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The Scharff technique: training military intelligence officers to elicit information from small cells of sources

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ABSTRACT

Studies have demonstrated the efficacy of the Scharff technique for gathering human intelligence, but little is known about how this efficacy might vary among different samples of practitioners. In this training study we examined a sample of military officers ($n = 37$). Half was trained in the Scharff technique and compared against officers receiving no Scharff training. All officers received the same case file describing two sources holding information about a terrorist attack. University students ($n = 74$) took the role of the semi-cooperative sources. Scharff-trained officers adhered to the training as they (1) aimed to establish the 'knowing-it-all' illusion, (2) posed claims as a means of eliciting information, and (3) asked fewer explicit questions. The 'untrained' officers asked many explicit questions, questioned the reliability of the provided information, pressured the source, and displayed disappointment with the source's contribution. Scharff-trained officers were perceived as less eager to gather information and left their sources with the impression of having provided comparatively less new information, but collected a similar amount of new information as their untrained colleagues. The present paper both replicates and advances previous work in the field, and marks the Scharff technique as a promising technique for gathering human intelligence.

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Training study; the Scharff technique; human intelligence gathering; cells of sources; military

Gathering information from human sources is fundamental both to the prevention and the investigation of crime. Researchers have, however, only recently begun to develop methods for gathering human intelligence (e.g. Evans et al., 2013; Granhag, Vrij, & Meissner, 2014). The aim of this work is to identify effective and ethically defensible strategies and tactics for collecting information. To reach this goal it is not enough to test techniques in the lab; there is also a pressing need to learn whether evidence-based techniques can be taught to practitioners in the field and whether such training will result in more effective interviews. For the current study we took on both these challenges. We trained military intelligence officers in the *Scharff technique* (see below) and assessed (1)

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to what extent these intelligence officers adhered to the training and (2) whether the training resulted in a more effective elicitation of information. To our knowledge, the current study is the first to train military intelligence officers to elicit information from semi-cooperative sources. For the present paper, *elicitation* refers to (a) gathering new and accurate information in such manner that the source (b) remains unaware of the interviewer's information requirements, and (c) underestimates his or her contribution of new information (Oleszkiewicz, Granhag, & Kleinman, 2014). The three parts of elicitation can be assessed independent of each other, for example collecting new information is not dependent on a successful masking of the information objectives or having the source underestimate his or her contribution of new information.

The Scharff technique

The Scharff technique is founded on the tactics used by the renowned German WWII interrogator Hanns Scharff (1907–1992). The technique aims to collect intelligence from sources who are prepared to share only small portions of the information they possess (Granhag, 2010). By studying seized resistance training manuals and the interrogations of his colleagues, Scharff identified at least three general strategies that the allied prisoners used in order to avoid providing useful information: (1) 'I will not tell very much'; (2) 'I'll try to figure out what they are after and not provide that information'; (3) 'It is meaningless to hold back what they already know' (Scharff, 1950; Toliver, 1997; see also Alison et al., 2014). In the next step, Scharff formed his own tactics to counter the strategies adopted by the prisoners (Toliver, 1997). Scharff's approach rests on the psychological concept of *perspective taking*: the cognitive capacity to consider the world from another's viewpoint, which helps to anticipate other people's behavior and reactions (Galinsky, Maddux, Gilin, & White, 2008; Zhou, Majka, & Epley, 2017). How perspective taking is relevant to the current context can be explained by introducing the following principles: (a) a source typically forms a hypothesis on how much and what information the interviewer holds, (b) this perception will affect the source's counter-interrogation strategies, and (c) the counter-interrogation strategies used will affect how much and what information the source reveals (Granhag & Hartwig, 2015; Oleszkiewicz, 2016; Tekin et al., 2015; Tekin, Granhag, Strömwall, & Vrij, 2016). In short, by means of perspective-taking the interviewer can use his or her insights about this causal process to simulate how the use of different tactics may affect the outcome of an upcoming interaction.

The first tactic of the Scharff technique is to employ a *friendly approach*. The primary objective of this tactic is to create an atmosphere in which the source feels comfortable by, for example, displaying acceptance and adaptive interpersonal behaviors (Alison, Alison, Noone, Eltlib, & Christiansen, 2013). The second tactic is to *not to press for information*. Instead of being asked explicit questions the source is offered opportunities to add information (to the interviewer's story, see tactic three) and to respond to claims (see tactic four). The third tactic is the *illusion of 'knowing-it-all'*. The interaction opens by the interviewer presenting already known information to the source. The aim of this tactic is twofold. First, if the source wants to be perceived as even minimally cooperative he or she must provide information beyond what was presented by the interviewer. Second, the source might assume that the interviewer holds information beyond what was told. If the source overestimates the amount of information held by the interviewer,

and strives to provide already known information, he or she might reveal information that is new to the interviewer. The fourth tactic is the use of *claims*. Rather than asking direct questions the interviewer presents claims for the source to confirm or disconfirm (May, Granhag, & Oleszkiewicz, 2014). This tactic draws on the assumption that the source will perceive (dis)confirming claims as a much less active form of complicity compared to answering explicit questions. The fifth tactic is to *give the impression of ignoring new information*, when provided with new critical information the interviewer downplays it as unimportant or already known (Granhag, 2010; Oleszkiewicz, 2016).

Past research on the Scharff technique

Granhag, Cancinos Montecinos, and Oleszkiewicz (2015) introduced an experimental scenario mirroring some key aspects of human intelligence gathering. The scenario focused on semi-cooperative sources possessing incomplete information about an impending terrorist attack. For the scenario, the source needed to flee the country with help from the police. The source was thus motivated to share some portions of the information held on the attack. However, as the source had rather strong ties to the group planning the attack, s/he was not willing to reveal the information in full (Oleszkiewicz, 2016). This information management paradigm has proven to work well in our past lab-based research (Granhag, Kleinman, & Oleszkiewicz, 2016), and in our field research (Oleszkiewicz, Granhag, & Kleinman, 2017). Importantly, the practical relevance of this paradigm is supported by research examining individuals on their way leaving violent extremist groups (Dalgaard-Nielsen, 2013) and studies on insider spies (Herbig, 2008), showing that the incentive to be semi-cooperative with respect to sharing information is commonly linked to divided loyalties. Furthermore, evaluating human intelligence gathering techniques require novel measures of efficacy (Oleszkiewicz, 2016). These measures capture the objective outcomes of the interview (e.g. the amount of information that advances the interviewer's understanding of the case), as well as the source's subjective perceptions of the interaction (e.g. reading what information the interviewer was after).

A series of lab-based studies on the Scharff technique (vs asking direct questions) has resulted in five consistent findings: the Scharff technique (i) elicits comparatively more new information, and (ii) leaves the source underestimating how much new information he or she actually revealed. Furthermore, sources interviewed with the Scharff technique (iii) perceive the interviewer to be relatively more knowledgeable about the topic discussed, (iv) find it relatively more difficult to read the interviewer's information objectives, and (v) overestimate the amount of information the interviewer holds (for a recent overview see, Granhag, Kleinman, et al., 2016).

Training how to interview

For decades, researchers have developed models for training individuals on various interviewing techniques, and then assessed the efficacy of those 'research-to-practice' exercises. These studies vary with respect to features such as the participants trained, the specific aim of the training, the research design and the outcome measures. To our knowledge there is only one past training study where professionals have faced semi-cooperative sources (meaning that they were motivated to both reveal and conceal information).

This study examined professional handlers from the Norwegian Police (Oleszkiewicz et al., 2017). Half of the handlers received training in the Scharff technique and their performance was compared against handlers receiving no training and free to use the approaches they saw fit. All handlers received the same case-file describing a source holding information about a future terrorist attack, and they were all given the same interview objectives. Police trainees took on the role of semi-cooperative sources and were given incomplete information about the attack. The results showed that the handlers trained in the Scharff method adhered to this training by, for example, aiming to establish the illusion of 'knowing-it-all' and posing claims to collect information (the untrained handlers did not use any Scharff tactics). In essence, Scharff trained handlers were perceived as less eager to gather information, but collected comparatively more new information.

The current study builds upon past research, but is unique on two important accounts. First, the professionals participating in the current study were military intelligence officers. To our knowledge there is no previous study examining how this particular group of professionals collect intelligence from human sources. Second, for the current study each officer faced a situation where s/he had access to two different sources who did not know of each other. This situation is not uncommon in real-life, yet neglected in research on intelligence gathering techniques.

Eliciting information from small cells of sources

Past research on intelligence interviewing has almost exclusively focused on single sources. This is noteworthy considering how many criminal activities, including terrorist attacks, that are planned and executed by small groups (Carrington, 2002; Gill, Jeongyoon, Rethemeyer, Horgan, & Asal, 2014).

To the best of our knowledge there is only one previous study examining the effects of different interviewing techniques in relation to small cells of sources. Granhag, Oleszkiewicz, and Kleinman (2016) compared the effectiveness of the Scharff against the Direct Approach for a situation where sources (in groups of three) were given information about a planned terrorist attack. The members of each group worked and planned together, and were then interviewed individually. Three main findings came out of the study: the Scharff technique (i) and the Direct Approach technique resulted in an equal amount of new information, (ii) resulted in the sources underestimating – whereas for the Direct Approach the sources overestimated – their contribution of new information, and (iii) resulted in the sources overestimating the amount of new information revealed by their fellow group members.

The current study will add to this past research, but it should be noted that the current study is different from the study described above. Specifically, (i) the current study is a training-study (the previous study was a traditional lab-study); (ii) for the current study we examined military intelligence officers (for the previous study we did not examine any professional group), (iii) for the current study the Scharff technique was compared against the performance of experienced intelligence officers, free to use the approaches and tactics as they saw fit (for the past study the Scharff technique was compared against a fixed protocol reflecting the Direct Approach), and (iv) for the current study the two sources did not know of each other (for the previous study the triads met and planned together before they were interviewed individually).

The present study

The Scharff technique has consistently shown strong effects in the lab, yet much remains unknown about (1) the extent to which Scharff tactics are already used by practitioners, (2) the extent to which the Scharff tactics can be taught to practitioners, and (3) how the performance of Scharff trained practitioners will compare to their colleagues using the interviewing methods of their own choice (but see Oleszkiewicz et al., 2017). We therefore developed an evidence-based training package on the Scharff technique, and we offered this package to half of the military intelligence officers who agreed to take part in the study. The intelligence officers were taught the purpose of, and how to implement, the Scharff tactics (see the Method section). The remaining half of the officers received no training in the Scharff technique (henceforth ‘untrained officers’). For the ‘test-phase’, all officers had access to the same case-file and were given the same three interview objectives, and each officer interviewed two mock sources. The performance of the Scharff trained officers was compared against the untrained officers’ performance.

First, we will examine to what extent it is possible to replicate the positive outcomes for the Scharff-technique obtained in past lab-studies (Granhag, Kleinman, et al., 2016), and in our past study examining police handlers (Oleszkiewicz et al., 2017). Second, we will advance previous research by mapping the performance of military intelligence officers, a previously understudied group. Third, we will advance previous work by examining a situation where each interviewer had access to two different sources: a situation which reflects operational reality, yet is often neglected in research on intelligence gathering techniques.

Hypotheses

With reference to the tactics of the Scharff technique we expected trained officers to collect more new information than untrained officers (*Hypothesis 1*). Furthermore, as the trained officers were taught to avoid asking explicit questions and avoid acknowledging when new information was collected, their sources were expected to have a relatively less clear understanding of what information the officer aimed to collect (*Hypothesis 2a*), and a relatively less accurate understanding of the officer’s actual information objectives (*Hypothesis 2b*).

Moreover, the trained officers’ use of the Scharff tactics (specifically, the ‘knowing-it-all’ tactic and the claim tactic) were expected to leave sources underestimating their contribution of new information. Hence, we predicted that sources interviewed by trained officers would have the perception that they had revealed less new information than was actually the case, whereas sources interviewed by untrained officers would believe they had revealed more new information than was actually the case (*Hypothesis 3*). The rationale for predicting an overestimation for sources interviewed by untrained officers was that these officers were expected to ask explicit questions without sharing any information up front (Oleszkiewicz, Granhag, & Cancino Montecinos, 2014).

Method

Design

Half of the military officers received training in the Scharff technique prior to the test phase, and the other half received training after the test phase. During the test phase

each officer interviewed two sources (one interview per source). Hence, we employed a 2 (Interviewer: Trained vs. Untrained) \times 2 (Source Order: First vs. Second) mixed design.

The interviewers

Military intelligence officers from the Norwegian Defence Intelligence School were recruited as interviewers. The officers consisted of 30 men and 7 women ($n = 37$) with ages between 24 and 51 years ($M = 37.62$, $SD = 7.62$). They had worked for the military for 5 months to 25 years ($M = 8.50$, $SD = 7.09$) and had between 0 and 22 years ($M = 3.18$, $SD = 5.06$) of experience as interviewers.

The officers were assigned to receive training on the Scharff technique either *before* (trained interviewers) or *after* (untrained interviewers) interviewing their sources. We went for a semi-random assignment procedure to avoid ending up with biased data between the interview conditions. We collected data during six different days, and for each day we had access to between five to ten intelligence officers. The military supervisors made sure that each day was about equal with respect to the number of more/less experienced officers. Importantly, the supervisors were blind to the pre-specified condition of each day (i.e. if the officers received training before or after the test phase). In brief, the research team could not affect which day a certain officer was assigned, and the supervisors could not affect whether a certain officer ended up in the 'trained' or 'untrained' group. Moreover, we requested that the officers would not discuss their experiences with their colleagues before the final date of the data collection, and all officers agreed to this.

Training

The trained officers attended a 150-minute training package on the Scharff technique (given by the second author). The training contained a lecture and video material in which the officers were introduced to the Scharff technique. Briefly explained, the first part of the lecture was about maintaining the source's willingness to cooperate. The officers were introduced to three Scharff tactics for building a friendly conversational interview without asking explicit questions (i.e. the friendly approach, not pressing for information and the 'ignore new information' tactics). The second part of the lecture was about steering the source towards revealing new information unknowingly. The officers were introduced to two subtle elicitation tactics. The first tactic was to use the known information in a tactical manner by presenting it up front as a story (i.e. the knowing-it-all illusion). The second tactic was to identify opportunities for making claims for the source to either confirm or disconfirm. Specifically, if the officer had information that pointed in two different directions (e.g. the attack will happen at either location A or location B) they were informed that they could present one alternative as a claim for the source to confirm or disconfirm. Furthermore, the officers received training in interviewing multiple sources in a manner adopted to the Scharff technique. That is, by adding the information provided by one source when presenting their knowledge to a second source, they might be in a better position to elicit additional information from the second source. After the lecture, the officers were given 30 minutes to practice storytelling and to formulate claims (on other material than what was used for the test-phase). After the practice, the officers entered the test-phase (described below). The trained officers were asked to view the test phase as an opportunity for trying out the Scharff technique.

The untrained officers were introduced with the test phase material, and asked to use the approaches and techniques that they found effective in the field and that they were comfortable with. After the test phase the untrained officers received the same Scharff technique lecture as the trained officers received before the test-phase.

The test phase

All officers received the same case-file and were asked to treat it as a real-life case. The case-file consisted of four different parts. The first part explained that the officer was currently gathering intelligence on a possible upcoming bomb attack in the capital of a European city. All information known to the officer was listed (i.e. 12 pieces of known information). On three occasions the information on the attack pointed in two different directions. First, the officers were told that *the location* of the attack was a shopping mall, but that it was unclear if the shopping mall was (a) Aker Brygge or (b) Paleet. Second, the officers were told that *the date* of the attack was either immediately before or immediately after a weekend, but that they were unsure if it was (a) Friday the 10th or (b) Monday the 13th. Third, the officers were told that the group planning the attack had previously collaborated with two Danish bomb experts, but that it was uncertain whether those experts were involved in the current planning. The second part of the case-file listed some areas (themes) of information that was not known to the interviewer (e.g. the procedure for the attack, information relating to the type of bomb used).

The third part of the case-file briefly explained the officer's knowledge about the two sources. The officers were told that the two sources (Wolf & Fox) had been recruited as informants. Furthermore, they were told that both Wolf and Fox (i) had provided reliable information in the past, (ii) might hold relevant information on the current case, (iii) were willing to share some information in exchange of receiving free conduct out of the country, and (iv) that the free conduct was not to be discussed during the upcoming interaction (both the officer and the sources were told that the specifics of the free conduct would be addressed through other channels). In addition, the interviewers were told that Wolf may hold information that Fox does not hold and that Fox may hold information that Wolf does not hold. They were also asked not to reveal Wolf's identity to Fox and vice versa, but that they were free to use the information provided by each informant as they wished.

The fourth part of the case-file stated the officer's three main interview objectives. The reason for listing specific interview objectives was to motivate all officers (trained and untrained) to attempt to elicit information. The objectives were the same for interviewing Wolf and for interviewing Fox. The first objective was to collect information beyond what the officer already knew. The officer was told that gathering new information was of key importance due to the proximity of the attack. Second, the officer was warned that the sources had a reputation of increasing the price for information that they believed was of particular interest. That is, this warning implicated that the officer would profit from collecting information without revealing his or her information objectives. The third objective was to make the sources willing to meet again. The officer was recommended to influence the sources to believe that they had contributed with relatively little information during the conversation. By doing so it would be possible that the sources might be willing to provide more details during a second interaction. Finally, the officer was told that the sources had only approved a twenty-minute interview. If the interview would exceed twenty minutes the sources would simply hang up the phone. This time-limit was to

clarify the priority for extracting information rather than establishing a relationship with the source.

The interview

All interviews started with the officer calling the source over Skype (audio only). Each interview was restricted to 20 minutes. After the officers had interacted with their first source, they were given 20 minutes to prepare before talking with their second source (the order in which Wolf and Fox were interviewed was counter-balanced). The conversation lasted on average 18.40 minutes ($SD = 3.59$). A two way mixed ANOVA with interview length as the dependent variable showed a main effect for interview condition, $F(1, 74) = 29.22$, $p < .001$, $\eta^2 = .29$. The untrained officers' interactions ($M = 20.26$, $SD = 1.29$) were longer than the trained officers' interactions ($M = 16.43$, $SD = 4.17$). No other effects were found for interview length.

The sources

The sources were students ($n = 74$) of Psychology (80%) and Law (4%) at the University of Oslo (or other 16%). Their ages ranged between 19 and 46 years ($M = 24.13$, $SD = 3.99$) and the majority was female (56 female, 17 male). One source did not follow the instructions of the study (i.e. did not adhere to the information management dilemma). This resulted in the exclusion of one pair of sources from the analysis (interviewed by the same interviewer). Thus, the final sample consisted of 72 interviews; 34 trained and 38 untrained. All sources were recruited by posters that described the study as research on 'interviewing methods'. The sources received 200NOK (approx. \$23) for their participation. The study was granted approval by the Ethical Review Board at the University of Gothenburg, as well as the FBI Ethical Review Board. After the experiment, all sources were fully debriefed.

The sources were assembled in a lecture hall in groups of 5–10 people. They were separately seated and instructed not to talk to each other. The sources were allocated to an interviewer in pairs (i.e. Wolf and Fox), but were not informed about this (the source to be interviewed first arrived 30 minutes before the source to be interviewed second and they were never given an opportunity to meet). After signing the informed consent forms the sources were presented with the background information. Each pair was presented with a sheet of paper containing both general and specific information about an extremist group that was planning a bombing at a shopping mall. The information was given in the form of a coherent story based on 42 pieces of information (12 of which were already known to the interviewer). Out of the 42 pieces of information, 6 pieces were unique to Wolf, and 6 pieces were unique to Fox. Hence, each pair of sources could provide the interviewer with a maximum of 30 new pieces of information on the upcoming attack (see [Table 1](#)). To control for possible order effects with respect to revealing unique information we counter-balanced the order of the sources.

Interview instructions

In addition, each source was informed that s/he needed to consider a dilemma which involved striking a balance between (a) not providing too little information in the upcoming interview (in order to ensure assistance from the interviewer) and (b) not providing too much information (as the source had rather strong social ties to the group planning the

Table 1. The category of information and the number of information pieces held by the two sources.

| Information category | Wolf | Fox | Pair of sources |
|------------------------------|------|-----|-----------------|
| Shared New | 18 | 18 | 18 |
| Unique New | 6 | 6 | 12 |
| Total New | 24 | 24 | 30 |
| Already known to interviewer | 12 | 12 | 12 |
| Total information | 36 | 36 | 42 |

attack). The sources were told that they could receive an additional 500NOK (\$55) depending on their ability to strike this balance. Moreover, the sources were given the opportunity to lie during the interview. They were informed that a successful lie could potentially contribute positively to receiving the additional reward. However, they were also warned that if they were caught lying, they would put their compensation at risk. In fact, all sources were equally eligible for the additional reward.

After studying the material for 10–15 minutes the sources were escorted to an individual interview room where they were asked to plan their interview and await their contact to call them (it took about 5–10 minutes before the interviewer called). The sources had all background material present during the full interview and were instructed to end the call after 20 minutes (an experimenter opened the door when the time was up). The source and the officer never met physically, and all sources were alone in their room during the Skype conversation.

Post-interview questionnaire

After the interviews, the sources were escorted to a lecture hall where they were seated separately and were asked to answer the questionnaire in silence (this procedure was supervised by a research assistant). Before filling out the questionnaires, it was made clear that the role-taking part of the study was now over and that the questionnaires should be answered truthfully. In all, each source filled out three different questionnaires. The first questionnaire concerned the perceptions of the interview and held four critical questions: (1) *the proportion of new information revealed* (out of all information that you revealed, how much of that information do you believe was new to the interviewer?); (2) *the perception of the interviewer's information objectives* (How easy/difficult was it for you to understand what information the interviewer was seeking to obtain?); (3) *the willingness to talk with the interviewer again* (if you would imagine that you were a real 'informant', how willing would you be to talk with the interviewer again?); (4) *the interviewer's eagerness for information* (how eager did you perceive that the interviewer was with respect to receiving information from you?). All scales ranged from 1 (e.g. very difficult to understand) to 7 (e.g. very easy to understand). In addition, the sources were asked to list the specific pieces of information they perceived that the officer sought to collect. The officers were also asked, after the interview, to list the specific pieces of information that they tried to collect. These two measures were then matched to calculate the accuracy of the source's perceptions.

The second questionnaire consisted of a checklist with all information that was available to the source (30 units + the 6 unique pieces for Wolf and Fox, respectively). The sources were instructed to mark the specific pieces of information they perceived to have revealed during the interview. The third questionnaire contained the same checklist,

but now the sources were asked to mark the specific pieces of information that they believed was known to the interviewer prior to the interview. The latter checklist was used for evaluating the source's perception of the interviewer's prior knowledge (ranging from 0 to 32). In addition, the source's perception of the new information revealed was scored by subtracting (i) the checklist of interviewers' knowledge from (ii) the checklist mapping the information revealed. That is, for a piece of information to be scored as 'new' the source had to mark this piece of information as revealed during the interview without marking it as already known to the interviewer.

Coding of the interviews

Each interview was transcribed verbatim and each transcript was then coded in terms of how much information each source had revealed (see Table 1). Importantly, each distinct piece of 'new' information revealed by the pair of sources was identified. That is, a piece of information was scored as 'new' only if it was not known to the interviewer prior to the interview. Importantly, if both sources in a pair revealed the same piece of information, that piece of information was only scored as 'new' for the source who was interviewed first. The information revealed as a result of presenting claims was scored and counted only if the source clearly affirmed a posed claim suggesting the correct alternative (e.g. 'yes', 'true') or disconfirming a claim suggesting the incorrect alternative (e.g. 'no', 'that is not correct'). Ambiguous responses were not scored (e.g. 'hmm'). If the source – after listening to a claim – reacted with silence, this was not scored. In addition, we scored the number of lies (explicit fabrications) and incorrect pieces of information told by the source.

Inter-rater reliability

Two assistants coded 30% of the transcripts (selected from both interview conditions) on a checklist that listed all information available to the sources (42 units). Based on these 30%, inter-rater reliability was calculated (*Cohen's* $\kappa = 0.92$). All disagreements for the 30% of the transcripts were settled in a discussion between the two coders. After the discussion, the two coders coded 50% of the transcripts each. In addition, a coding scheme was used for classifying the officers' interview behavior (Oleszkiewicz et al., 2017). Two assistants read through the transcripts to code the officers' behaviour on this coding scheme (e.g., the interviewer expresses interest in information; the interviewer attempts to engage the reciprocity principle). Inter-rater reliability (*Cohen's* $\kappa = 0.89$) was calculated using the same procedure as outlined above. All assistants were blind to (a) the hypotheses of the study and (b) which interviewers were trained and untrained.

Results

Preliminary analyses

The Interviewers

Independent sample *t*-tests showed no difference between the trained and untrained interviewers in terms of their military experience ($p = .30$) or with respect to their experience with interviewing ($p = .81$).

Ratings of the training package and the test-phase

The interviewers (across both conditions) considered the training program as valuable ($M = 5.73$, $SD = 0.93$), and believed that the Scharff tactics would be effective under real-life conditions ($M = 5.76$, $SD = 0.98$). Specifically, almost all officers (across both conditions) recognized the practical value of the 'knowing-it-all' tactic (100%), and of the claim tactic (97%). Furthermore, the officers across both conditions were highly motivated to interview their sources ($M = 6.30$, $SD = 0.74$). The trained officers ($M = 6.56$, $SD = 0.62$) were more motivated than the untrained officers ($M = 6.05$, $SD = 0.78$), $t(35) = 2.17$, $p = .04$, $d = 0.72$, 95% CI [0.05, 1.40]. We are not very concerned about this difference, as both groups were highly motivated. Furthermore, the officers (across both conditions) perceived that the test-phase scenario was rather similar to a real-life scenario ($M = 4.64$, $SD = 1.40$). No difference was found between the interview conditions on this measure ($p = .91$). Finally, the trained and untrained officers did not differ with respect to the extent that they reported to have prepared themselves tactically before the interview, $t(35) = 1.43$, $p = .16$, $d = 0.48$, 95% CI [-0.19, 1.14], or to the extent that they had used tactics during the interview, $t(35) = -0.40$, $p = .69$, $d = -0.13$, 95% CI [-0.79, 0.52].

Interviewing strategies

In Table 2 we list the different strategies used by the trained and untrained officers. A large majority of both trained and untrained officers asked direct, open and hypothetical questions. Untrained officers used comparatively more suggestive and logical questions. The following strategies were relatively common for both trained and untrained officers; (i) 'to stress the seriousness of the attack', (ii) 'to emphasize opportunity to collaborate', (iii) 'play on confidentiality', and (iv) 'subtle encouragements'. Furthermore, the following five strategies were used much more frequently by the untrained officers: (i) 'to highlight consequences of withholding information', (ii) 'to question the reliability of the provided information', (iii) 'to play on the source's conscience', (iv) 'to put pressure on the source' and (v) 'to show disappointment

Table 2. Comparing the most frequently adopted behaviors by trained and untrained officers.

| Variable | Trained | | Untrained | |
|--|---------|-----|-----------|------|
| | 1st | 2nd | 1st | 2nd |
| Direct Questions (<i>what, when, where, why, how</i>) | 83% | 83% | 100% | 100% |
| Open Questions (<i>your mentioned A, tell more</i>) | 83% | 61% | 79% | 68% |
| Suggestive Questions (<i>provides alternatives</i>) | 33% | 39% | 84% | 68% |
| Logical Questions (<i>but if A, then also B?</i>) | 28% | 22% | 47% | 42% |
| Hypothetical Questions (<i>would it be possible ... ?</i>) | 67% | 56% | 74% | 74% |
| Acknowledges interest in information | 6% | 17% | 21% | 21% |
| Stresses the seriousness of the attack | 33% | 44% | 16% | 26% |
| Highlights consequences with withholding info | 0% | 0% | 21% | 16% |
| Emphasizes opportunities to collaborate | 33% | 33% | 53% | 47% |
| Highlights Trustworthiness | 22% | 11% | 21% | 21% |
| Willingness to Trust | 28% | 6% | 5% | 5% |
| Confidentiality | 22% | 11% | 16% | 26% |
| Encouragements | 50% | 50% | 32% | 32% |
| Reciprocity | 22% | 33% | 10% | 0% |
| Displays empathy | 11% | 11% | 10% | 16% |
| Questions reliability of provided information | 6% | 11% | 26% | 42% |
| Conscience | 17% | 11% | 37% | 32% |
| Pressure | 0% | 6% | 37% | 32% |
| Small talk | 11% | 6% | 5% | 21% |
| Disappointment in contribution | 6% | 6% | 37% | 32% |

with respect to the source's contribution'. In addition, the strategy 'reciprocity' was used more common by the trained officers. Finally, the strategies used for source 1 and source 2 were very similar (and this both for trained and untrained officers). That is, both trained and untrained officers were consistent in their use of strategies across their two sources.

Adherence to the Scharff training

We used several measures to assess the extent to which the trained officers adhered to the Scharff training. First, all seventeen trained officers presented a large portion (i.e. 50% or more) of the previously known information up front to establish the illusion of 'knowing it all'. For the untrained officers, six presented no information at all, twelve presented less than 30%, and one presented 50% (for all statistical values see, Table 3). A mixed ANOVA with the perceived interviewer knowledge as the dependent variable showed a between-subjects effect, $F(1, 34) = 45.41, p < .001, \eta^2 = .57$. Sources interviewed by trained officers ($M = 13.65, SD = 5.34$) perceived the officers to have been more knowledgeable on the case than sources interviewed by untrained officers ($M = 5.50, SD = 4.48$). The interaction effect bordered on significance, $F(1, 34) = 3.98, p = .054, \eta_p^2 = .11$. The interaction was analyzed further by the use of simple effects tests for Source order (First, Second) within each interview condition. For the trained officers, sources interviewed second in line ($M = 15.41, SD = 4.64$) perceived the officer to have been more knowledgeable than sources interviewed first ($M = 11.88, SD = 5.53$), $F(1, 16) = 5.29, p = .03, \eta^2 = .14$. For the untrained officers no difference was found for the perceived interviewer knowledge for sources interviewed first ($M = 5.84, SD = 4.15$) and second ($M = 5.16, SD = 4.88$), $F(1, 18) = 0.22, p = .64, \eta^2 = .01$. Second, fifteen trained officers played the claim tactic at least once during the interviews, whereas only one of the untrained officers utilized that tactic (at one instance only). Specifically, for the three instances where the case-file held information pointing in two different directions, the trained interviewers much more often presented one of the alternatives as a claim. Third, untrained officers asked significantly more questions compared to the trained officers (see Table 3). Finally, the more questions the interviewer asked, the more eager did the interviewer seem to be with respect to collecting information, $r(72) = .28, p = .01$.

The Sources

With respect to the sources' motivation, we obtained a mean score well above the mid-point of the scale ($M = 6.08, SD = 1.06$), and the sources found the instructions easy to understand ($M = 5.89, SD = 1.31$). No difference was found between the conditions with respect to the sources' motivation ($p = .40$), or with respect to the ease of understanding of the instructions ($p = .27$). The sources interviewed by the trained officers ($M = 1074, SD = 458$) talked less than the sources interviewed by the untrained officers, ($M = 1373, SD = 332$), $F(1, 73) = 10.27, p < .01, \eta^2 = 0.13$. Furthermore, the lies uttered were too few to conduct any meaningful inferential tests .

Main analyses

New information

A mixed ANOVA with the two interview conditions (Trained vs. Untrained) as the between-subjects factor, and the new information revealed by source order (First vs. Second) as the

Table 3. Means (and *SD*) of the Interviewer's adherence to the Scharff tactics and inferential statistics for the independent sample *t*-tests.

| | Trained | | Untrained | | Results of simple effects tests | | | |
|-------------------------|----------|---------------|-----------|---------------|---------------------------------|----------|----------|--------------|
| | <i>M</i> | (<i>SD</i>) | <i>M</i> | (<i>SD</i>) | <i>t</i> | <i>p</i> | <i>d</i> | 95% CI |
| Info presented source 1 | 11.06 | (2.61) | 1.42 | (1.57) | 13.58 | <.001 | 4.53 | 3.30, 5.77 |
| Info presented source 2 | 12.88 | (3.87) | 2.11 | (2.21) | 10.40 | <.001 | 3.47 | 2.44, 4.51 |
| Claims to source 1 | 1.88 | (1.05) | 0.00 | (0.00) | 7.80 | <.001 | 2.60 | 1.72, 3.49 |
| Claims to source 2 | 2.18 | (0.95) | 0.05 | (0.23) | 9.45 | <.001 | 3.15 | 2.17, 4.13 |
| Questions to source 1 | 7.65 | (6.68) | 33.21 | (9.74) | -9.07 | <.001 | -3.03 | -3.99, -2.07 |
| Questions to source 2 | 8.53 | (7.48) | 34.68 | (14.50) | -6.68 | <.001 | -2.23 | -3.06, -1.40 |

within-subjects factor was conducted. The between-subject test showed no significant effect, $F(1, 34) = 2.31, p = .14, \eta^2 = .06$. That is, sources interviewed by trained officers ($M = 4.91, SD = 3.70$) revealed a similar amount of information as sources interviewed by untrained officers ($M = 4.16, SD = 2.25$). Thus, Hypothesis 1 found no support.

The interaction effect was not significant ($p = .17$), but due to its relevance for our overall research questions, the interaction was analyzed further by the use of simple effects tests for source order (First vs. Second) within each interview condition. For the trained officers, the sources interviewed first in line ($M = 6.24, SD = 3.77$) revealed more new information than sources interviewed second in line ($M = 3.59, SD = 3.20$), $F(1, 16) = 4.74, p = .04, \eta^2 = .12$. For the untrained officers no difference was found with respect to the amount of new information revealed by sources interviewed first ($M = 4.32, SD = 2.58$) and second in line ($M = 4.00, SD = 1.91$), $F(1, 18) = 0.08, p = .79, \eta^2 < .01$.

From each pair of sources it was possible to extract 30 pieces of new information (18 shared pieces + 6 pieces unique for Wolf + 6 pieces unique for Fox). The trained officers elicited on average 9.82 pieces (33%) from each pair, whereas the untrained officers elicited on average 8.32 pieces (28%) from each pair.

The source's perception of the interview(er)

A mixed ANOVA with the perception of the interviewer's information objectives as the dependent variable showed a between-subjects effect, $F(1, 34) = 14.49, p = .001, \eta^2 = .30$. Sources interviewed by untrained officers ($M = 5.32, SD = 1.65$) perceived it to be easier to read the interviewer's information objectives than sources interviewed by trained officers ($M = 4.03, SD = 1.75$). Hence, Hypothesis 2a was supported. A mixed ANOVA with the interviewers' success in masking their information objectives as the dependent variable showed no effect on Interview Condition, $F(1, 34) = 0.21, p = .89, \eta^2 > .01$. Trained officers ($M = 0.36, SD = 0.25$) and untrained officers ($M = 0.37, SD = 0.22$) were equally successful in masking their information objectives. Hence, Hypothesis 2b found no support. Relating (a) the perceived ease of understanding the interviewers' information objectives and (b) the interviewer's success in masking their information objectives showed no significant relationship, $r(72) = .15, p = .21$ (untrained officers, $r(38) = .16, p = .33$; trained officers, $r(34) = .15, p = .41$).

We further explored the source's perception of the interviewer's eagerness for information and willingness to talk with the interviewer again. A mixed ANOVA with the sources' perception of the interviewer's eagerness as the dependent variable showed a between-subjects effect, $F(1, 34) = 5.29, p = .03, \eta^2 = .14$. Sources interviewed by trained officers ($M = 4.15, SD = 1.71$) remembered the interviewer to have been less eager for

information than sources interviewed by untrained officers ($M = 5.03$, $SD = 1.24$). No other effects were found. A mixed ANOVA with the willingness to talk with the interviewer again as the dependent variable found no between-subject effect, $F(1, 34) = 0.01$, $p = .93$, $\eta^2 < .01$. That is, sources interviewed by trained officers ($M = 5.06$, $SD = 1.59$) were similarly willing to talk with the interviewer again as were sources interviewed by untrained officers ($M = 5.03$, $SD = 1.36$). However, a main effect was found for Source order, $F(1, 34) = 4.72$, $p = .04$, $\eta^2 = .12$. Sources interviewed first ($M = 5.39$, $SD = 1.13$) were more willing to talk with their interviewer again than sources interviewed second ($M = 4.69$, $SD = 1.69$). There was no interaction effect.

Relating the objective and subjective measures

We predicted an interaction effect between interview condition and the objective and subjective amount of new information revealed during the interview. Hence, a mixed ANOVA with the two interview conditions (Trained vs. Untrained) as the between-subjects factor and the revealed information scores (Subjective vs. Objective) as the within-subjects factor was conducted. The interview condition \times revealed information interaction was significant, $F(1, 71) = 6.60$, $p = .01$, $\eta^2 = 0.09$. The interaction was analyzed further by the use of simple effects tests for the revealed information scores (Subjective, Objective) within each interview condition. The sources interviewed by trained officers perceived that they had revealed a similar amount of new information ($M = 5.44$, $SD = 3.55$) as they objectively had revealed ($M = 4.91$, $SD = 3.70$), $F(1, 33) = 0.52$, $p = .47$, $\eta^2 = 0.01$. In contrast, the sources interviewed by untrained officers perceived that they had revealed significantly more new information ($M = 7.29$, $SD = 4.24$) than they objectively had revealed ($M = 4.16$, $SD = 2.25$), $F(1, 37) = 20.24$, $p < .001$, $\eta^2 = 0.22$ (see Figure 1). Thus, Hypothesis 3 found partial support. Noteworthy, 35% of the sources interviewed by trained officers underestimated how much new information they provided during the interaction, the corresponding number for sources interviewed by untrained officers was 13%.

An analysis of the source's self-ratings of the proportion of new information revealed lends further support to Hypothesis 3. A mixed ANOVA showed a significant between-subjects effect, $F(1, 34) = 14.73$, $p = .001$, $\eta^2 = .30$; the sources interviewed by trained officers perceived to have revealed a smaller proportion of new information ($M = 3.03$, $SD = 1.22$) than sources interviewed by untrained officers ($M = 4.05$, $SD = 1.22$). No other effects were found.

Exploring the effects of the trained tactics on elicitation

In an attempt to explore what tactics are driving the effects on elicitation we ran a number of correlations for the measures; (i) new information, (ii) perceived ease to read/correct read of information objectives, and (iii) over/underestimation of new information revealed. We found two effects for the *illusion of knowing it all tactic* on elicitation. The more information the interviewer presented up front, (a) the more difficult the source found it to read the interviewer's information objectives, $r(72) = -.33$, $p < .01$, and (b) the more did the sources underestimate their contribution of new information, $r(72) = -.42$, $p < .001$. However, we found no association between the amount of information presented up front and the amount of new information disclosed by the source $r(72) = .10$, $p = .39$. In addition, we found that the more information the interviewer presented up front, the

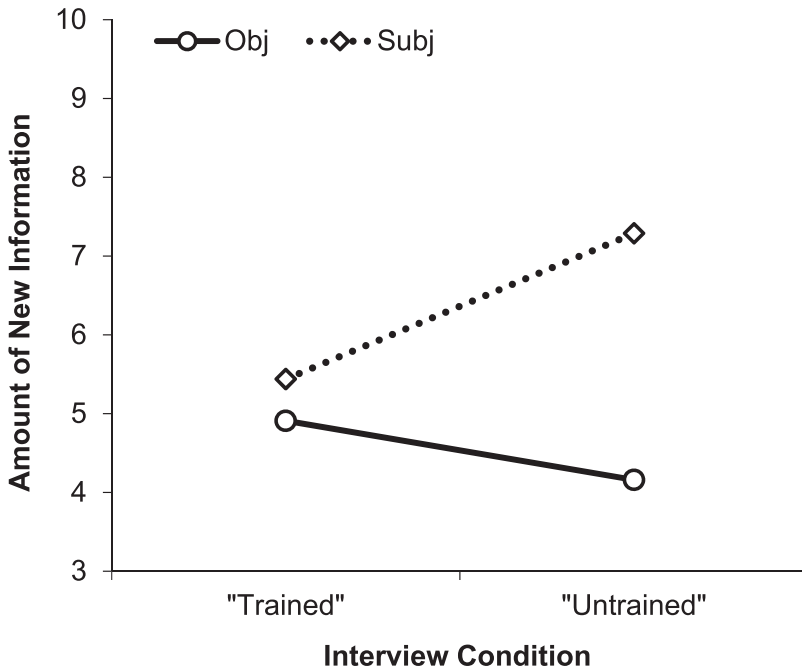


Figure 1. Illustrating the interaction effect for the subjective and objective scores of new information revealed within and between the trained and untrained officers.

more information the interviewer was believed to have known prior to the interview, $r(72) = .76, p < .001$.

The effects following the *claim tactic* were examined only for the trained interviewers (the untrained did not use this tactic). The more claims the interviewer presented, the more the sources underestimated their contribution of new information $r(34) = -.36, p = .04$. The number of claims posed was not associated with the amount of new information collected, $r(34) = .04, p = .83$ or with the ease/correctness of reading the information objectives, $r(34) = .06, p = .73/r(34) = .04, p = .81$.

Finally, we examined the effects of the *number of questions asked* (collapsing trained and untrained interviewers). We found that the more questions asked (a) the easier the source found it to read the interviewer's information objectives, $r(72) = .33, p < .01$, and (b) the more did the sources overestimate their contribution of new information, $r(72) = .28, p = .02$. The number of questions asked during the interview was not associated with the amount of new information collected, $r(72) = -.08, p = .48$.

Discussion

This study advances previous work in the field by comparing the performance of Scharff trained military intelligence officers against intelligence officers who were not trained in this method. The study also contributes to reducing the gap in the research literature with respect to collecting human intelligence from multiple sources. Broadly speaking, the trained intelligence officers adhered to the Scharff training, which resulted in comparatively more effective interviews. That is, the trained officers collected an equal amount of

new information as the untrained officers, but the trained officers left their sources finding it more difficult to read their information objectives and with the impression of having provided comparatively less new information.

The intelligence officers' interviewing strategies

An analysis of the interview behaviors resulted in five observations. First, both the trained and the untrained officers used a large range of interview strategies to elicit information from their sources. Second, both trained and untrained officers were consistent in their use of strategies in that they used the same tactics for the second source as they had used for the first source.

Third, a few tactics were used with a similar frequency across trained and untrained officers (e.g. to highlight one's trustworthiness, confidentiality, to display empathy and to use small talk). Fourth, the untrained and the trained officers differed with respect to how frequently they used certain strategies. Specifically, untrained officers (i) were much more keen to ask questions (and particularly so 'suggestive questions'), (ii) more often highlighted the negative consequences of withholding information, (iii) more often emphasized the opportunity to collaborate, (iv) more often questioned the reliability of the provided information, (v) more often pressured the source, (vi) more often indicated disappointment with respect to the source's contribution and (vii) used subtle encouragements comparatively less often. The amount of new information that followed from these strategies did not differ from the amount collected by the trained officers; but the untrained officers' approach proved to be comparatively less effective for the two remaining aspects of elicitation (hiding the objectives and having the source underestimate his or her contribution of new information).

Fifth, these findings speak indirectly to the fact that the trained officers adhered to the training. That is, a Scharff trained officer (1) should ask comparatively fewer questions, (2) should use subtle encouragements, (3) should not put pressure on the source, and (4) should not question the reliability of the information provided by the source (as this may draw attention to that the source revealed previously unknown information). Furthermore, a Scharff trained officer should (i) not explicitly try to motivate the source to collaborate, (ii) not highlight consequences of withholding information, (iii) not play on the source's conscience and (iv) not show disappointment in the source's contribution, as all these behaviors would work against the illusion of 'knowing it all'.

The intelligence officers' adherence to the training

Three findings lend direct support to that the officers adhered to the Scharff training. First, they all started the interview by trying to establish the 'knowing-it-all' illusion. That is, they presented up front a large share of the information they held. In contrast, the majority of the untrained officers presented no, or only a small amount of, information up front. Second, almost all trained officers posed specific claims to collect new information by obtaining confirmations or disconfirmations. In sharp contrast, only one of the untrained officers utilized this tactic (and at one instance only). Third, although all officers asked quite a large number of questions during their interactions, the trained officers asked much fewer questions than the untrained officers. The combined evidence suggests that military

intelligence officers (at least the population from which this particular sample was drawn) do not typically employ Scharff tactics for interactions such as the one modeled.

The outcome of the interview

The collection of new information

As the Scharff technique has consistently outperformed different comparison techniques (Granhag, Kleinman, et al., 2016), and Scharff-trained handlers outperformed untrained handlers (Oleszkiewicz et al., 2017), we expected trained intelligence officers to gather comparatively more new information. This prediction was not supported, although the difference was in the expected direction. We have two explanations for not arriving at the predicted effect.

First, the sources were very economical in terms of providing new information, on average they revealed less than 20% of the new information held. In brief, dealing with economical sources will leave less room for finding group differences in terms of the amount of new information collected. The fact that the officers collected on average less than 20% of the new information possible to elicit suggests that the sources took on their information management dilemma seriously.

Second, several findings indicate that the untrained officers prioritized the objective of collecting new information over the objective of masking their information requirements. For example, (i) they asked five times as many questions as did their trained colleagues, (ii) they more often pressured their sources, (iii) they more often expressed explicit disappointment with respect to their sources' contributions, and (iv) importantly, their sources found it comparatively easier to read their information objectives. We believe that these findings should be viewed in light of our definition of elicitation. While the collection of new information is an important aspect of elicitation, important are also masking one's information objectives and leaving the source underestimating the amount of new information told.

Perception of the intelligence officers' previous knowledge

As predicted, the trained officers were perceived as relatively more knowledgeable about the topic discussed. We attribute this finding to the trained officers' use of the 'knowing-it-all' tactic.

Perception of the intelligence officers' information objectives

As the untrained officers asked a high number of questions, we were not surprised that the sources found it comparatively easier to read their information objectives (this finding is consistent with previous research, e.g. May et al., 2014; Oleszkiewicz, Granhag, & Kleinman, 2014). Furthermore, trained and untrained officers were equally successful at hiding their information objectives, and the sources were not very accurate in reading their interviewer's information objectives. These results replicate the findings of Oleszkiewicz et al. (2017).

Relating subjective and objective information

A consistent finding from previous research is that sources interviewed with the Scharff technique tend to underestimate the amount of new information they have revealed,

whereas sources interviewed with an explicit questioning approach tend to overestimate the amount of new information revealed (Granhag, Kleinman, et al., 2016). For the current study this pattern was partially supported. Sources interviewed by untrained officers significantly overestimated the amount of new information revealed and our data points to two factors contributing to this. First, the untrained officers played the illusion tactic to a low extent, and therefore their sources had relatively more difficult time to keep track of which information (of all provided) was new and which was old. Second, the untrained interviewers asked many questions and the more questions they asked, the more did their sources overestimate their contribution of new information. Differently put, if you are asked (and answer) many questions, it makes sense to think that you have contributed with a relative large amount of new information. The sources interviewed by trained officers provided realistic estimates of how much new information they had revealed during the interview, and our analysis points to two factors pulling in this direction. First, the trained officers played the illusion-tactic to a high extent and this made it relatively easy for their sources to keep track of which information (of all provided) was new and which was old. Second, the trained officers posed claims and the more claims posed, the more the sources underestimated their contribution of new information.

In addition, the sources were asked for a global assessment of their perception of the new information revealed. The sources interviewed by trained officers believed that a comparatively lesser part of the total information revealed was new to the interviewer. Hence, the sources interviewed by the trained officers were left with the impression that their contribution of new information (of the total amount of information revealed) was comparatively lower. This finding adds to the superiority of the trained officers.

The sources' perception of the officer

We predicted and found that the trained officers were perceived as comparatively less eager to gather information. We pinpointed three factors that contributed to this. First, trained officers played the illusion of knowing it all tactic; and the more information the officer presented up front, the less eager he or she seemed. Second, trained officers asked much fewer questions; and the fewer questions asked, the less eager seemed the officer. Finally, the untrained officers interviewed for a longer time; and the longer the interview, the more eager to collect information seemed the officer. The combined evidence speaks to the efficacy of the Scharff technique and to the internal consistency of our data.

The trained and the untrained officers were equally successful in making their sources willing to meet again. This finding is not very surprising as (i) 'leaving the source willing to meet again' was one of the three main objectives given to both groups of officers, and (ii) to leave a source willing to meet again is an essential skill for an intelligence officer.

Collecting human intelligence from multiple sources

The present paper is one of the first to address the issue of collecting human intelligence from multiple sources (but see, Granhag, Oleszkiewicz, et al., 2016). Research on this topic is important considering the abundance of criminal activities planned and executed by groups (e.g. Carrington, 2002). The fact that this issue has been neglected in past research is particularly problematic given the increasingly complex operational methods employed

by both terrorist groups and large criminal enterprises, with threatening acts primarily carried out by small cells rather than individuals.

We would therefore like to emphasize three findings that are directly related to examining multiple sources. First, for sources interviewed by trained officers, the sources interviewed second in line revealed significantly less new information than did the sources interviewed first. A reasonable explanation for this is that when analyzing the contribution of the source interviewed last, only information beyond what was told by 'source one' was scored as new information. A further contributing factor might be that trained officers collected more information from source 1 than did untrained officers, a finding that might have worked against the sources interviewed second in line (by the trained officers) who revealed a substantial amount of new information.

Second, the sources interviewed second in line (across both interview conditions) were significantly less willing to meet with their officer again. On its face this finding may be explained by the sources interviewed first having been very economical with their information, leaving the sources interviewed last to 'compensate' for this. However, we have no way of providing empirical support to this speculation. We do know that the seriousness of the crime was stressed more often, and the reliability of the provided information was questioned more often for the sources interview last. But these numbers are too weak to provide sufficient support.

Third, as predicted we found that sources interviewed second in line, and by trained officers, perceived the officers to be more knowledgeable about the event than did the sources interviewed first (as expected, we found no such difference for sources interviewed by untrained officers). That is, by using information collected from the sources interviewed first, the trained officers were able to build a more convincing illusion of 'knowing-it-all' for the sources interviewed second in line. This result suggests the Scharff technique might be particularly valuable for situations where there are multiple sources, which creates the opportunity to use information gained from earlier interviews when conducting subsequent interviews.

For the present paper the two sources that each officer had access to did not know about each other. This situation reflects operational reality. Furthermore, each source held both shared and unique information. This is also common in real-life contexts. We believe our paper points to potentially fruitful avenues for future research. For example, one productive path might be to address effects following group dynamics (e.g. loyalty to the group and possible effects of inferring what fellow cell members – or others involved – have revealed during interrogation).

Comparing handlers and military intelligence officers

In a recent paper we studied the effects of Scharff training on experienced handlers working within the police where each handler interviewed one source (Oleszkiewicz et al., 2017). Although there are differences both with respect to the sample and the number of sources, this past study is structurally similar to the current. Hence, we think it makes sense to compare the outcome. First, both police handlers and intelligence officers adhered to the Scharff training. Second, for both studies the Scharff trained professionals outperformed their untrained colleagues (although partly on different measures of efficacy). Third, a closer look at the interview tactics used by the two untrained groups

showed that they did not use any Scharff tactics. From this it can be inferred that Scharff tactics are not used very frequently by handlers and intelligence officers in their day to day work.

Fourth, for both studies the Scharff training resulted in that the interviewers were perceived as comparatively less eager to collect information. Fifth, for both studies the sources who faced untrained interviewers overestimated how much new information they had revealed during the interaction, whereas the sources who faced trained interviewers had a realistic view of how much new information they had provided. Sixth, for both studies the sources interviewed by trained interviewers believed that a comparatively lesser part of the total information revealed was new to the interviewer. Finally, for both studies the sources revealed a rather low percentage of all the new information that they held (20–25%). This number is lower than what we have found in our lab studies (using an identical paradigm for the sources' information management dilemma). This may be explained by the fact that mock-sources interacting with a professional interviewer are more economical with their information than when interviewed in a lab-environment. All in all, we find it encouraging that we were able to replicate such a high number of important findings using a sample from a different group of professionals.

It is also important to acknowledge some differences between the two studies. First, military intelligence officers asked many more questions than did the handlers. Specifically, trained handlers asked on average 1.3 questions, whereas trained intelligence officers asked on average 7.5 questions. Untrained handlers asked on average 8.0 questions, whereas untrained intelligence officers asked on average 33.9 questions. We found it noteworthy that the ratio of questions asked by untrained and trained personnel was about the same for both studies (5:1). Also of interest were (1) the difference in the number of questions asked occurred despite the fact that the information objectives were identical and (2) the average length of the interactions (17–20 minutes) were very similar across the two studies.

Second, for our previous study we found that trained handlers collected more new information than their untrained colleagues; however, this result was not replicated for the current study. Third, for the current study the sources found it comparatively more difficult to read the Scharff trained interviewers' information objectives, whereas in our previous study we did not find any difference in this respect. The latter finding is likely related with the untrained intelligence officers' straightforward approach (asking a high number of explicit questions), which might explain why their sources found it comparatively easier to read their information objectives.

Limitations

Our study comes with some limitations. The first limitation was that the length of the actual training was limited to 150 minutes. Here it should be noted that each intelligence officer spent 220 minutes within the frames of the study, which is a long time for this exclusive sample of professionals. The length of the training session had to be adjusted to account for the test-phase (preparation, interview, post-interview questionnaire) and breaks. We believe it is noteworthy that after only 150 minutes training session the trained officers understood the core components of the Scharff technique and outperformed their untrained colleagues on several critical measures. A second limitation is

the relatively small sample of intelligence officers. The reason for this was the difficulties in recruiting such an exclusive group of professionals. A third limitation is that we used a student sample as mock-sources. But we believe it is reasonable to argue that the Scharff tactics might be equally effective for real sources. Supporting this contention is the expectation that many real-life sources will be more motivated to evoke counter-interrogation strategies than mock-sources (Alison et al., 2014), and the Scharff-technique is specifically tailored to circumvent such counter-interrogation strategies. A fourth limitation is that we did not assess the relative importance of the information provided. This is a limitation since, in the course of real-life situations, certain facts, details, and observations are often of greater importance than other bits of information.

A second limitation concerns our explanation of the observed effects. A proper analysis of what tactics are driving what effects demands a sample much larger than we had access to. However, we did an attempt and we mapped the extent to which two Scharff tactics (the illusion of knowing it all and the claim tactic) drove different aspects of elicitation. None of the tactics were associated with the amount of new information collected. But the illusion tactic contributed to making it difficult to read the information objectives and the overestimation of new information disclosed (the two other parts of elicitation). The claim tactic was found to contribute to the sources underestimating their own contribution of new information. Our exploration comes with limitations and is at best a first scratching of the surface of the larger and important issue of arresting what effects different tactics are driving.

Finally, some limitations with respect to the Scharff technique as such should be acknowledged. First, there are situations where the Scharff technique would be rather difficult to use. For example, possessing accurate information is necessary to properly establish the illusion of 'knowing-it-all'. This would prove very problematic in a scenario where an interviewer encountered a source that was a member of a previously unknown criminal or terrorist organization. Second, for some situations it would be a tactical mistake to reveal the intelligence held on a certain topic. For example, an informant could be deployed by a criminal organization to find out how much information the police are holding. Third, presenting claims comes with the potential risk of influencing the source to provide unreliable intelligence by, for example, disconfirming a correct claim. It should thus be noted that for the current training study, as well as for our past research, there has been no issue with the claim tactic in producing false information (Oleszkiewicz, Granhag, & Kleinman, 2014).

Conclusions

In a time of threats and terrorist attacks there is a need for ethically defensible and effective techniques for eliciting intelligence from human sources (Alison & Alison, 2017; Brandon, 2011). The current study contributes to this challenge by training military intelligence officers in the Scharff technique and comparing their performance against their untrained colleagues. We used a paradigm that allowed for a comprehensive test of our hypotheses and we replicated past findings showing that Scharff-trained professionals (a) collect more – or an equal amount of – new information as their untrained colleagues, (b) are perceived as less eager to collect information, and (c) leave their sources with the impression that they have provided comparatively less new information. We also

advanced previous research by learning that trained military intelligence officers facing multiple sources interviewed in a more effective way than did their untrained colleagues.

There is a sublime irony inherent in the Scharff technique: it offers a technique for conducting an interview without overtly appearing to be collecting specific information. Based on the outcome of this and past studies, we believe it is fair to claim that the Scharff technique is a promising technique that should be mastered by professionals charged with the mission of eliciting vital information from sources, informants or detainees.

Disclosure statement

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