separate claim:

- *Tangibly verifiable* was coded if the claim could be simply measured and verified post-conviction (e.g. age, sex of the offender and criminal conviction).
- *Possibly verifiable* was coded if the claim could possibly be verified post-conviction (e.g. motivation for offending).
- *Unverifiable* was coded if the claim could not be measured or verified post-conviction, such as the offender's thoughts or feelings.
- *Ambiguous* was coded if the claim was vague or open to interpretation and therefore difficult to confirm or measure (e.g. "no indication or evidence to support him having entered the house, there is also nothing to demonstrate that he did not").

*C. Report writer's recommendations.* Any recommendations provided by the BIA which were clearly linked to a specific claim were included. These variables were coded as present if the claim contained any investigative recommendations.

*D. Utility.* The *utility* of the report was judged by first and last authors (i.e. the potential usefulness or benefit to the police investigation). [2] Two types of utility were rated as follows:

1. Utility in terms of behavioural analysis of the crime scene or offence-related behaviour.
2. Utility in terms of potential investigative lead.

The first and last authors' panel agreement for each type of utility was coded as 0 (i.e. "low"; no tangible incremental value to the investigation), 1 (i.e. "moderate"; supporting and enhancing existing leads) or 2 ("high"; suggesting new tangible investigative leads). The description of each type of utility and examples are provided in [Appendix](#) (Section D).

### ***Procedure***

The reports were coded by the first author using a content analysis dictionary of the variables used in the study. The first and last authors read all the reports independently, but the rating of claims was only completed by the first author. As shown in [Appendix](#) (Section A), in each section of text there could be more than one claim (e.g. "This offender comes across as an angry and aggressive young man") and these two characteristics (anger and young) were rated separately.

For each variable rated for utility, the last author read all the first author's ratings and discussed each one in turn before a mutual (panel) agreement was reached.

Every claim within each report represented a unit of text. If the unit of text could not be coded within this structure, the coder marked it as "uncodeable". The coder (the first author) identified each claim included in the report and coded each as being either *present* or *absent*.

### ***Analyses***

We used qualitative content analysis for interpreting and understanding sets of written texts. This was done by coding units of text within the reports and then grouping these units into sections and analysing the results accordingly. Descriptive statistics were used to give an overall view of the breadth and scope of the findings, including means, standard deviations, median and percentages. Consistent with previous similar studies ([Almond et al., 2007](#)), we used content analysis (i.e. an observational method) to analyse the qualitative data in the reports.

## Results

### *Type of crime and reports*

The types of crime listed in the 77 BIA reports were categorised as follows:

- *Murder* ( $n = 19$ ; 24.7%).
- *Equivocal death* ( $n = 6$ ; 7.8%). This included uncertainties about the cause of death (e.g. suicide vs murder, accident vs murder).
- *Rape cases and other sexual offences, including attempted rape, sexual assault or indecent exposure* ( $n = 43$ ; 55.8%).
- *Other* ( $n = 9$ ; 11.7%). This included assault, harassment, online offences, burglary and incidents involving the mutilation of animals.

### *Terms of reference and issues addressed*

TOR were identified in all 77 reports. The mean number of TOR was 2.5 ( $SD = 0.74$ , median 3, range 1–4). Various types of issues were addressed in the reports depending on the crime under consideration and TOR provided. Table 1 shows that each report typically addressed several separate issues. The predominant issues were behavioural interpretations of the crime scene (94.8%), and offender profiling (76.6%), followed by nominal prioritisation (13.0%) and linking reports (10.4%).

There were seven (9.1%) reports that incorporated findings from a geographical profiler and three (3.9%) further reports where the BIA had consulted with a geographical profiler. Six (7.8%) reports incorporated findings from an FCP and four (5.2%) reports where the BIA had reported a consultation with the FCP. Two (1.8%) reports were classified as joint reports between a BIA and an FCP.

### *Professional standards*

Table 2 shows the frequency and percentages of professional standards met for the reports in accordance with the guidelines of the ACPO Sub-Committee. Items 1–12 are directly relevant to those professional standards. The BIA reports met 10 standards with high frequency (96.1–100%). The two exceptions were “sources of inferences (mostly/always) articulated” (44.2%) and “summary of conclusions provided” (62.3%). All the TORs were addressed in the reports.

Items 13–16 were added to provide additional information about peer review, crime scene visits, which often formed a part of the BIA evaluation and the use of full academic/clinical references and police databases. The reports mostly provided a full reference list for the academic/clinical citations in the reports. In almost one-third (29.9%) of reports, the BIAs used police databases, and in 34 (44.2%) of the cases, the BIA had visited the crime scene.

**Table 1** Key issues focused on in the reports

<i>Issues addressed</i>	<i>n (%)</i>
Behavioural assessment of the crime scene	73 (94.8)
Characteristics of an offender	59 (76.6)
Nominal prioritisation	10 (13.0)
Linking report	8 (10.4)
Interviewing strategy	5 (6.5)
Equivocal death	5 (6.5)
Intelligence-led DNA screening/familial DNA	7 (9.1)
Media considerations	3 (3.9)

Source: Authors' own creation



**Table 2** Key professional standards met for the BIA reports (items-1–12)

Key standards	n	%
1. Standard report format	77	100.0
2. Statement about author's qualification/experience	76	98.7
3. Explicit TOR stated	77	100.0
4. All TOR were addressed	77	100.0
5. The materials used were listed	75	97.4
6. Summary of case provided	74	96.1
7. Report is clearly written	77	100.0
8. The report is clearly presented	77	100.0
9. Caveats (including limitations) provided	76	98.7
10. Appropriate method used and explained	76	98.7
11. Sources of inferences (mostly/always) articulated	34	44.2
12. Summary of conclusions provided	48	62.3
13. Report peer-reviewed	75	97.4
14. Full reference list provided to academic/clinical work	63	81.8
15. Full reference provided to police database cited	23	29.9
16. Visit to crime scene	34	44.2

**Note:** TOR = terms of reference  
**Source:** Authors' own creation

### Claims

The 77 reports contained a total of 1,304 claims with an average number of 17 (SD = 7.7, range 2–38) per report. Eighty-one (6.2%) of the BIA claims were considered ambiguous.

A minority (3.9%) of the claims were *general claims*, containing information about general characteristics of an offender with no specific reference to the case under investigation. A further 18 (1.4%) of the claims were *just a claim*, with no modality or grounds for the claim. Importantly, these findings show that most claims were NOT ambiguous, general or just a claim.

Regarding the categories of claims, 675 (51.8%) of the claims in the reports involved behavioural characteristics of the crime scene evaluation, followed by offender characteristics ( $n = 503$ ; 38.6%), linking of crimes ( $n = 75$ ; 5.8%), geographical comments ( $n = 44$ ; 3.4%), veracity (likely accuracy of accounts, see Introduction for a description) ( $n = 4$ ; 0.3%) and temporal ( $n = 3$ ; 0.2%).

Table 3 provides an overview of the claims, modality, verifiability, grounds, warrant, backing and rebuttal. It shows that most of the claims (93.4%) had designated modality, which made it easier to understand the likelihood of the claim applying to a specific case. As far as verifiability (also known as confirmability) is concerned, 60.8% of the claims were possibly or tangibly verifiable once the case was solved. Impressively, 98.6% of the claims had grounds provided, and 71.9% had some form of backing. In the right-side column, comparative figures are given from the Alison *et al.* (2010) study.

### Types of grounds, warrant and backing

Most of the *grounds* in the BIA reports were in the form of explanation hypotheses (841; 64.4%), followed by forensics (151; 11.7%), a citation to study (105; 8.2%), witness statement (101; 7.8%), theory (37; 2.9%) and experience (26; 2.0%).

A *warrant* for the link between the claim and grounds was evident for 567 (44%) of the 1,286 grounds. *Backing* was provided for 29% (371) of the total number of grounds. This means that 73% of the claims had either a warrant or backing. The type of backing was mostly provided by a witness statement (112; 30%), research study (110; 30%), forensic evidence (91; 25%), experience (20; 5%), databases (18; 5%) and theory (10; 3%).

**Table 3** Frequency of claims, modality, verifiability, grounds and backing

Type of claim	Current study (77 reports)	Almond et al. (2007) (47 reports)
Total number of claims	1,304 (100.0)	805 (100.0)
Modality of claims:	60 (4.6%)	4 (0.5%)
a. None	487 (37.4%)	58 (7.2%)
b. Possible	757 (58.1%)	743 (92.3%)
c. Probable/definite		
Verifiability of claims:	512 (39.3%)	238 (29.6%)
a. Unverifiable	792 (60.7%)	567 (70.4%)
b. Verifiable		
Grounds provided	1,286 (98.6%)	776 (96.4%)
Warrant	567 (44.1%)	506 (62.9%)
Backing	371 (28.8%)	274 (34.0%)
Rebuttal	37 (2.8)	57 (7.0%)

Source: Authors' own creation

### Characteristics of offender and offence

Table 4 shows the frequency and percentage of characteristics of offender and offence in the 77 BIA reports. The focus was primarily on the physical characteristics of the offender (i.e. sex and age), followed by the offender's motivation (e.g. the crime being sexually motivated) and past and anticipated future offending. Regarding the sex of the offender, this was often obvious from the crime scene or witness statement and had limited incremental value for the investigation. Therefore, it was generally provided as a confirmation rather than a prediction and under those circumstances was not considered as a justified claim.

### Report writer's recommendations

Table 5 shows the frequency and percentage of investigative recommendations made by the BIAs. The BIAs gave 555 investigative recommendations (mean = 7.2, SD = 5.2, median = 6, range 0–35). The majority of those were lines of enquiry (40.7%) and prioritisation of suspects (33.9%).

### The utility of the reports

Table 6 summarises the overall utility in terms of behavioural analysis of the crime, and potential new leads for the BIA reports. Out of the 77 reports, 95% provided a detailed

**Table 4** Main characteristics of offender and offence from the 77 reports\*

Characteristic of offender	n (%)
Unknown offender	70 (90.9)
Sex	68 (75.3)
Age	52 (67.5)
Motivation for offending	52 (67.5)
Advice about past offending	52 (67.5)
Future offending	32 (41.6)
History of violence	23 (29.9)
Offence involved planning	22 (28.6)
Personality	17 (22.2)
More than one offender	12 (15.6)
Offender known to victim	12 (15.6)
Relationship status	8 (10.4)

Notes: \*Frequencies of 10% or less were not included in the Table  
Source: Authors' own creation

**Table 5** Investigative recommendations

<i>Investigative recommendations</i>	<i>No. of recommendations (%)</i>
Lines of enquiry	226 (40.7)
Prioritisation of suspects	188 (33.9)
Clarities of information requested	46 (8.3)
Risk of future offending	26 (4.7)
Other experts to contact	24 (4.3)
Interview	17 (3.1)
Media advice	14 (2.5)
Forensic analysis	13 (2.3)
Surveillance	1 (<1.0)
<b>Total</b>	<b>555 (100)</b>

Source: Authors' own creation

**Table 6** Utility in terms of behavioural analysis and potential new leads

<i>Utility</i>	<i>Behavioural analysis of the crime</i>		<i>Potential leads</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Low	4	5.2	46	59.7
Moderate	43	55.8	28	36.4
High	30	39.0	3	3.9
<b>Total</b>	<b>77</b>	<b>100%</b>	<b>77</b>	<b>100%</b>

Source: Authors' own creation

*insight* into the crime scene, which appeared potentially helpful to the investigation, whilst 40% provided either moderate or high *potential* for new enquiries.

## Discussion

### *The current role and contribution of behavioural investigative advice to criminal investigations*

From analysis of the 77 reports, most of the reports (56%) focused on sex crimes, followed by murder (25%) and equivocal death (8%). Most of the cases (91%) involved an unknown offender. The type of crimes involved is broadly like that in the 47 reports that [Almond \*et al.\* \(2007\)](#) reviewed, although there was proportionally a greater focus in the present study of sex crimes. The difference may relate to the fact that [Almond \*et al.\* \(2007\)](#) also included briefing reports in their study. Only full reports were included in the current study, and future research should make a comparison study between full and briefing reports. Briefing reports are more likely to be produced where time is of the essence for BIA advice, which means that they are produced more quickly and are less detailed ([Sigurdardottir \*et al.\*, 2023](#)).

The focus of the 77 reports was principally on a behavioural assessment of the crime scene (95%) and predicting characteristics of the offender (77%). An in-depth understanding of the crime scene and the offender generate hypotheses that are potentially relevant to the police investigation of the crime in question ([Rainbow and Gregory, 2011](#); [Rainbow \*et al.\*, 2011](#)). Support for each of the generated hypotheses can then be formulated in terms of available theory, science evidence base and experience. According to [Rainbow and Gregory \(2011, p. 28\)](#): "The benefits of such an approach are that specific hypotheses regarding the offence can be tested in a systematic, reasoned and objective fashion, based upon sound supporting rationale." It is encouraging to find that the BIA reports take this approach.

A minority of reports focused on nominal prioritisation (13%) and offence linking analysis (10%), which represents a small but increasingly important function of the BIAs (Rainbow and Gregory, 2011). The BIAs will need to adapt to possible changes in criminal investigation advice over time due to changing needs and priorities of the NCA, advances in forensic science (Gallop, 2019), huge increases in cyber-crimes (Das and Nayak, 2013), development of artificial intelligence technology (Dilek *et al.*, 2015) and agent-based modelling (Castillo-Carniglia *et al.*, 2019).

### ***Association of Chief of Police Officers professional guidelines working conditions checklist***

The close adherence to the guidelines forms an important part of quality assurance for the BIAs and the NCA. The current results show that the BIAs followed the ACPO guidelines at an extremely high level of frequency (96.1–100%) for 10 out of 12 guidelines. This is an improvement on the findings from Almond *et al.* (2007), where the level of compliance with the guidelines, although already high, was said to require further improvement.

However, it is important to note that the Almond *et al.* study only evaluated a small number of the professional standards, which focused on whether the BIA report was dated (81%), included a description the professional background and qualifications of the BIA (83%), provided caveats regarding the legal and methodological limitations of the report (77%), included explicit TOR (98%) and detailing the material used for the evaluation (87%). The current study provides a more comprehensive evaluation of professional standards, but it is evident that professional standards are now more often achieved. This shows improved professional practice. In fact, all 77 reports were clearly written and presented, and all TOR were satisfactorily addressed. The methodology used in the reports was almost always provided (99%), as well as appropriate caveats (99%) and a list of material relied upon (97%).

Impressively, 75 (97%) of the reports had been peer-reviewed by another experienced BIA, who provided constructive feedback. Peer review is an important form of quality control and serves as a learning experience for the writer (author of the report) regardless of their status or experience. The peer reviewer checks for logical reasoning for statements made, ensures that relevant evidence base is provided and ensures clear communication at all points in the report. The report writer must ensure that all feedback is considered and addressed as appropriate. The opinions, conclusions and recommendations in the report are ultimately the responsibility of the report author.

Undoubtedly, part of the reason for the consistency in the reports' format and high level of professionalism is due to the existence of an NCA standard template for BIA reports. The template provides a helpful structure for the report, which broadly includes a Disclosure statement, Administration, Table of contents, Terms of reference, Introduction to the case, Crime scene assessment and Likely offender characteristics. Appendices provide a case summary, material supplied and author's personal statement. The standard BIA template can be adjusted when necessary to meet the requirement of case to optimise delivery of the BIA. It can also be adapted for other disciplines within the NCA to ensure consistency, transparency, and professionalism in service delivery and should be revised when appropriate.

Importantly, in the template of the reports, the BIAs strongly recommended that the "report should not take over the investigation but should be used by the investigator as an independent backdrop against which suspects and investigative decisions are compared", "investigators should read the report in its entirety to consider the context of the findings before any investigative decisions are made" and that "the report should not be viewed as the completion of the BIA's input but rather provides the starting point for a continuing

dialogue between the investigation and BIA." These recommendations are crucial for the decision-making of the senior investigative officer (SIO).

### *Toulmin's strategy*

The general framework for analysis incorporated the use of Toulmin's strategy for structuring arguments and behavioural advice, which was initially applied to profiling by [Alison et al. \(2003\)](#) and to behavioural investigative reports by [Almond et al. \(2007\)](#). The current findings regarding *modality*, *verifiability*, *claims*, *grounds*, *warrant*, *backing* and *rebuttal* are consistent with those that [Almond et al. \(2007\)](#) found (see [Table 3](#)). The two studies were conducted almost 15 years apart.

The main difference between the two studies was in relation to the modality of claim, with probable/definite (>50%) being used proportionately less often in the current study (61%) than in [Almond et al. \(2007\)](#) study (93%). It may be that the authors of the current BIA reports were cautious in their modality (i.e. providing less certainty in their argument) than 15 years ago. Alternatively, there is some indication from the current data that the nature of the offences and claims are different from that found in [Almond et al. \(2007\)](#) study where most of the offences were murders in contrast to the current study, which focused proportionally more on sexual and 'other' types of offences. In addition, offender motivation and history of offending were common claims in the current study.

An earlier similar study of 21 offender profiles, 13 of which were from the UK found that most of the claims (72%) involved factual statements already known to police or peripheral claims ([Alison et al., 2003](#)), where legitimate claims had been made about the offender, 82% were unsubstantiated (i.e. just a claim). Therefore, during the past 20 years, there have been great improvements in providing solid grounds for the claims, which are then provided with a warrant (i.e. the reasoning or logic behind the claim) and formal backing of the claim. The strength of the current findings is the high level of claims with accompanying grounds. The potential weakness is the relatively low level of backing of claims with citations to empirically based research or databases.

Almost two-thirds (65%) of the *grounds* for the claims involved an explanation hypothesis, where inferences were typically drawn from witness statements or interpretations of the crime scene. These represent inferences and/or assumptions made by the BIA. Inferences were typically drawn from interpretations of the crime scene or witness statements. A further 12% of the grounds included references to forensic evidence, including a pathology report, CCTV footage and photographs. These findings confirm the use of hypothesis-driven methodology in the work of the BIAs ([Rainbow and Gregory, 2011](#); [Rainbow et al., 2011](#)).

### *Utility*

Determination of utility of the current reports, as judged by the first (TDS) and last (GHG) authors, was conservative. Utility was not endorsed unless there were clear indicators that the overall claims and advice were of potential additional benefit to the investigation rather than merely confirming that which was already known or obvious to the investigators. In over 95% of the reports, the utility of the behavioural analysis and hypothesis formulation was rated as moderate to high. The depth of analysis and formulation was rigorous and undoubtedly potentially helpful to the investigation. In contrast, only 40% of reports were judged to have moderate to high utility in relation to adding lines of enquiry. This is partly related to the relatively greater focus in the reports on crime scene analysis than offender characteristics.

The findings suggest that the role of the BIA is not necessarily to generate new lines of enquiry but to further the insight into the offending by generating rigorous hypotheses based on the available information ([Rainbow and Gregory, 2011](#)). At times this is all that is required of the BIA.

### *Strengths and limitations*

There were several strengths of the study, including this being the largest number of BIA reports ever reviewed and analysed by two independent observers (TDS and GHG). In addition, the input of three BIAs, whose reports were reviewed in the study, to the final manuscript is a strength. It added to the depth and insight into the current work of the BIAs and the potential impact of the article on professional practice internationally.

One limitation of the current study is that, for pragmatic reasons, only full reports were reviewed and analysed. Future studies should compare full and briefing reports because they may differ in terms of functionality and delivery and should be analysed separately. Secondly, it was not possible to investigate fully to what extent the professional standards were met regarding providing contact details, author statement regarding qualifications, date of report, timescales and details of the material reviewed by the BIA due to the NCA redacting of this confidential information from the submitted reports for this research. Thirdly, the current findings do not provide evidence of utility as defined by police or the accuracy of the claims.

### *Further research*

In terms of chronology, there has been a move away from “consumer satisfaction surveys” (Copson, 1995) to looking at reasoning for profiling judgments (Alison *et al.*, 2010), skills and expertise (Knabe-Nicol and Alison, 2011) and professional practice (Rainbow and Gregory, 2011). Broadly speaking, the current study addresses all these areas.

The current study has looked at the claims made by BIAs and examined how verifiable they are and how helpful they are in terms of clarity, content and potential operational benefits. Future studies need to check the validity against solved cases and how the police interpreted the information and advice provided. Historical “consumer satisfaction surveys” from the USA (Pinizzotto, 1984), the UK (Copson, 1995) and Canada (Snook *et al.*, 2007), which were principally clinical and investigative profiles of unknown offenders, revealed that the police only found a minority of profiles helpful and accurate. This is why there is increased emphasis on evidence-driven, particularly statistical approaches, to offender profiling (Fox *et al.*, 2020a, 2020b). The academic and statistical approach, whilst undoubtedly helpful in profiling certain types of offences (e.g. burglaries and rape) and predicting geography, should complement rather than replace the current pragmatic practitioner approach from BIAs and FCPs.

We recommend that feedback from investigators should be obtained systematically and routinely about how helpful these reports and ongoing dialogues are to the investigation. Importantly, utility/helpfulness of advice from BIAs cannot be properly judged on the report alone because the BIAs typically engage in an ongoing dialogue with the investigators throughout the inquiry (e.g. via additional phone calls, emails and meetings). Therefore, properly evaluating the contribution of BIA to criminal investigations, and crime prevention is not straightforward due to the multiplicity and complexity of the factors involved.

There is no data available on the accuracy of the advice in the reports relating to the behavioural analysis of the crime scene and offender characteristics. Despite reports becoming more empirically and professionally based (Fox *et al.*, 2020a, 2020b), there is an absence of studies that have researched the accuracy of the profiles and advice provided. The key issues are how the advice was used, if at all, and the extent to which the advice added to the investigation in terms of understanding of the crime scene and the offender, hopefully leading to speedier apprehension of the perpetrator. It seems from the reports analysed, that the BIA advice is heavily dependent on the information made available by the SIO, which may be selective or not sufficiently tangible to make a significant contribution to the investigation. The BIAs can only work with the information and material provided and



their primary goal is to aid the investigation (i.e. provide incremental value) rather than 'solve' the case (Rainbow and Gregory, 2011).

Future research should also look at whether integrated reports from more than one discipline are likely to be more useful and valid than individual reports. It is the collective and multidisciplinary approach from experienced BIAs, FCPs and geographical profilers, and sometimes other behavioural and social science disciplines, that may optimise the utility and validity of the service delivery.

Whether an individual or multidisciplinary approach is taken there is a need for careful vigilance to avoid both cognitive bias (e.g. prejudice) and confirmation bias (Rainbow *et al.*, 2011; Kahneman *et al.*, 2021). Confirmation bias may occur when the BIA is provided with selective information about a case or feels under pressure to confirm the views of the SIO. Kahneman *et al.* recommend the use of "decision hygiene strategy" by "sequencing information to limit the formation of premature intuition" (p. 256). The template, format and content of the current BIA reports are rigorous in this respect.

Future research should examine how BIA advice can be useful in crimes other than murder and sexual offences, where traditionally the focus lies, incorporate understanding of cultural aspects of offending (Strauss-Hughes *et al.*, 2019), explore the importance of context (Scott *et al.*, 2020) and theoretical perspectives on organised crime (Kleemans, 2013).

Finally, this study has only focused on BIA reports. In a parallel study, FCP reports and their contributions to investigations have been similarly evaluated, highlighting different methodology, role and type of advice (Sigurdardottir *et al.*, 2023). Both disciplines have an important contribution to make to criminal investigations and on occasions work collaboratively on cases to optimise the service delivery.

### ***Gold Standard Framework for National Crime Agency specialist advisers***

Following this research, the NCA is currently developing a generic Gold Standard Framework (GSF) that will in future guide the practice of all specialist advisers, including BIAs, FCPs and geographical profilers. The current draft comprises "a systematic, practical and best evidence-based approach to the prevention and detection of major, serious and organised crime", which is accompanied by several key working principles (e.g. "always act with integrity, professionalism and open-mindedness"; "be guided by relevant legislation and national guidelines"; and "construct objective, methodical and unbiased advice"). As shown by the current study, the specialist advice provided may be derived from one or more of the following sources (this is not an exhaustive list):

- An established theory.
- Research evidence from published (and sometimes unpublished, such as dissertations) sources.
- Databases, including police databases, and appropriate statistical data.
- Professional (specialist) experience, including forensic clinical experience.
- Investigative experience.

The current authors recommend that as a part of the GSF, the current template format used in the BIA reports could be adapted for other specialist advisers within the NCA.

### ***Future directions and diversification***

BIA, and the science supporting it, are evolving in terms of knowledge, experience, methodology and delivery. The focus is both on the prevention and detection of crime. Improved developments include increased use of DNA, electronic transaction data, CCTV

and geospatial techniques in the detection of crime. These will impact the work of BIAs, whose role may change to meet new demands and challenges associated with strategic shifts within the NCA.

Within the newly established BaSS capability development, there is a current trend to move away from an insular, inward-looking national investigative capabilities approach to: (a) actively create a coherent strategy for the provision of behavioural and social science to assist with the detection, disruption and prevention of crime and (b) build a collaborative BaSS capability across the NCA to optimise detection, disruption and detection of criminal activity.

The drive for change involves SIOs exploiting ever-increasing evidential and intelligence-led techniques presented by advancements in technology and physical sciences. This will require the BIAs to diversify their role into the prevention and disruption elements when required. This diversified new role is relatively untapped at present. The real challenge is finding innovative ways for the BIAs to use existing and growing bulk data-driven approaches to inform their responsibilities, whether it is crime scene assessment and hypothesis generation, linkage analysis, prioritisation matrices, familial DNA prioritisation, predictive profiling and nominal creation.

### **Conclusions**

There is evidence from the current findings, combined with those of FCP (Sigurdardottir *et al.*, 2023), that both BIAs and FCPs follow the pragmatic practitioner model (Alison *et al.*, 2004; Alison *et al.*, 2010) rather than the academic and statistical model (Fox *et al.*, 2020a, 2020b). The BIAs have access to police databases, which are particularly helpful in the prioritisation of suspects. The 77 reports reviewed show that the TOR were invariably approached with scientific rigour and professionalism, which should serve as a model for the work of behavioural investigative advisers internationally.

### **Research approval**

The study was approved by the NCA research committee and supported by Reykjavik University. The NCA had redacted some sensitive details from the reports prior to disclosure of the research.

### **Acknowledgements**

The authors are grateful to Russell Day, Andrew Murphy and Sarah Rock for their continued support during the study. The authors acknowledge Mr Day's and Dr Rick Hennessy's constructive comments on a previous draft of this article, as well as those of the journal's reviewers and editor. The authors are grateful to the NCA for financing an online publication of the article.

*Conflict of interest:* LR, AG and PG were the authors of the reports evaluated. They did not have any input into the review or analysis of the reports. TDS and GHG have no conflict of interest, apart from GHG currently working as a NCA "special" within the strategic development of BaSS capability.

*Data disclosure statement:* The data set cannot be disclosed due to the operational sensitivity of the data.

*Authors' contributions:* GHG and TDS designed the study with helpful input from LR. TDS and GHG reviewed the reports and analysed the data. TDS produced the initial draft of the article with substantial input from GHG, followed by constructive comments and contributions from LR, AG and PG and final draft by GHG.

## Notes

1. The Content Analysis Dictionary used in the study is provided in [Appendix](#).
2. The last author had extensive experience of police investigations, in contrast to the first author. Both had read all the reports and discussed and judged the utility of each report. The outcome was based on a mutual agreement about the outcome. The three BIAs whose reports were evaluated had no input into the rating of utility.

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## Appendix. Content analysis dictionary for BIAs

### Section A: Claims

1. *Grounds*: Information provided with either an explicit or implicit description of the conditions on which a specific claim had been developed.
2. *Backing*: Information provided with explicit support of the grounds in the form of cogent inferences derived from a solid premise, theory or data.
3. *Warrant*: A deductive reasoning provided for the link between the claim and grounds (e.g. "individuals who commit unplanned compulsive murders (especially the first murder) typically kill someone with whom they have had some connection"; "likely that the offender accompanied or followed the victim as she continued her usual walk and attacked her once they got to the site").
4. *Explanation hypothesis*: This was only coded for grounds. It represents inferences and/or assumptions made by the BIA. Inferences were drawn from witness statements or interpretations of the crime scene (e.g. "nothing within the offence would suggest that she had been personally targeted by the offender").
5. *Study*: Sources of inferences referred to. Grounds and backing could be interchangeable depending on how it is said and argued, if the study is mentioned first, it was coded as grounds. If interpretations were made first and then a study was used to back it up, it was coded as backing.
6. *Database*: Information provided with explicit support in the form of police database.
7. *Theory*: If the BIA talked about a specific theory or referred to research or behavioural science literature without providing a citation, it was coded as theory.
8. *Experience*: Behavioural science and investigative experience.
9. *Witness statement*: If the claim was based on what the witness said it was coded as grounds. If inferences were drawn from the witness statement it was coded as backing.
10. *Forensics*: If the claim was based on information pertaining to the crime scene, for example, pathology report, CCTV footage and photographs, it was coded as grounds. If inferences were drawn from the crime scene and interpretations made, it was coded as backing.
11. *Rebuttal*: Coded if any conditions are stated, under which the claim might fail to be probable or may need to be adjusted accordingly were provided.

### Categories of claims

1. *Offender characteristics*: Things that relate to the identification of the offender himself/herself (e.g. "this offender comes across as an angry and aggressive young man"; "the offender's employment history is likely to be characterised by a transient work record caused by his inability to interact with others successfully; and the abuse of any positions of responsibility afforded him").
2. *Behavioural*: Understanding of the offence from a behavioural perspective (e.g. "it is as if the rape constitutes some sort of 'punishment' by the offender for the victim's lack of

cooperation”; “given the above considerations, it may be concluded that victim is more likely to have been killed by someone known to her, rather than an unknown stranger/ intruder” (*this is based on both statistical comparative case analysis and with reference to more psychological/behavioural considerations*).

3. *Geographical: Things that relate to where the offender might be located* (e.g. “this assessment of inferred offender movement provides tentative evidence that his address may be in this general area”).
4. *Linking: Determine whether two or more crimes have possibly been committed by the same offender* (i.e. “there is strong evidence to support the hypothesis that the same offender is responsible for both assaults”).
5. *Veracity: Things that relate to accuracy of allegations* (i.e. “the two victim descriptions of their attackers considered above have been analysed within an eye-witness testimony perspective to test the assumptions underlying the significance of identified similarities and differences between the physical descriptions provided”).

### Section B: Verifiability of the claims

Section B referred to the verifiability of each independent claim made by the BIA in the report. These variables were coded as *present* or *absent* for each separate claim:

1. Tangibly verifiable was coded if the claim could be simply measured and verified post-conviction (e.g. age, sex of the offender and criminal conviction).
2. Possibly verifiable was coded if the claim could possibly be verified post-conviction, for example with a psychological test, interview or inspection of the medical/prison records (e.g. motivation, intent and anger problems).
3. Unverifiable was coded if the claim could not be measured or verified post-conviction, such as the offender’s thoughts or feelings during the commission of the crime.

### Section C: Report writer’s main recommendations

1. *Lines of enquiry*: Information the enquiry should follow up on (i.e. “any individual known or suspected of such abuse should be subject to significant scrutiny”; “likely that the offender had sought professional intervention for his mood”).
2. *Prioritization of suspects*: Prioritizing possible suspects or group of individuals (e.g. “individuals aged between 25 and 40 should be treated as priority ONE in respect to suspect prioritisation, with individuals aged 17 to 24 and 41 to 50 assigned to priority TWO”; “Prioritisation of previous police notice and convictions for violence should focus on similar attacks against vulnerable females rather than more reactionary ‘fighting’ resulting from confrontation”).

### Section D: Utility

Utility was based on two separate aspects of the reports: (1) Utility in terms of furthering potential investigative leads and (2) utility in terms of potentially useful behavioural analysis of the crime scene or offence-related behaviour. Determination of utility was based on the overall (joint) value judgement of the first and last authors after an appropriate discussion.

1. *Utility in terms of potential investigative leads*: Utility within the context of investigative parameters, which refers to how practical the information is in terms of investigative utility. How practical is the information to the investigative process, and to what extent can the police use the information for their enquiry?
  - 1.1 *Low utility*: The report was coded as low if conservative estimates were presented with incremental value. If information was provided that the police already know, it was rated as having low incremental value. Recommendations that were difficult to follow up.
  - 1.2 *Moderate utility*: The report was coded as moderate if there were not necessarily new leads for the enquiry but the report supported the testimony of others, involving an interactive process with other professionals and the police.



- 1.3 *High utility*: The report was coded as high if the report presented new leads which the enquiry could investigate, and the findings were easy to understand and follow.
2. *Utility in terms of behavioural analysis of the crime scene or offence-related behaviour*: Information in the reports provide a detailed insight into the crime scene. Gives the enquiry an understanding of the nature of circumstances of the offence. Providing information about what could possibly have happened rather than pointing out who is guilty.
- 2.1 *Low utility*: The report was coded as low if it gave few new perspectives of the case. If the information provided were commonsense and had little incremental value, something the police officers would normally do anyway.
- 2.2 *Moderate utility*: The report was coded as moderate if it provided a good explanation without providing empirical support.
- 2.3 *High utility*: The report was coded as high if it gave a good explanation of the circumstances of the offence and was supported with empirical evidence which was cited.

Source: Authors' own creation

### Corresponding author

Gisli Hannes Gudjonsson can be contacted at: [gisli.gudjonsson@kcl.ac.uk](mailto:gisli.gudjonsson@kcl.ac.uk)

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