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## **The Retrospective Detective. Cognitive Bias and the Cold Case Homicide**

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### **Abstract**

Current research on police psychology in criminal investigations assumes investigative decision-making in cold case (undetected) homicides to be the same as that of live/current homicide investigations, therefore not warranting exploration in its own right. In contrast, the present article suggests that significantly different psychological and contextual factors exist which can facilitate bias in investigator decision-making in cold case (undetected) homicides. These include the biasing effect of inheriting a chain of decisions often made by many previous investigators and the negative framing effect that the term 'cold case' can have on investigator confidence and on their subsequent investigative decision-making. Although the idea that cold case homicide investigation necessitates a different 'investigative mindset' to live cases is only suggested here, a possible agenda for a bespoke research project on cold case investigator decision-making is tentatively suggested.

### **Key words:**

Police investigators; cold case, cognitive bias, homicide

### **Introduction**

For one reason or another some crimes appear unsolvable, for example a stranger on stranger murder without witnesses, CCTV data, or any forensic evidence. Mercifully, most are not. The aim of this article is not to question the balance of priority which police might give to more recent crimes over historic unsolved ones, but to suggest that police investigators need to be made aware of several important psychological differences between live and cold case homicides that can have a negative influence on the investigative decisions that they make. Based on reading homicide case files and

from anecdotal conversations with police investigators, several examples of cognitive bias more likely to influence the investigator of a cold case homicide have emerged, culminating in the conclusion that undetected 'cold' case homicides often necessitate a slightly different 'investigative mindset' to the one propagated by the Murder Investigation Manual (ACPO/Centrex, 2006) developed for use in 'live' (or current) homicide investigations (Atkin and Roach, 2015). It is posited in this article that the term 'cold case' itself, can have a negative influence on investigator confidence with a subsequent negative effect on how a cold case homicide investigation is approached and conducted. This article begins with a short foray into the literature on investigative decision-making.

### **Investigative decision-making**

Criminal investigators are human beings. As such their investigative decision-making relies on the same cognitive systems and processes as the decision-making in other (non-forensic) contexts, honed and selected as useful over evolutionary time scales (Roach and Pease, 2013b). It suffices to say here that psychologists have identified two broad decision-making processes (although admittedly considered an over-simplistic model by some). The first, *System 1*, operates quickly, automatically, effortlessly, associatively and is often emotionally charged (Stanovich and West, 2000; Kahneman, 2003; 2011) and represents what many of us would consider to be 'intuition' or 'habit'. By contrast, *System 2* processing is slower, more effortful, controlled, serial, and is relatively flexible and potentially subject to rules (Kahneman, 2003; 2011). System 2 processing represents what many of us would consider to be 'rational thought' or our ability to think more deeply about things and consider our actions before we act, although the fact is that many of the decisions we make during the course of a day will rely mainly on system 1 thinking (i.e. decisions are intuitive and do not consciously employ formal types of reasoning). This has important implications for understanding investigator decision-making and has been widely researched in relation to live but not cold case investigations.

One of the defining properties of System 1, intuitive thought, is that it comes automatically and relies on '*accessibility*' (Tory Higgins, 1996). Accessibility for example can be the mention of a familiar object (such as tree) or social category (such as

'traveller') and a wealth of associated information related to the category stereo-type comes to mind. The writer is reminded of an occasion when, on asking several officers with over twenty years' police service, 'who commits most of the acquisitive crime on your patch?' all three immediately replied, 'those from the traveller community'. When challenged to qualify their answers, the three were found to be from different forces (one had Leeds city centre as his patch) and only one admitted that the last couple of arrests he had made had been individuals from the traveller community. This is also an example of what is termed the 'representativeness heuristic' identified by cognitive psychologists and behavioural economists, whereby information of little or partial relevance is used as a basis for making decisions (e.g. Bar-Hillel, 1982; Kahneman and Tversky, 1982; Rossmo, 2009; Kahneman, 2011; Roach and Pease, 2013a). In this case a small number of traveller criminals are considered representative of the whole traveller community. On reflection, all three agreed that perhaps their reply had been greatly influenced by recent events and was perhaps subject to exaggeration. Psychologists refer to this type of system 1 thinking as schema theory, whereby for example the mention of the word 'tree', brings to mind associated information (schema) such as 'branch', 'acorns', 'conkers', 'leaves' and 'huggers'.

The train of thought being followed is that when a homicide case is labelled 'cold', it can immediately trigger a specific schema or stream of associated information in an investigator's System 1 thinking, which is likely to have a negative influence on how he/she perceives (1) the importance of a case and (2) whether they feel they are likely to make any progress, having in turn a negative impact on their conducting of the subsequent investigation. My point being that although investigators may be more vulnerable to certain types of cognitive bias in cold cases than in live/current homicide investigations, this is not explored in the research literature or acknowledged in police practice manuals.

In the UK, the concept of the detective as a specialist role requiring specific knowledge, skills, experience and resources (Atkin and Roach, 2015) has evolved over time as part of a wider move away from the traditional view of the 'omnicompetent' police officer (Stelfox, 2008). Although homicide investigation is generally seen to require different skill and knowledge sets to those of more mainstream policing, an omnicompetent view

of the detective is still visible by the fact that the same officers investigate all types of homicide suggesting the continued assumption of the 'omnipotent homicide detective' (Atkin and Roach, 2015). This article explores this by asking the question: are live and cold homicide investigations the same thing? We begin with an important influencer of investigator decision-making, the official guidance available to UK investigators.

### **Investigative guidance in UK policing**

With regard to the conduct of criminal investigations, police in England and Wales are guided generically by *The Core Investigative Doctrine* (CID) and *Major Incident Room Standard Administrative Procedures* (MIRSAP).<sup>1</sup> These are generic guidance in that they can be applied to a host of different types of criminal investigation, unlike for example the *Murder Investigation Manual* (MIM), which is specific to homicides. It is not my intention to criticise the MIM, indeed there is much to commend in trying to make criminal investigative practice and procedures for homicide more systematic and consistent and in providing valuable support to neophyte investigators. Such publications must not be overly-prescriptive as homicide is committed in a wide array of different contexts and scenarios, for example a gangland killing or the killing of a child by its step-parent, and a certain amount of investigator discretion will always be required. Moreover, as murders do not occur in the same circumstances and contexts, even if a definitive guide to investigating all murders was desired it would be unachievable. Instead the guide provides an outline of the necessary procedural requirements and processes (including evidential standards) for those conducting criminal investigations to consult and follow. Such guidance also provides a suitable benchmark by which individual investigations can be judged or reviewed, particularly those considered not to have reached a satisfactory conclusion (i.e. the identification and successful prosecution of a suspect).

A conclusion can be drawn therefore that in policing circles generally, no significant differences exist between the investigation of live/current and cold case homicides, evidenced by the fact that the guidance available (e.g. the MIM) does not itself differentiate between the two (Atkin and Roach, 2015). Put simply, there is no additional guidance or information for investigators of cold case homicides to draw

upon in the MIM, as the same 'investigative mindset' is advocated for both types of investigation, and with no mention made of the potentially different biasing effects on investigators.

### **Cognitive bias and criminal investigation**

The success of a criminal investigation (i.e. where a suspect is successfully identified, charged and convicted) largely depends on the correct decision-making of the investigator (Fahsing and Ask, 2013). We do not, however, inhabit a world which always facilitates such correct or optimal decision-making (see Kahneman, 2011). Optimal decision-making is often influenced by the pressures of the job, such as limited time and the competition for resources. Perhaps unsurprisingly, investigator objectivity has consistently been shown often to be debilitated (Ask and Granhag, 2007; Fahsing and Ask, 2013) and has led to numerous examples of miscarriages of justice (see Rossmo, 2009 for a fuller discussion).

Gollwitzer (1990) suggests that much human decision-making and consequently behaviour is 'goal directed'. That is, we humans make decisions with specific goals in mind and there is little doubt that criminal investigators are any less human in this respect. Building on Gollwitzer and colleagues' early work (Gollwitzer, Heckhausen and Steller, 1990), Fahsing and Ask (2013) tested the cognitive performance of criminal investigators' decision-making across different stages of goal-directed behaviour. They found that when investigators were in the 'deliberative mindset' they were more open-minded and generated a greater number of hypotheses (for example about what might have happened and why) than when they adopted a more closed and narrow 'implemental mindset'.

Although the research literature on investigative decision making in homicide investigations is replete with examples of how different types of cognitive bias, such as '*tunnel vision*' (Rossmo, 2009; McLean and Roach, 2011), '*confirmation bias*' (Rossmo, 2009; Roach and Pease, 2013) and the '*representativeness heuristic*' (Rossmo, 2009; McLean and Roach, 2011; Roach and Pease, 2013a) can and do negatively influence criminal investigations, it remains assumed by police and academics alike that:

- (i) the same types of investigative decision are made irrespective of whether an investigation is live, historic or cold and then;
- (ii) exactly the same types and contexts for cognitive bias exist that pose the same risks to both live and cold homicide investigations.

Research on cold case investigation is sparse when compared with that of live homicide investigation (Atkin and Roach, 2015). As Allsop (2012) states, the little that does exist tends to fall into two genres: practical resources for investigators (such as Silvia Pettem's 2013 book *Cold Case Research: Resources for Unidentified, Missing, and Cold Homicide Cases*) or 'true murders for an interested public' (p. 179). To the writer's knowledge, there has to date been no systematic study of investigative decision-making in cold case investigations and the different effects of cognitive bias on cold case investigators. By focusing on the as yet neglected area of decision making in cold case investigations, this article calls for research to question the assumption that cold and live investigations simply require the same thinking and so are vulnerable to the same cognitive bias.

A first question when looking at cognitive bias in cold case investigation is whether such cases are more likely to encourage an implemental rather than deliberative mindset. In this article the answer posited is yes. Next, follow some suggestions for how and why this is likely to be more the case for investigative thinking and decision-making in cold cases, compared with that of live homicide investigation. We begin with the common perceptions of the prefixes 'live', 'historic', and 'cold', when placed in front of 'homicide'.

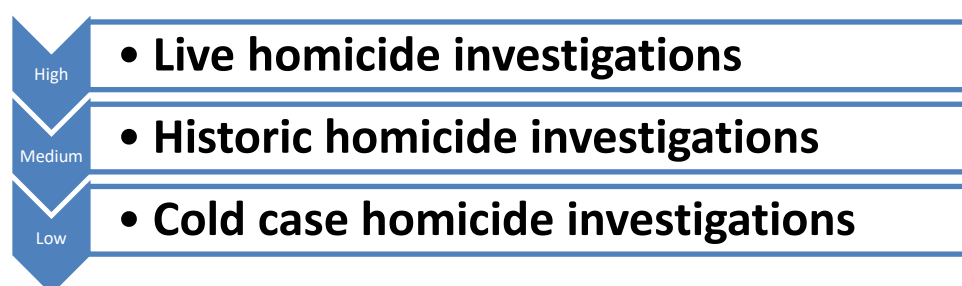
### **Live, historic and cold homicide investigation. Substantively or semantically different?**

A logical place to start is with what live, historic and cold homicide cases are believed to mean, although these are not of course mutually exclusive or invariant over time. In fact, this is part of the argument: if investigators want to place a homicide into one of these three categories and keep it there, this will influence the mindset employed. However, when commonly categorised, a *live* homicide (although seeming an oxymoron on first hearing) unsurprisingly refers to a current or recent case being investigated, whereby *cold* refers (arguably unsympathetically) to those cases where the investigation has not yielded a satisfactory conclusion (i.e. the killer has not been prosecuted or more

commonly is yet to be identified). Although these often appear as two discrete categories created for investigative purposes, one must not forget that all cold homicides begin as live cases and some cold cases become live again, for example if a new witness comes forward or new forensic evidence comes to light. Use of the term *historic* homicides remains less defined, but generally is taken to be those cases where suspects are identified after a significant period of time - for example, in the case of Peter Tobin, where the gardens of his previous homes were searched for further victims after he was identified as a serial murderer. More recently the term 'historic crime' has become perhaps more synonymous with past 'child sexual exploitation' (CSE) in the minds of the British public, probably as a consequence of the high number of 'historic' investigations stretching back to the 1970s, which often involve prominent media celebrities of the time such as Operation Yew Tree incorporating many of the numerous Savile enquiries.

Deciding whether a homicide is live, historic or cold when understanding investigator decision-making is more than semantics. It is important because it is likely to affect the investigator's initial level of confidence with regard to achieving a satisfactory investigative outcome. Figure 1 shows the logical flow of investigator confidence across all three different categories of homicide investigation.

**Figure 1. Investigator confidence in different types of homicide investigation**



Let us hypothesise that all investigators begin live homicide investigations with the belief that they will get a 'result', so investigator confidence in all live investigations should be highest initially. Given the live homicide clearance rate (usually around 92% in the UK), this confidence is well founded. For those beginning an investigation of historic homicide, although initial confidence is unlikely to be high, if investigating allegations against a likely suspect it should be reasonably high as there is a prime



suspect to investigate. As Davis et al. (2014:375) point out, in the USA, although there is no 'universally accepted metric for when a case becomes cold', one year is seen by many to be the boundary between live and cold cases of homicide. In the UK, Innes and Clarke (2009) suggest that a case becomes cold when all viable leads have become exhausted. However a case may be defined 'cold' the fact that it is referred to as such is likely to have an immediate effect on those charged with investigating it. By definition, a cold case is likely to be considered the most difficult type of investigation to solve, with many investigators likely to have tried in the past but to no avail. Here somewhat unsurprisingly, it stands to reason that investigator confidence of success is likely to be much lower than for 'live' and 'historic' cases. This is reflected perhaps in the fact that solvability issues appear to be more important in determining the degree of resources given to a cold case investigation, with those promising more forensic leads prioritised over those cold cases with little or none (Atkin and Roach, 2015; Allsop, 2013). The most immediate (but not exhaustive) investigative differences between live and cold homicide cases are presented in Table 1.

**Table 1. Investigative differences in live and cold homicide investigations.**

<b>Live cases</b>	<b>Cold cases</b>
Fresh	Previously investigated (possibly many times)
Real time	Long interval in time since the crime
High optimism	Low optimism
Greater chance of reliable witnesses	Less chance of reliable witnesses
Good chance of forensic evidence	Less chance of more forensic evidence
Control over gathering and storing of evidence	Little control over storing of past evidence
Greater utility of public appeals	Little utility in public appeals
Pressure is immediate	Pressure is less but constant
Offender likely to be alive	Fair chance offender is deceased

Table 1 suggests the level of investigator control in live homicides to be much greater than for cold cases, primarily because it appears, at face value at least, that the cold case investigator has little more to work with beyond that provided by previous

investigators. Turning back the clock and beginning the investigation afresh is not an option, so the cold case investigator's lot may not seem a happy one, with the likelihood of a successful detection looking slim.

Framing is the passive acceptance of the formulation given (Kahneman, 2003). The frame for cold case homicides suggests that by definition these are difficult if not impossible cases to solve, barring for example a recent breakthrough in forensic evidence. If this has not occurred, then the psychological effect on an officer or officers charged with investigating a cold case is likely to evoke pessimism and far more negativity than that for live and historic investigations. Put simply, the psychological frame for cold cases appears to be one of narrow investigative control with the investigative direction contingent on decisions made in previous investigations. A related issue is whether investigators are likely to be equally pessimistic about all cold case homicides that they are asked to investigate and whether this has the same effect on investigators at the initial point of allocation irrespective of the cold case. An investigator assigned to a cold case homicide may not perceive it (or even approach it) in the same way if it involves a previous gross miscarriage of justice, as in the murder of Lesley Molseed, where the innocent, Stefan Kiszko, was imprisoned for sixteen years until eventually being exonerated in 1992 (Roach and Pease, 2009) as where a case does not involve miscarriage of justice. Similarly an investigator with little success in cold case investigations to date is more likely to be pessimistic about success in the next one.

A brief discussion of perceptions of 'solvability' and how they can influence investigator confidence in cold case homicides is presented next.

### **Solvability and investigator confidence in cold case homicide investigations**

Dugan et al. (1999) found that although in the 1960s the vast majority of victims of homicide knew their killers, by 1992 in the USA this had dropped to 53% making homicide cases harder to solve and with a knock-on effect on clear-up rates and therefore a rise in the percentage becoming undetected, cold cases. 'Stranger on stranger' murders are often the most difficult to detect when a firearm has been used (Ousey and Lee, 2009) or where the homicide occurs in a high crime rate area (Borg and

Parker, 2001). Roach (2012) in a study of two 'long interval detections' (where the homicide was solved decades after the crime by a DNA hit which identified the killer), found that detection had been severely hindered as both offenders had moved away from the area of the crime soon after the murder.

Davis et al. (2014), from a study of 189 solved and unsolved cases in Washington D.C., found that new information from witnesses or information from new witnesses (often criminal informants) was cited as the most common reason for case clear up. For cold cases specifically; crime context, initial investigation results, the basis for opening a cold case, and cold case investigator action, were found to be the factors that best predicted whether a case would be solved, and not new forensic evidence.

We turn next to the important influence of the interval of time since a homicide on investigator perceptions of solvability.

### **Cognitive bias, time and the investigation of crime**

Although admittedly only hypothesised here, one likely biasing influence on cold case investigators' decision-making is how confident they are of being able to get a satisfactory outcome (e.g. identifying the offender) when there has been a significant time interval between the original crime and when an investigator is asked to revive the case. The time since a crime has occurred is likely to impact on investigator confidence in achieving a successful outcome.

Investigator (and force) confidence in a successful outcome is likely to decrease as time passes, with the cold case investigator, for example, likely to be far less confident of achieving a satisfactory outcome after a two-year interval since the original crime (i.e. a detection) than the investigator of the same crime 6 months after it occurred. This is mitigated if there is a major shift in its perceived solvability, when for example a significant witness comes forward, the discovery of new forensic evidence (e.g. DNA) or the offender confesses.

The effect of time on investigator confidence could be perceived as obvious and irrelevant, and as unrelated to investigative decision-making as all homicide

investigations must be carried out in the same way irrespective of whether they are live or cold. As stated earlier, the purpose of this article is to question this assumption. The hypothesis posited is that cold case investigations demand a different investigative mindset because they are in many ways very different to live investigations. The effect of elapsed time is not the only important influence of potential bias here on investigator (and force) confidence in cold case homicide investigations. Box 1 presents a brief thought experiment:

### **Box 1. Framing effects and investigator confidence**

Imagine that you are a police investigator given the cold case homicide of a young woman who was killed two years *previously*.

1. Based on this information how confident do you think that you would be that you were able to solve this case?
2. You quickly discover a new potential witness but no new forensic evidence. Now how confident do you think that you would be that you were able to solve this case?
3. Upon reading the case files you see that a number of great detectives have worked on this case in the past. Now how confident do you think that you would be that you were able to solve this case?
4. A number of live homicide cases come in at the same time with which you must be involved and you are also told that few resources are available to you for this cold case investigation. Now how confident do you think you would be that you would be able to solve this case?

**How confident are you that you can progress this investigation in any way?**

The thinking hopefully stimulated by Box 1 is that investigator confidence can be easily influenced by the inclusion of new information, for example discovering a new witness is more likely to increase confidence, whereas realising that some great detectives have tried to solve the case in the past is likely to reduce it. Investigator confidence, like the mortgage rate, can go up as well as down as the perception of a case changes. How an investigator perceives a cold case can be influenced by a host of different variables, such

as whether the case was previously investigated by a renowned detective, which in turn can affect their level of confidence in achieving a successful outcome. Put bluntly, if an investigator believes a case to be unsolvable before they have looked at it, then it most certainly is. Through this framing, they become a victim of confirmation bias by simply confirming investigative decisions made by previous investigators.

### **Confirmation bias and the cold case homicide review**

Confirmation (or verification) bias is arguably the most researched influencer of investigative decision-making, whereby people tend to seek information that supports an existing belief over that which refutes or challenges it (Evans 1989; Nickerson, 1998; Kahneman, 2011). It leads to *selective information searching* (see Ask and Granhag, 2005; Snyder and Swann, 1978; Wason, 1968) where information supporting a favoured hypothesis is prioritised over that which does not support it, producing a biased interpretation of the available information (e.g. Snyder and Swann, 1978; Wason, 1968). Here, information available is interpreted in ways that are partial toward existing beliefs (Ask and Granhag, 2005). Seen in an investigative context, the effects of confirmation bias on investigative decision making is well documented, replete with examples of where it has played a major part in gross miscarriages of justice, such as that of Stefan Kiszko (Roach and Pease, 2009) mentioned earlier. Confirmation bias has led to other similarly disastrous investigative failures, such as that of Peter Sutcliffe, known as the Yorkshire Ripper (e.g. Rossmo, 2009; Roach and Pease, 2009). Stelfox and Pease (2005) identify confirmation bias to be the common result of adopting an implemental mindset, for example when investigators jump prematurely from the process of 'suspect identification' to 'suspect verification' (see Rossmo, 2009, for a very good account).

To date, research into the effects of confirmation bias on investigative decision-making has only focused on how live investigations are affected and not the probable cumulative effect of a succession of investigators working on the same undetected case. Confirmation bias can adversely affect investigator decision-making in cold cases in relation to the reviewing of cold cases and understanding what is actually meant by the term 'review' in the first place. Turner (2005:3) defines the investigative review process as:

A constructive evaluation of the conduct of an investigation to ensure an objective and thorough investigation has been conducted to national standards which seeks to ensure investigative opportunities are not overlooked and that good practice is identified.

That Turner's (2005) definition captures well the necessity for and function of an effective review process in criminal investigation is not disputed here, but rather whether current review processes are setup exclusively with live investigations in mind and so do not fit well with cold case investigation (Atkin and Roach, 2015). The current case review process in England and Wales has several stages:

1. Management intervention – review within 24 hours to check that nothing has been missed and confirm staffing.
2. 28 day review or progress review – formal review with a full team utilised
3. Thematic reviews
4. Closure review
5. Peer reviews
6. Cold case reviews
7. Multi-agency reviews (e.g. serious case reviews; MAPPA).
8. Hot de-briefs

(Marshall, 2012:56).

Taken as a whole the current review process appears to be quite thorough but by the time a case is considered cold that thoroughness does not appear to be equally applied, with the review of a cold case described thus, 'If no viable lines of enquiry are left then enter 'investigative maintenance process' (Fox, 2007:141).

What the 'maintenance process' actually consists of is not elaborated on with, for example, little guidance given about the methodology to be adopted in live homicide cases and none given at all about how to prepare for and review cold cases (Atkin and Roach, 2015). Whether reviews of cold cases are actually often proper reviews at all is therefore debatable. Whether the frame for cold case review is far too narrow is not. I suggest that this point is important to cold case investigations for several reasons. First, a review of a cold case generally means a review of all the previous reviews and sometimes just the most recent one. If proven to be the case, then any confirmation bias

in an initial investigation is likely to remain unrecognised by those 'reviewing' the same case evidence years later. Second, and perhaps most obvious, is that the reviewing officer with no new leads to follow is likely to agree with the decision-making of the initial investigator providing the correct procedures have been followed. As was previously suggested, nothing is more likely to excite confirmation bias than the perception of cold cases as 'unsolvable'.

Third, as the cold case investigator has to rely on the evidence collected by the initial investigator, they will be in danger of succumbing to a biased interpretation of the information available to them, particularly if the case is a high-profile, famous one then they will have little information with which to refute any hypotheses held by the initial investigator. One can merely speculate here on the objectivity in which investigative decision-making and evidence is recorded by investigators for future investigators to review/use (Atkin and Roach, 2015). Research has consistently shown that we are not objective purveyors of our world (Rossmo, 2009) rather we are influenced by our experiences and expectations (Heuer, 1999). Moreover, what we remember depends on what we believe (Begley, 2005) and the cold case investigator that remembers a case from the media coverage years before is unlikely to be as objective as the one with no prior knowledge of the case – erroneous or otherwise.

Cognitive bias can affect investigators of cold case homicides in a number of different ways to live homicide investigations. One other example of how such bias can have an effect on cold case investigators is how they justify working on (or not working on) a cold case in the first place. Allsop (2013:373) presents some interesting research on the 'motivational vocabularies' used by cold case investigators which she distils down to:

- (1) Because we can
- (2) Because victims and families deserve it.
- (3) Because justice deserves it.
- (4) As a preventative measure.

The obvious question to be explored is the influence of cognitive bias and other variables on whether an investigator will use one of Allsop's motivational vocabularies to justify the resources necessary to conduct a cold case investigation or not, although this is beyond the scope of this article.

This article aims to inspire research in the area of investigative decision-making in cold cases, or at least to provoke some thinking about it. To this end, it concludes with a brief and tentative agenda for further research.

### **Cognitive bias and the cold case investigation: A tentative research agenda**

To re-state the central argument: the cognitive influencers on investigative decision-making are arguably different in form and intensity in live and cold case homicide investigations and warrant empirical testing and exploration. They are not the same and so do not require exactly the same thinking and approach. The following represents a tentative research agenda:

1. Research that focuses on the different priming effects that different types of homicide investigation can have on investigators because the words 'live' (current), 'historic', and 'cold case' are more than likely to prime investigators into certain ways of thinking (i.e. framing). What is needed is research which identifies this framing effect by which a sample of investigators are asked questions relating to their initial thoughts when tasked with 'live', 'historic' and a 'cold case' homicide scenarios. The level and frequency of which system of thinking is employed needs to be understood.
2. Research to identify the variables which affect investigator confidence most in cold case investigations in order to generate a better understanding of how decisions are made and influenced in cold case homicide investigations.
3. Research which focuses on what is actually meant by a 'review' in cold cases, such as what a review usually entails and the common features necessary to trigger a full 'root and branch' review.
4. Research to identify whether a difference exists in the way that investigators think about and approach cold cases that are simply undetected compared with those which previously led to a miscarriage of justice. One presumes the latter will be more likely to be reviewed in the fullest sense of the word.
5. Cold case reviews are normally conducted by teams and not individuals. Research is needed that focuses on how group dynamics play a role in inadvertently encouraging cognitive bias, for example a team member opining that 'there is no point in trying to solve this case', is likely to negatively affect the



confidence and conviction of the rest of the investigation team, particularly where the pessimist is the senior investigating officer.

6. Research exploring the biasing effect of prior knowledge of a case on cold case investigators. Roach and Pease (2009) suggest that the only way to achieve an objective approach to a cold case review is to bring in officers with no prior knowledge of it at all, either from another force or, even better, from another country.

This agenda is as tentative as it is incomplete. I hope to have warmed the thinking around cold case decision-making and moved on the research agenda a little with this brief discussion. Please do contact me for further information on these issues.

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<sup>1</sup> Theses and guidance on specific forms of homicide (e.g. child) are grouped together by the College of Policing under Authorised Professional Practice and can be found at <https://www.app.college.police.uk/app-content/major-investigation-and-public-protection/homicide/>? (Accessed on the 12<sup>th</sup> December 2016).