



The Influence of Interview Style on SIOs' Responsiveness to the Suspect's Alibi

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Abstract

In criminal investigations, it may happen that the police will collect and use information that is actually incorrect. Making sure that such error is detected and corrected is part of the legal and operational burden placed on any investigating officer, but especially on the Senior Investigative Officer (SIO). This present study explored to what degree different interview styles will affect SIO decision-making, since interviewing witnesses and suspects is an important source of information for the police. A sample of 115 Dutch and Norwegian SIOs therefore performed an online vignette task. They read about a fictitious, but realistic case and received a report of an interview with the suspect. In this interview, the suspect had provided an alibi for one of the pieces of information that were disclosed to her and that actually was an incorrect piece of information. In the report the SIOs received, the interviewer either picked up the alibi (adaptive style), reacted indifferently to it (neutral) or discredited it right away (maladaptive). A significant effect was found for interview style being associated with SIOs' responsiveness: the SIOs who read the adaptive or neutral interview report were significantly more responsive to the alibi than those who read the maladaptive report. The implications of this finding are discussed.

Keywords Criminal investigation · Decision-making · Investigative interviewing · Cognitive bias · Police · Senior investigative officer

Introduction

In criminal investigations, despite the best intentions, it may happen that the police will collect and use information that is actually incorrect. Witnesses, for example, may be mistaken (Lindsay et al. 2007; Toglia et al. 2007) or may have a variety of reasons to not tell the truth (De Zutter 2017; McNamara et al. 2012). Other types of limitations linked to human cognition, such as anchoring or an availability bias in the interpretation of evidence, do also occur in criminal investigations (Ask and Fahsing 2019; Cooper and Meterko 2019; Dror and Hampikian 2011; Huang and Bull 2021; Meterko and Cooper 2022). It is thus important that potential misinformation is identified and corrected as

soon as possible. Otherwise, police investigators may make ill-informed decisions leading to wrongful investigative directions, ultimately resulting in guilty perpetrators being overlooked, and, even worse, in innocent suspects being convicted. See Meterko (2022) for a discussion of several real-life examples of wrongful convictions of this kind. Making sure that these risks are reduced to a minimum is part of the legal and operational burden placed on any investigating officer, but especially on the officer primarily responsible for enforcing the overall investigative strategy — the Senior Investigative Officer (SIO) (Vaughan et al. 2022).

Cognitive Bias and the SIOs' Role

This task of the SIO is however a complex one. Many researchers have shown that criminal investigations are in particular prone to confirmation bias, defined by Nickerson (1998, p. 175) as “seeking or interpreting evidence in ways that are partial to existing beliefs, expectations, or a hypothesis in hand”, and to other cognitive biases, defined by Meterko and Cooper (2022, p. 101) as “a variety of inadvertent but predictable mental tendencies which can impact perception, memory, reasoning, and behavior”.

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In their recent review, Meterko and Cooper (2022) describe thirty studies that have examined the role of cognitive biases in relation to investigating crime. Their findings are that within criminal investigations, such biases may not only exist simply as a result of how the human brain is ‘wired’, but that contextual and case-specific factors at stake also may contribute to the risk of biases to occur within criminal investigations. They mention time pressure, organizational norms and type of training as examples of contextual factors in this domain. Case-specific factors are, for example, the severity of the case, the type of evidence gathered and ‘decisional tipping points’ within an investigation.

Fahsing and Ask (2013) have researched such tipping points within criminal investigations. They found that as soon as a suspect is identified, arrested or charged, investigators are inclined to be in a more narrow-minded case-building mode instead of a more open-minded, hypothesis-testing mode. Such a thinking mode may make it less likely that the outcome of an interview with a suspect will receive the scrutiny it requires.

Since SIOs are ‘at the heart of the operation’ and leading the investigation, they are a key factor in relation to the presence, absence, detecting and correcting of any cognitive biases within the investigation in at least two ways: (1) their decisions steer the investigation; in other words, they are at the root of potential tipping points; and (2) their leadership style may affect the contextual factors at stake. In several countries, such as the UK, Norway and The Netherlands, these insights have led to efforts being put in SIO training and their role descriptions to increase such awareness (Fahsing et al. 2022; Groenendaal and Helsloot 2015; Salet and Terpstra 2014; Vaughan et al. 2022).

Yet, Milne et al. (2020) found that both the quantity and quality of studies involving SIOs are very limited up-to-date. To illustrate this, of the thirty studies mentioned in Meterko and Cooper’s review (2022), only a few have SIOs involved. Groenendaal and Helsloot (2015), for example, interviewed ten SIOs with regard to ‘tunnel vision’, and Ditrich asked some Austrian SIOs (“[a] number ... too small to allow ... [quantitative] evaluations”; Ditrich 2015, p. 156) which cognitive fallacies were to their opinion common in criminal investigations. Furthermore, Fahsing and Ask’s (2016) study is apparently the only study that actually measured performance and that explicitly mentions SIOs were part of their — larger — sample.

Suspect Interviews

One of the SIOs’ tasks is monitoring both the process and the content of the interview with a suspect: which information has been gathered, and has this been done properly, in order to achieve best evidence (Vaughan et al. 2022). Ensuring appropriate suspect interviewing practice is essential as this core police

business has been found to be fertile soil for cognitive biases and — as a result — a root cause of miscarriages of justice (Gudjonsson 2021). For example, confession-seeking, accusatory interrogation techniques, including ones that involve incorrect evidence/information (which the perpetrator might recognize as such), may cause innocent (rather than guilty) suspects to confess to crimes they did not commit (Cabell et al. 2020; Drizin and Leo 2004; Gudjonsson 2003; Kassin and Kiechel 1996). SIOs should be the first party in the judicial chain to monitor and correct such processes. In order to do so professionally, the SIO has to consider factors related to both the process and the content of the interview. With regard to process, we refer here to the topic of whether the interview was conducted properly that is in accordance with the relevant national guidance and the research base. With content, we refer to the quantity and quality of the information obtained.

With regard to the process, it is known that guilt-assuming, accusatory interrogative practices may lead to information of poor quality being obtained (Gudjonsson 2021). The acknowledgement of this has led to several major initiatives to change interrogation/interview practices in countries such as — again — the UK, Norway and the Netherlands (Bull 2018; Bull and Rachlew 2019; Clarke and Milne 2016; Fahsing et al. 2016; Van Beek and Hoekendijk 2016). More recently, such changes are also being endorsed, or at least partly so, in other parts of the world (Meissner et al. 2022; United Nations 2021a, b). Within this new paradigm, a rapport-based, non-coercive and open-minded information-gathering approach is being embraced (Bull 2019; Hartwig et al. 2016; Meissner et al. 2022; Milne and Bull 1999).

Despite these efforts, it seems, however, that much work still remains to be done. Evaluations of interview performance show police mind-sets seem to be improving (Miller et al. 2018), but it would be naive to think that this is always reflected in their interviewing practice. Officers often still lack some interview skills (Clarke and Milne 2016; Leahy-Harland and Bull 2017; Walsh and Bull 2015), especially the more complex behaviours (Griffiths et al. 2011). Typically, officers also lose skills over time when no updates or refresher training are given (St-Yves et al. 2014; Griffiths et al. 2011), or fall back upon more confrontational, old-school interview styles when suspects are non-compliant or less cooperative (Izotovas et al. 2021; Verhoeven 2018).

Strategic Disclosure of Information

With regard to the content, a strategic disclosure of information (i.e. either late or gradually in the interview instead of early, and in a structured and controlled manner) is one of the strategies that is recommended to use in interviews with suspects. Such a strategy is effective (Oleszkiewicz and Watson 2020) in terms of gathering more information (Tekin et al. 2016; Walsh and Bull 2015), helping officers to keep

an open mind (Fahsing and Rachlew 2009), assessing the veracity of this information (Dando and Bull 2011; Dando et al. 2015; Sandham et al. 2020), detecting lies (Hartwig et al. 2005) and inconsistencies (Clemens et al. 2011), and in obtaining admissions (Tekin et al. 2015) and confessions (Bull and Soukara 2010).

An implicit underlying assumption of such strategic disclosure of information however is that the information to be disclosed is as correct as possible (Van Beek et al. 2021), since disclosing false information to suspects is related to obtaining false confessions from innocent suspects (Cabell et al. 2020; Gudjonsson 2003; Kassin and Kiechel 1996) and to guilty suspects thinking that the interviewer has little or no valid information (Kebbell and Daniels 2006). In experimental studies regarding strategic disclosure, one can be sure of this, as the ground truth is known. In real life, interviewers and SIOs may believe that the information to be disclosed to the suspect is correct information, when one or more aspects of it are actually incorrect. Van Beek et al. (2021) found that when trained police interviewers unwittingly disclosed incorrect information to a suspect, only 22% of the interviewers responded adaptively when the suspect refuted the information and provided new, contrasting information. That is, they reflected back to the suspect that they picked up this new information provided by the suspect and that they would take this into account in the ongoing investigation. A majority of 70% remained neutral. That is, they kept the suspect 'in the dark' about what they thought of, or would do with, the new information. The final 8% acted maladaptively, by discrediting the new information immediately, for example by telling the suspect that they must be lying.

Thus, when assessing information that is disclosed to suspects and assessing the suspect's responses to this information, SIOs cannot simply rely on the assumption that this information will be valid and reliable. They need to assess as well all the factors that were at stake with regard to both the interview process and the content of the information that was exchanged.

Aim of the Study

So, given that (1) criminal investigations are inherently prone to cognitive biases, (2) this especially may happen around the interviewing of the suspect, (3) SIOs play a major role in (a) preventing that errors will be made within criminal investigations and in (b) detecting and correcting potential error, but yet (4) are an under-researched population thus far, this study aims to fill this gap. Hence, the main research question of this present study is what happens when SIOs are confronted with the results of an interview wherein the suspect puts forward a reasonable alternative explanation — e.g. a checkable alibi — during the interview, in response to a piece of information that was disclosed by the interviewer.

Obviously, this new information should be picked up, explored and cross-checked in order to control for its reliability. But how good are SIOs at picking up such information from interviews? Might a lack of response or an improper response from the interviewer influence the SIOs' judgement and decision-making? In an ideal situation, SIOs should attune to this new information regardless of how the interviewing officers reacted. Such an intervention might be absolutely crucial to the quality and the outcome of the interview and ultimately to the investigation as a whole. Therefore, it is the scope of the present study to explore to what degree different interview styles will affect SIO decision-making. More specifically, does it matter whether the SIO reads a comprehensive report of an interview in which the interviewer responds either in an (i) adaptive, (ii) neutral or (iii) maladaptive way to a suspect who disputes a certain piece of information and presents a new, contrasting piece of potentially acquitting information instead?

Method

Participants

Senior Investigative Officers (SIOs) of several police forces in The Netherlands and in Norway participated. They were recruited through snowball sampling in the professional network of the first, third and fourth authors of this manuscript.

The task of being the SIO entails being the senior who is appointed to steer the investigation: the officer thus that is supposed to have an oversight over the investigation and has the mandate to make decisions regarding further investigative actions. In criminal investigations in The Netherlands, this role is fulfilled by Operational Experts or Operational Specialists who have received extended training in tactical leadership. The Operational Expert has an associate degree, commonly in criminal investigation. The Operational Specialist has a master's degree, commonly the Master of Criminal Investigation or the Executive Master in Tactical Policing. Both degrees can be obtained at the Netherlands Police Academy. Similarly, in Norway, the participants were all highly experienced detectives undertaking a master's degree in Criminal Investigation Management at the Norwegian Police University College. All of them with experience in running major crime investigations.

One hundred fifteen of the 119 SIOs who responded to our request completed the questionnaire (described below), 92 of them being Dutch and 23 Norwegian. Their mean age was 44.81 years ($SD=9.92$ years, median = 43 years; range 28 to 65 years; 2 missing cases). Their mean experience in policing in general was 21.29 years ($SD=12.18$ years, median = 19 years; range 1 to 49 years; 3 missing cases) and in investigating crime, it was 12.89 years ($SD=8.76$ years,

median = 11 years; range 1 to 44 years; 3 missing cases). Eighty-four participants were male and 31 female.

Materials

An online questionnaire was created at Questback.com. This questionnaire contained three parts: an introduction, a middle section that contained a vignette task and a concluding section.

The introduction started with a welcoming text and also contained an instruction for the vignette task and an invitation to participate. It informed the participants that participating would take approximately 25 min and that the findings would be made public only in an anonymous and aggregated manner. At the end of the introduction, participants were asked to provide their birth month. The reason for this will be explained in the “[Design and Procedure](#)” section.

The second part contained a vignette task that was divided into four stages (see Fig. 1 for an overview). At stage 1, the participants were presented with a police report that described the findings thus far in an ongoing, fictitious yet realistic criminal case: a teacher claimed his new, expensive smart phone was stolen out of his office. In response, the police secured some CCTV footage and ICT data and interviewed a number of witnesses. These actions resulted in the identification of a suspect, a student of the teacher. Yet, the collected information was still ambiguous to the extent that one could not be sure whether she was really guilty or not.

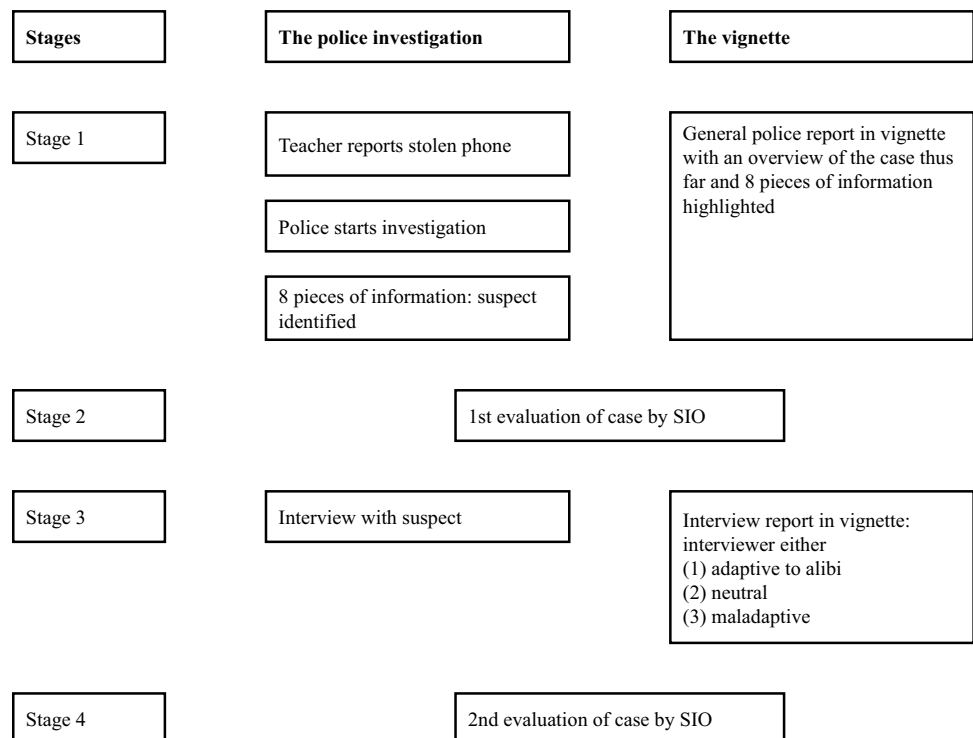
At stage 2, the participants were presented eight pieces of information extracted out of the police report. At this stage, they were asked to rank these pieces in an order of most incriminating for the identified suspect to least incriminating (ranking task 1). A separate text box was provided so the participants could explain their choices.

At stage 3, a comprehensive report was presented of the interview with the suspect. This report showed which questions the police interviewer had asked the suspect, her responses to these questions and the subsequent reactions of the interviewer to her replies. In this interview, the interviewer also gradually disclosed to the suspect the eight abovementioned pieces of incriminating information. These challenges, the way the suspect responded to them and the reactions of the interviewer were also mentioned in the report.

The interview report was constructed in such a way that the suspect confirmed that seven of the eight pieces of information were accurate. She claimed however that one piece of information, extracted from a witness statement, was *inaccurate*: when asked about — and challenged with — this piece of information, she (1) tells the interviewer that in her opinion, this witness (a classmate of her) is not a reliable person, (2) that this witness must be mistaken or lying, and she (3) provides the interviewer with an alibi to substantiate her claim. This alibi contained certain details that could be scrutinized further.

At stage 4, the participants were presented a second ranking task. At this stage, the eight pieces of incriminating information were shown again, with again the task to rank these from most to least incriminating, but now taking into account the

Fig. 1 Overview of the vignette



statements of the suspect as well. In a separate text box, the participants could explain any changes they made between ranking task 1 and task 2. They were also asked to mention which of the eight pieces were in their opinion — and with a maximum of three — in need of further investigation, and, if so, why. Again, in a text box, these choices could be explained.

The final part of the questionnaire consisted of some demographic questions. We asked for gender, age, regional unit, current job, experience in policing, experience in crime investigation and nationality.

The questionnaire was originally created in Dutch by the first and third authors and then translated into English. The second and fifth authors, native English speakers, then corrected the English version. The fourth author, a native Norwegian speaker, finally used the English questionnaire to create a Norwegian version. Some adjustments and double checks then were made ‘back and forth’ to ensure the content of all three versions was similar and all translations were correct. The participants thus received a questionnaire in their first language and had access to it through a link sent to them via email.

Design and Procedure

To address our research question, we made use of a between-subjects design with *interview style* being the independent variable and several measures of *SIOs’ responsiveness* being the dependent variables.

Interview style was operationalized by the interviewer in the vignette being either *adaptive*, *neutral* or *maladaptive* in response to the suspect’s alibi. To recapitulate, Van Beek et al. (2021) found that police interviewers differ in their adaptiveness towards new information they receive from a mock suspect if this new information contradicts information that was already collected earlier on in the investigation. Some responded *adaptively*, by reflecting back to the suspect that they took in the new information and that they will act upon it to verify/falsify it; a majority responded in a *neutral* way, by not giving any feedback in response to what they will *do* next with the new information; and few responded *maladaptively*, by immediately discrediting the new information. See Table 1 for an example of each category.

The vignette the participants received was either of this adaptive, neutral or maladaptive nature. In each version, the comments of the interviewer to the parts of the interview where the suspect explains one of the pieces of information is inaccurate were respectively typically adaptive, neutral or maladaptive comments.

The distribution of the participants to one of these three conditions went via the abovementioned birth month question in the introduction stage of the questionnaire. The question was presented to them as a check on whether they were indeed human, and not a computer. In reality, we kept them blind to the fact they were directed towards different versions of the vignette. Participants born in January to April

Table 1 Example of a difference in interviewers’ adaptiveness

Interviewee’s statement	Interviewer’s response in the adaptive condition	Interviewer’s response in the neutral condition	Interviewer’s response in the maladaptive condition
Well, I have already told you I was checking prices on the internet, but it was not because I had something to sell. What Johnny has said isn’t true. He is lying	Lying. Okay, earlier on you already told me that according to you Johnny Peters isn’t a reliable person. You say you haven’t met him in that break and that Kenneth Lee, Ronald and Sandra could confirm that. We have to check this	Lying. Yet Johnny Peters doesn’t agree with you. This is contradictory (The interviewer then continues with the next topic.)	So, one of you is lying. And Johnny Peters has no reason to do so. Look, you may say whatever you wish, but it better be reliable or you really will make us take this matter further!

received the adaptive vignette, those born in May to August the neutral vignette and those born in September to December the maladaptive vignette.

Analysis

In order to test whether the participating SIOs were responsive to the suspect's claims about the disputed piece of information, we counted how many of them mentioned this piece of information as being one of the (maximum three) pieces of information that should in their opinion be subject to further investigation. We also conducted a qualitative analysis of their explanations to do so.

If the SIOs did mention that (1) the accounts of the witness and the suspect did not match and/or that the suspect mentioned an alibi that could prove the witness was wrong, and (2) indicated that this should be verified/falsified, we judged these participants as being 'responsive'. If participants claimed that the suspect (1) must be lying in this regard, and/or (2) actions needed to be taken (only) to *substantiate* the witness' story, we scored this as 'maladaptively responsive'. If participants did not mention anything about the incorrect piece of information nor did not make clear what exactly should be done in this regard, we scored this as 'neutral'.

In order to test whether the kind of report the SIOs received (adaptive, neutral or maladaptive) was associated with their follow-up investigative decisions being respectively responsive, neutral or maladaptively responsive, we ran a Fisher-Freeman-Halton test.

We had also planned to test whether responsiveness could be assessed by comparing the results of ranking task 1 (before participants had read the interview report) with those of ranking task 2 (after they had read the interview report). However, preliminary analyses revealed that some participants rightfully found the disputed piece of information was less incriminating after they had read the interview report, and thus gave it — as was instructed — a *lower* position in ranking task 2. However, other participants gave it — contrary to what was instructed — a *higher* position, *not* because it was found to be more incriminating, but because they *prioritized* it for further investigations. Comparing the means of the pre- and

post-interview, ranking tasks therefore unfortunately became meaningless.

Results

Preliminary Analyses

Of the SIOs, 33 received the adaptive vignette, 47 the neutral version and 35 the maladaptive version. The variables gender and nationality seemed to be distributed somewhat skewed over the three conditions, with relatively more female participants and more Norwegian participants in the neutral condition (see Table 2 for detail). We therefore performed X^2 tests of independence to examine the relations between condition and gender and between condition and nationality. Both relations were non-significant, although there was a trend for relatively more Norwegian participants in the neutral condition: X^2 for gender ($2, N = 115$) = 3.147, $p = 0.206$ and X^2 for nationality ($2, N = 115$) = 5.286, $p = 0.071$.

Main Analyses

One hundred three of the participants (90.0%) indicated, after having read their vignette, that at least one of the eight pieces of information should be further scrutinized. In response to the question which pieces of information needed further investigation, 91 (79.1%) did mention the disputed piece of information. This was by far the piece of information that was mentioned most (the statement of an eye-witness and the results of a digital forensics report were also mentioned frequently, respectively 51 and 50 times, that is 44.3% and 43.5%).

The first and third author then scored — independently of each other — the responsiveness of the participants regarding their motivation to further investigate the disputed piece of information. At that time, the authors were still 'blind' to the condition participants had been assigned to. The interrater reliability was 'almost perfect' (Cohen's kappa = .834, $p = .0001$). The very few differences in scoring were resolved by discussion, resulting in 78 participants being judged as 'responsive' (67.8%), 22 as 'neutral' (19.1%) and 15 as 'maladaptively responsive' (13.0%). See Table 3 for further detail.

Table 2 Distribution of gender and nationality over the three conditions

	Adaptive		Neutral		Maladaptive		Full sample	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender								
Female	9	7.8	16	13.9	6	5.2	31	27.0
Male	25	21.7	30	26.1	29	25.2	84	73.0
Nationality								
Dutch	30	26.1	32	27.8	30	26.1	92	80.0
Norwegian	4	3.5	14	12.2	5	4.3	23	20.0

A significant effect was found for the association between interview style and SIOs' responsiveness. The SIOs who received the adaptive or neutral vignette were significantly more responsive to the alibi than those who received the maladaptive vignette (see Table 3).

Additional Analyses

Although the outcomes of the preliminary analyses were non-significant, we also performed — as a double check — X^2 tests of independence to examine the relations between gender and responsiveness and between nationality and responsiveness. Again, these relations were non-significant, respectively $X^2(2, N=115)=2.956, p=.242$ and $X^2(2, N=115)=1.918, p=.463$.

Discussion

As shown above, the present study found that interview style did affect SIOs' subsequent decision-making. The SIOs who read a neutral or adaptive interview report were significantly more responsive to the suspect's alibi than those who read the maladaptive interview report. On a more general note, the participating SIOs turned out to be quite successful in their task, as nearly 70% of them indicated in an adaptive manner that further investigation was necessary concerning the suspect's alibi, with, however, also 13% of the SIOs responding to the alibi in a maladaptive way.

As suggested by Fahsing and Ask (2013), a number of factors could act as tipping points in detective's decision-making. Typically, a tipping point is a variable such as time pressure or a social stereotype which increases the risk of investigators changing from an open-minded, hypothesis-testing mode to a more, narrow-minded case-building mode. Although an investigation with potential for prosecution must at some point start building a case against the suspected offender, doing so prematurely may be extremely harmful as evidenced by numerous miscarriages of justice (Findley and Scott 2006).

Fahsing and Ask (2013) identified the decision to identify, arrest or charge a suspect as the most critical and frequent

tipping point in criminal investigations. The present study demonstrates that even after such a mind-set shift may have taken place (since in our case a suspect had been identified and interviewed), most SIOs are still able to make a more hypothesis-testing decision when the suspect provided new information. However, at least two important conditions have been identified for this to happen: (1) the interviewer needs to be open-minded enough to not immediately discredit the suspect's statements (see the current study) and (2) the suspect needs to have a story that is constructive enough to be believed (as was the case in the present study, but see Nieuwkamp (2018) for what the risks are when such is not the case).

Furthermore, Norway and The Netherlands are countries that have invested in SIO training in recent years (Fahsing et al. 2022; Groenendaal and Helsloot 2015; Salet and Terpstra 2014). Since Meterko and Cooper (2022) concluded that training and organizational customs are critical factors with regard to reducing the risk of cognitive biases influencing the outcome of criminal investigations, our findings may only be generalizable to police forces that have made similar efforts as the ones in Norway and The Netherlands. On the other hand, Fahsing and Ask (2016) found expertise and professional experience were correlated in their sample of English police officers (novices and SIOs), but not in their sample of Norwegian police officers. So, the exact nature of factors influencing the quality of SIOs' decision-making skills seems complex and is still quite unclear.

With regard to police interviews, our findings substantiate how important it is these are of an information gathering nature, instead of being accusatory (Bull 2019; Hartwig et al. 2016; Meissner et al. 2022; Milne and Bull 1999). As long as the interviewer does not immediately refute the suspect's information, a correct assessment afterwards of the information gathered seems possible. As soon as information gathered from the suspect is refuted within the interview, this apparently bears the risk of the information getting 'tainted' by bias.

Farrugia and Gabbert (2019) found in their sample of interview transcripts with 66 suspects that making a statement/opinion was the most frequently used question type (1.30 times/minute in interviews with mentally disordered suspects and 1.23 times/minute with non-mentally

Table 3 Responsiveness of SIOs in relation to the interview report condition

Condition	SIOs responsive to alibi		SIOs neutral to alibi		SIOs maladaptively responsive to alibi		Full sample	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Adaptive report	24	20.9	6	5.2	3	2.6	33	28.7
Neutral report	37	32.2	7	6.1	3	2.6	47	40.9
Maladaptive report	17	14.8	9	7.8	9	7.8	35	30.4
Sum	78	67.8	22	19.1	15	13.0	115	100.0

Fisher-Freeman-Halton test: value = 9.664, $p=.043$, Cramér's $\phi=.213, p=.032$

disordered suspects). Although their data do not make clear whether these comments are all of a refuting kind, they were coded as inappropriate question types. Schellings (2017) found something similar in a sample of Dutch police interviews: inappropriate statements/opinions were made in 23 of the 25 interviews and were — by far — the most frequently observed inappropriate interview technique.

Such findings imply good interviewing is not only about asking the right questions (i.e. open questions), but also about not making improper comments. Van Beek et al. (2021) found such skills seem to be more associated with expertise (amount and type of training) than with mere experience (years of policing). This thus highlights the importance of proper interview training.

Strengths and Limitations

A limitation of our study may be that the case being investigated, the theft of a smart phone, may have been rather unimportant for the participants, who often work in teams involved with solving more serious crimes. But given the fact that only 4 out of 119 participants did not complete the survey, we assume that the motivation to participate was high, especially when considering the participants not only had to answer ‘just some questions’, but really needed to analyse the case.

Another limitation was that the ranking task we had in mind did not work out the way we thought it would. When this would have been the case, we might have gained some deeper insight in the decision-making processes. A better instruction could have served this purpose.

We furthermore realize our sample was not fully randomly distributed over the three conditions, but via month of birth. We created this ‘U bend construction’ to overcome some limitations of the Questback programme. Although this might in theory have opened the way towards potential confounds, we have — yet, in hindsight — found no such indications in our cross-checks.

On the other hand, by considering several factors that are at stake in real-life criminal investigations, we think our study has good external validity and therefore is of strong relevance to the field. All participants were experienced Senior Investigative Officers who are responsible for making important decisions in high-stake criminal investigations. The materials used in the survey were developed with the help of experienced (former) police detectives. The interviews that served to create the final vignette were conducted at police stations and the interviewers were professional police interviewers.

Implications and Future Research

Altogether, this study contributes to a better understanding of how incorrect information that, unwittingly to the investigators, has entered a criminal investigation, can be detected and

corrected. This is an issue that may occur rather frequently as witnesses may be mistaken (Lindsay et al. 2007; Toglia et al. 2007) or have been interviewed poorly (Dalton et al. 2021), while other human errors may occur as well in investigations (Dror et al. 2006; Dror and Hampikian 2011; Huang and Bull 2021). The main finding is that SIOs are quite capable of detecting such error in the interview and act responsively to it, yet as long as the interviewer interviewing the suspect had remained at least neutral towards new information the suspect puts forward.

Further research on how these SIO and interviewer skills can be — further — developed and improved by new knowledge and training is strongly recommended.

Author Contribution The first author has written the paper, supervised by the second author. The third author has assisted with gathering and analysing the data. The fourth and fifth authors have assisted with gathering the data. All authors have provided extensive feedback to the first author with regard to earlier drafts of this paper.

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Availability of Data and Material Data and material are available from the corresponding author upon reasonable request.

Code Availability A custom way of coding has been used and is explained in the manuscript.

Declarations

Ethics Approval Ethical approval was obtained from the Ethics Committee of the University of Derby (code ETH1819-0048).

Consent to Participate All participants read and accepted an informed consent in their own language.

Consent for Publication All participants agreed in their informed consent to participate under the condition of remaining anonymous when the outcomes of this study are to be disseminated in any way.

Conflict of Interest The authors declare no competing interests.

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