

Critical Thinking for Intelligence Analysts & Police Officers: A Path to Improved Criminal Justice

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Introduction

Despite decades of research, case studies, and inquiries, wrongful convictions remain a problem in modern society (Evidence-Based Justice Lab, n.d). Distinct from miscarriages of justice whereby flaws or faults in processes, procedures, or rules inherent to the Criminal Justice System (CJS) lead to the conviction of those who may or may not be factually innocent (Naughton, 2006), wrongful convictions are the criminal convictions of factually innocent person(s) arising from errors relating to facts, or the interpretation of those facts (Helm, 2022). The harms of wrongful convictions extend beyond the perhaps obvious but significant trauma of the exonerated, to the loss of public trust in and perceived legitimacy of the CJS (Gould & Leo, 2010; Zalman, Larson, & Smith, 2011).

Analyses of known instances of wrongful convictions reveal a myriad of contributing factors, including but not limited to incorrect eyewitness testimony, false confessions, cognitive bias, and flawed forensic science (Gould & Leo, 2010; Helm, 2022). This commentary will focus on cognitive bias in police investigations, bringing to the fore a somewhat ill-explored convergence between police officers and criminal intelligence analysts to illustrate how a greater emphasis on critical thinking skills in both roles might reduce the likelihood of persons being wrongfully convicted.

Which Cognitive Biases are Linked to Wrongful Convictions, and what is Being Done About Them?

Two of the most well known cognitive biases affecting police investigations are tunnel vision and confirmation bias (Elaad, 2022; Meterko & Cooper, 2022). Although these terms are often used interchangeably, they are separate, reflecting the tendency of investigators not to be able to see past their working

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hypotheses, and seeking only evidence that confirms that hypothesis, respectively. It is perhaps unsurprising, then, that such biases have been found to be key causes of wrongful convictions (Judson, 2017; Meterko & Cooper, 2022; Rossmo & Pollock, 2019).

In an analysis of 50 instances of criminal investigative failures, including wrongful convictions (43), wrongful arrests (3), unsolved crimes (2), failure to arrest (1), and ignored crime (1), Rossmo & Pollock (2019, p. 797) found that “confirmation bias was present in 74% of all cases, and in 80% of wrongful convictions”. Other cognitive afflictions such as tunnel vision, groupthink, and a rush to judgement also featured, with the authors highlighting the interconnected cause and effect nature of these various factors upon each other, and indeed on other identified factors beyond those in the cognitive bias causal group (e.g., logic failure and flawed forensics).

Law Enforcement Agencies (LEAs) around the world have trialled mitigants to protect investigations from failures due to bias. These include the use of devil’s advocacy, hypothesis testing, and brainstorming in the Dutch Police (Groenendaal & Helsloot, 2015; Salet & Terpstra, 2013), and the implementation of a structured Review Tool to assist independent homicide reviews in the UK Police (Jones, Milne, & Grieve, 2008), each with some positive results. Promising research has also been conducted into the usefulness of generating multiple hypotheses as a key debiasing technique (Dando & Ormerod, 2017; Fahsing, Rachlew, & May, 2023; Rassin, Eerland, & Kuijpers, 2010).

Although not focused exclusively on wrongful convictions, others have tested the use of crime analysts as fresh pairs of eyes on cases to mitigate bias. Kerstholt & Eikelbloom (2007) found that, contrary to expectations, crime analysts were adversely affected in their ability to critically analyse a case by prior knowledge of an existing working hypothesis. That is, they were as susceptible to bias and had a desire to align to the views of the investigative team.

Why Might Analysts be Expected to Mitigate Bias?

The findings of Kerstholt & Eikelbloom (2007), are somewhat ironic, given the emphasis on critical thinking within the field of crime and intelligence analysis (Evans, 2012; Heuer, 1999; Walsh, 2011; Vandeppeer, 2014). As they describe, they expected an analyst to be able to “come up with alternative interpretations, point out unjustified arguments or identify critical information that is missing” (Kerstholt & Eikelbloom, 2007, p. 456). Indeed, a major field of study across the broader intelligence community (i.e. beyond law enforcement) relates to Structured Analytic Techniques (SATs). These are defined as “debiasing techniques”, whose role is to “question intuitive judgments by identifying a wider range of options for analysts to consider” (Pherson & Heuer, 2021, p. 4). Terms such as brainstorming and devil’s advocacy, as referenced in the previous section, will be familiar to many in the world of intelligence analysis as examples of recognised SATs. SATs are intended to act as components of critical thinking,

whereby a person questions both the things around them and the way their own self has interpreted information and reached conclusions.

With SATs and critical thinking at the heart of intelligence analysis, why might analysts struggle to handle common afflictions of bias? One potential explanation rests in their training. Despite the repeated identification of intelligence analysis as a cognitive endeavour (Evans, 2012; Evans & Kebbell, 2012; Heuer, 1999; Vandepeer, 2014), the training remains predominantly technical (Walsh, 2011). Current recommendations for future analytical training also have a heavy technical footprint, mostly focused on the threats and opportunities associated with data and technology, against a backdrop of austerity and diminished resources (Belur & Johnson, 2018; Keay & Kirby, 2017; Keay & Phythian, 2023; Kirby & Keay, 2021). Additionally, despite the recent drive to professionalise intelligence analysis, disparities exist in the training opportunities available to analysts within and between constabularies (Keay, 2023).

Some existing cognitive emphasis is apparent and available to all, for example, the series of SAT Masterclass Webinars hosted by the free-to-join Association of Crime & Intelligence Analysts (ACIA) (ACIA, n.d.). Training offered by other professional associations, such as the International Association for Law Enforcement Intelligence Analysts (IALEIA), also incorporates cognitive elements such as Creative/Critical Thinking and particular SATs into its broader 'Foundations of Intelligence Analysis Training (FIAT)' (IALEIA, 2024). However, as a proportion of other training on offer, critical thinking appears to form but a small part.

One should also not forget the 'rush to judgment' highlighted by Rossmo & Pollock (2019) as a key factor in wrongful convictions. They describe this as jumping to conclusions before all the evidence has been collected and analysed; a type of reasoning known as 'abductive reasoning' (Baggini, 2023). Again, logical reasoning, and the ability to build strong, cogent inferences on true premises is a key tenet of analytical work as documented within official guidance manuals (National Policing Improvement Agency, 2008; United Nations Office on Drugs and Crime, 2011). The importance of expertise amongst analysts in this traditionally philosophical endeavour is set out compellingly by Cusmariu (2023), as he outlines the power of being able to deconstruct an argument into its component parts, and how this intersects with the ability to think critically. However, much like critical thinking, logical reasoning training tends to appear as a feature within a broader set of often technical topics, rather than a deserving subject matter in its own right.

Can Collaborative Critical Thinking Make a Difference?

With growing calls for empirical testing of analytical approaches (Artner, Girven, & Bruce, 2016; Denzler, 2024; Vandepeer, 2014; Walsh, 2011) many SATs have found themselves under the lens of scrutiny for evidence of efficacy. Devil's Advocacy was removed from the latest edition of *Structured Analytic*

Techniques for Intelligence Analysis following the emergence of research indicating a problematic “emotional component” (Pherson & Heuer, 2021, p. 184). Evidence for another technique called the Analysis of Competing Hypotheses (ACH), is mixed. ACH builds on the idea of generating multiple hypotheses, by plotting hypotheses and associated evidence in a table, assigning scores to indicate whether a piece of evidence supports any given hypothesis. In theory, this invites an objective evaluation of which hypothesis is strongest according to the supporting evidence. Some research indicates a positive impact of ACH on analytical output (Coulthart, 2017; Galasso, 2019), whereas others find trouble within the nuance of its application (Dhami *et al.*, 2024), and others still find either no supporting evidence (Denzler, 2024; Whitesmith, 2019), or evidence of the technique being harmful to the analytical process (Wilcox & Mandel, 2024).

What technique has what supporting evidence, however, is not at the core of this commentary. The focus instead is on highlighting the existence of overlapping but separate bodies of research, paralleling the ostensibly intangible, invisible, officer/analyst or perhaps decision-maker/analyst, divide. This point has already been made by Galasso (2019), who sets out the usefulness of SATs within a counter-terrorism investigation, but emphasises their wider applicability in any area of policing (indeed highlighting wrongful conviction research as a key point), for use by analysts and investigators alike. Oatley, Chapman, and Speers (2020) make a similar case from a forensic intelligence point of view, identifying SATs as a potential bridge between different job roles within the CJS.

Much of the existing literature on intelligence analysis in law enforcement focuses on the historic challenges of integrating the former into the latter, for reasons such as cultural resistance (Gurette *et al.*, 2021; James, 2017; Walsh, 2011), the infantilisation of analysts (Atkinson, 2013; Belur & Johnson, 2018; Sheptycki, 2004), and a lack of mutual understanding between analysts and police officers (Brown & Ballucci, 2022; Cope, 2004). Encouragingly, more recent commentary indicates strong progress, with barriers being broken down, officer-analyst relationships significantly improved, and analytical output being recognised for the notable value it can bring (Bland, 2023; Keay 2023). Indeed, the potential now stands for one ‘side’ to learn from the other, with Keningale *et al.* (2024), for example, exploring how the THRIVE vulnerability risk assessment model traditionally used by police officers translates into Intelligence-Led Policing (ILP). It is under this light of improved relationships and shared models that the suggestion of a mutual emphasis on critical thinking skills emerges.

Thinking skills have been described by Evans & Kebbell (2012) as the difference between a technical or descriptive analyst, and one that contributes to problem solving and decision making. Critical thinking is also at the heart of Evan’s (2012) ‘diamond matrix’, emphasising the importance of this element in the work of all types of law enforcement analysts, whether supporting the

frontline or those investigating serious and organised crime. Clearly, these skills have significant applicability to police officers also, given the established causes of wrongful convictions, and the power of elements of SATs in mitigating some of these (Dando & Ormerod, 2017; Fahsing, Rachlew, & May, 2023; Groenendaal & Helsloot, 2015; Rassin, Eerland, & Kuijpers, 2010; Salet & Terpstra, 2013).

The development of these skills in both officers and analysts potentially offers broad-ranging benefits. First and foremost, is the equipment of people with the cognitive tools necessary to best contribute to criminal justice. Evidence from adjacent professions of high-pressure, diagnostic decision making such as medicine and aviation suggest that not only is such training necessary (Nadri, Regalado, Ferris & Zahabi, 2024) but that it results in some success in improving self-evaluation and decision accuracy (Daniel *et al.*, 2017; Ludolph & Schulz, 2017). Linked to this is the opportunity to develop another bridge that will likely lend itself to improved understanding of different roles across policing, and therefore improved relationships between those operating in that environment. Finally, but importantly, is the potential to develop procedures such as Rossmo & Pollock's (2019, p. 833) "risk recipes" whereby those with the requisite skills, whether or not they are a warranted officer, are brought in to review investigations with a view to minimising the risk of wrongful convictions.

The nuances of all these options, including the fundamental question of how these skills might be developed, would obviously require much more thought and planning than there is room for in this commentary, and indeed would be appropriate next research steps to follow. It may be that such attempts, particularly in the event of simultaneous officer-analyst training and/or collaboration to prevent wrongful convictions, would be met with the same cultural resistance as faced by analysts themselves over the past decades (James, 2017), or indeed with scepticism or fear that one is encroaching on the expertise of the other (Belur & Johnson, 2018). However, armed with knowledge of factors improving receptivity to change, such as the existence of strong change champions (Bottema & Telep, 2024), the potential exists for a concerted drive for cognitive skills development to lend itself to improved criminal justice.

Conclusion

Clearly, critical thinking skills are of professional significance to both police officers and criminal intelligence analysts. The importance of developing these skills lends itself not just to the possibility of improved relationships and understanding between roles, but potentially to reducing the likelihood of wrongful convictions occurring, and therefore reducing the risk of unnecessary trauma being experienced by the innocent. Whilst much remains to be explored as to the optimal means of facilitating the development of these skills within

law enforcement, and indeed whether it would result in the hypothesised benefits, the overlaps between literature in wrongful convictions, critical thinking, and criminal intelligence analysis suggest that this may well be a worthy pursuit.

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