

ELICITING HUMAN INTELLIGENCE

A conceptualization and empirical testing of the Scharff technique

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UNIVERSITY OF GOTHENBURG

Doctoral Dissertation in Psychology
Department of Psychology
University of Gothenburg
February 26, 2016

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Printed by Ineko AB, Gothenburg, Sweden, 2016
ISSN 1101-718X Avhandling/Göteborgs universitet, Psykologiska inst.
ISRN GU/PSYK/AVH--31--SE

ISBN: 978-91-628-9694-2 (Print)
ISBN: 978-91-628-9695-9 (PDF)

*In Memory of
Aleksander Oleszkiewicz
&
Silver*

Brutality you can resist. If I slap your face, you can slap me back – probably harder than I can. But if friendliness and consideration for the underdog comes from the heart, show me the human being who can resist it.

Hanns Scharff

ABSTRACT

Oleszkiewicz, S. (2016). *Eliciting human intelligence: A conceptualization and empirical testing of the Scharff technique*. Department of Psychology, University of Gothenburg.

This thesis is on how to elicit intelligence from human sources with the principal aim being to examine the efficacy of the tactics employed by the renowned WWII interrogator Hanns Scharff. A novel experimental set-up (as well as new dependent measures) was introduced to evaluate the efficacy of different human intelligence gathering techniques. Participants were given information about a planned terrorist attack, asked to take on the role of “sources”, and instructed to be semi-cooperative in a subsequent interview.

In *Study I* ($N = 60$), interviews were conducted over the phone. The Scharff technique (conceptualized to include five tactics) was compared to the direct approach (a combination of open-ended and specific questions). The Scharff technique resulted in relatively more new information and led sources to *underestimate* how much new information they revealed. With the Direct Approach, sources *overestimated* how much new information they revealed.

In *Study II* ($N = 119$), interacting parties met face-to-face and the sources were allowed to lie. Two versions of the Scharff technique were compared to the direct approach. The Scharff confirmation technique made use of claims that included the correct alternative while the Scharff disconfirmation/confirmation technique made use of a mix of correct and incorrect claims. The Scharff confirmation technique resulted in more new information than the Scharff disconfirmation/confirmation technique and the direct approach. Sources interviewed using the Scharff techniques had a more difficult time reading the interviewer’s information objectives and underestimated their contribution of new information. Sources interviewed using the direct approach overestimated how much new information they revealed.

In *Study III* ($N = 200$) the interview techniques were used with four different types of sources varying in both their levels of cooperation and capability to provide information as follows: (a) less willing/less able, (b) less willing/more able, (c) more willing, less able, and (d) more willing/more able. The Scharff technique was compared to the direct approach. Overall, the Scharff technique resulted in relatively more new information, particularly when interviewing less cooperative sources. Furthermore, sources interviewed using the Scharff technique had a more difficult time reading the interviewer’s information objectives and consistently underestimated their contribution of new information.

This thesis provides a psychological framework for and a conceptualization of the Scharff technique. Furthermore, the thesis introduces an experimental set-up mirroring a human intelligence interaction and offers a new set of dependent measures for mapping the efficacy of intelligence gathering techniques. In sum, this thesis provides support for the Scharff technique as an effective tool for eliciting information from human sources.

Keywords: The Scharff technique, human intelligence gathering, information elicitation

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ISBN 978-91-628-9694-2

ISSN 1101-718X

ISRN GU/PSYK/AVH--330--SE

SWEDISH SUMMARY

Många anser att Hanns Scharff (1907-1992) var en av andra världskrigets mest framstående förhørsledare. I kontrast till många av sina kollegor som pressade krigsfångar med hotfulla metoder praktiserade Scharff vänliga samtal. Detta ledde inte bara till att Scharff knöt bekantskaper som höll långt efter andra världskrigets slut, samtalen medförde även att de brittiska och amerikanska stridsflygare som Scharff förhörde sällan upplevde att de lämnat någon information av värde. Samtidigt visade Scharffs resultat att han var Luftwaffes främsta förhørsledare.

Den så kallade Scharff-tekniken kan beskrivas som ett koncept bestående av fem olika taktiker. Scharff hade alltid ett *vänligt förhållningssätt* och var väl bekant med brittisk och amerikansk kutym. Han brukade inleda förhöret med en lång och övertygande berättelse som tydliggjorde att han var väl informerad om krigsfången och dennes situation. Syftet med en sådan inledning var att bygga en *illusion av att det mesta redan var känt*. Vidare hade Scharff som regel att *aldrig pressa fram information* och undvek att ställa direkta frågor. Istället gav Scharff sina fångar möjligheter att korrigera hans utsagor eller lämnade luckor i sina berättelser som fångarna kunde fylla i. Scharff brukade således formulera påståenden vilka han ville få bekräftade eller dementerade av sina fångar (*confirmation/disconfirmation*). En viktig princip var att Scharff *aldrig avslöjade när fångarna lämnade uppgifter* som gick utöver hans egen kunskap.

Syfte och procedur

Underrättelseinhämtning handlar om att samla in information. Informationsinsamlandet kan ske på många olika sätt och sättet på vilket underrättelser samlas in bestäms ofta av källan till informationen. Att samla in underrättelser från mänskliga källor kan beskrivas som att utvinna information genom interaktioner med andra människor. Målet med underrättelseinhämtning är att upprätthålla den nationella säkerheten genom att exempelvis förebygga olagliga aktiviteter innan de sker. Ett specifikt mål i underrättelsesammanhang kallas för elicitering. Elicitering syftar till att samla in information på sådant vis att källan (a) underskattar sitt eget bidrag och (b) hålls ovetande om vad intervjuaren vill veta.

Rättspsykologisk forskning har under lång tid granskat polisens förhör med misstänkta. Inom detta område har forskningen bidragit med viktiga insikter gällande bland annat falska erkännanden, sanna medgivanden och lögnedetektion. Det är dock anmärkningsvärt att det i princip inte finns någon forskning om intervjumetoder för att samla in underrättelser från personer som inte är fullt samarbetsvilliga. Då detta område är tämligen outforskat har denna avhandling utgått från den högt ansedda förhørsledaren Hanns Scharff och utvärdera hans metod i en experimentell miljö. Således hade denna avhandling fem syften; (1) att introducera Scharff-tekniken, (2) att knyta Scharffs taktiker till psykologisk forskning, (3) att conceptualisera taktikerna till en sammanhängande teknik, (4) att introducera en experimentell procedur som uppfyller centrala aspekter av

ett underrättelseinhämtningsscenario och (5) att utveckla nya mätinstrument för att utvärdera effektiviteten hos dessa intervjumetoder. Det mer allmänna syftet med avhandlingen var att genomföra den första vetenskapliga undersökningen av den så kallade Scharff-tekniken.

För att kunna jämföra olika underrättelseinhämtande metoder skapades ett experimentellt scenario med följande utmärkande drag: Intervjuaren hade tillgång till ofullständiga uppgifter om en planerad fiktiv terroristattack. För att komplettera bilden av vad som planerades behövde intervjuaren söka information från en mänsklig källa. Denna källa hade kunskap som kunde fylla vissa, men inte alla, luckor i den redan befintliga informationen. Vidare övervägde källan ett dilemma; källan var motiverad att prata med intervjuaren, för att i utbyte få hjälp, men samtidigt motiverad att inte lämna all information som hen kände till, eftersom källan hade starka sociala band till terroristgruppen. Källan satt således på mer information än hen var villig att dela med sig av.

För att utvärdera underrättelseinhämtande metoder utvecklades olika typer av effektivitetsmått för att fånga både objektiva och subjektiva aspekter av intervjun. De objektiva måtten utvärderade mängden och kvaliteten av den information källan lämnade under intervjun. Först transkriberades de inspelade intervjuerna. Sedan kodades de transkriberade intervjuerna via en checklista vilken listade all information som var tillgänglig för källan. De subjektiva måtten avsåg fånga källans upplevelser av intervjun. Dessa mått samlades in via tre enkäter. Den första enkäten bestod av skattningsskalor där källan fick skatta exempelvis hur svårt det var att förstå vilken information intervjuaren var ute efter. I den andra enkäten fick källan en checklista som var identisk med den som användes för att koda de transkriberade intervjuerna. Här fick källan kryssa i de specifika uppgifter källan upplevde att hen sagt under intervjun. Den sista enkäten var även den en identisk checklista, men nu kryssade källan i de uppgifter hen upplevde redan var känd av intervjuaren innan intervjun. För att ge en bredare bild av intervjuteknikernas faktiska verkansseffekt kombinerades vissa objektiva och subjektiva mått. Ett exempel är att det objektiva kodningsschemat relaterades med det subjektiva kodningsschemat, vilket gav en uppfattning om källan över/underskattade mängden lämnad information som var ny för intervjuaren.

De vetenskapliga studierna

I Studie I genomfördes intervjuerna över telefon. Källorna blev antingen intervjuade med Scharff-tekniken eller med direct approach (en kombination av öppna och specifika frågor). Resultatet visade att Scharff-tekniken resulterade i en större mängd ny information än direct approach. Vidare *underskattade* källorna som intervjuades med Scharff-tekniken hur mycket ny information de lämnat under intervjun (de upplevde att de lämnat mindre ny information än vad de faktiskt gjort). I motsats till detta *överskattade* källorna som intervjuades med direct approach mängden lämnad ny information.

I Studie II utvecklades det experimentella upplägget på tre punkter jämfört med Studie I. Källorna och intervjuarna möttes ansikte mot ansikte, källorna fick möjlighet att fabricera information under intervjun (detta var inte tillåtet i Studie I), och två versioner av Scharff-tekniken jämfördes med direct approach. För den ena versionen presenterades tre påståenden som inkluderade korrekta alternativ (Scharff confirmation). För den andra versionen inkluderade ett av de tre påståendena ett felaktigt alternativ (Scharff dis/confirmation). Källorna eskorterades till ett rum där de blev intervjuade med en av de tre teknikerna. Resultatet visade att de båda versionerna av Scharff-tekniken resulterade i en större mängd ny information jämfört med direct approach. Öväntat nog resulterade Scharff confirmation i mer ny information än Scharff dis/confirmation. Vidare hade källorna som intervjuades med en av de två versionerna av Scharff-teknikerna (jämfört med direct approach) svårare att förstå vilken information intervjuaren var ute efter. Källorna som intervjuades med en av de två Scharff-versionerna underskattade sitt bidrag av ny information. Källorna som intervjuades med direct approach överskattade sitt bidrag av ny information.

I Studie III utvecklades det experimentella upplägget genom att systematiskt variera källornas samarbetsnivå (mer/mindre villiga) och möjlighet att lämna information (mer/mindre kapabla). Resultatet visade att Scharff-tekniken resulterade i en större mängd ny information jämfört med direct approach. Vid jämförelse mellan de mer och mindre samarbetsvilliga källorna resulterade Scharff-tekniken i en högre proportion ny information vid intervjuer med de mindre (jämfört med de mer) samarbetsvilliga källorna. I kontrast till detta resulterade direct approach i en högre proportion ny information vid intervjuer med de mer (jämfört med de mindre) samarbetsvilliga källorna. Således ökade Scharff-teknikens relativa effektivitet att samla in ny information vid intervjuer med mindre samarbetsvilliga källor. Vidare hade källorna som intervjuades med Scharff-tekniken (jämfört med direct approach) svårare att förstå vilken information intervjuaren var ute efter. Scharff-tekniken resulterade i att källorna underskattade sitt bidrag av ny information, medan källorna som intervjuades med direct approach generellt överskattade sitt bidrag av ny information.

Slutsats

I efterdyningarna av de terroristattacker som genomförts är behovet stort av vetenskapligt beprövade metoder för att samla in underrättelser. Denna avhandling introducerar en experimentell procedur och effektivitetsmått för att utvärdera intervjumetoder i ett underrättelseinhämtningsscenario. Studierna talar för att Scharff-tekniken är ett effektivt verktyg för att samla in underrättelser från mänskliga källor, och tekniken kan användas i flera olika sammanhang där källan inte är fullt samarbetsvillig. Denna avhandling är av praktisk relevans då den ger en grundläggande beskrivning av Scharff-tekniken.

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PREFACE

This thesis consists of a summary and the following three papers, which are referred to by their roman numerals:

- I. Oleszkiewicz, S., Granhag, P. A., & Cancino Montecinos, S. (2014). The Scharff-technique: Eliciting intelligence from human sources. *Law and Human Behavior*, *38*, 478–489. doi: 10.1037/lhb0000085
- II. Oleszkiewicz, S., Granhag, P. A., & Kleinman, S. (2014). On eliciting intelligence from human sources: Contextualizing the Scharff-technique. *Applied Cognitive Psychology*, *28*, 898–907. doi: 10.1002/acp.3073
- III. Granhag, P. A., Oleszkiewicz, S., Strömwall, L. A., & Kleinman, S. (2015). Eliciting intelligence with the Scharff technique: Interviewing more and less cooperative and capable sources. *Psychology, Public Policy, and Law*, *21*, 100–110. doi: 10.1037/law0000030

Study II and Study III was funded by the United States High-Value Detainee Interrogation Group Contract J-FBI-12-187 awarded to Pär Anders Granhag and the University of Gothenburg. Statements of fact, opinion, and analysis in this thesis are those of the author and do not reflect the official policy or position of the Federal Bureau of Investigation or the United States Government.

ACKNOWLEDGMENTS

My interest in psychology started sometime in 2007 when I was working at Karsuddens psychiatric institution. With a love for animals and traveling, I had the idea to use psychology as a means to study animal life in the jungle. During my third semester of psychology studies at Linnaeus University, I came across Bond and DePaulo's lie-detection study. Having no idea how the authors came to their conclusions, I found the research very compelling. Not long after, I discovered a Swedish professor specializing in the field. My career path took a drastic turn out of the wilderness and headed, instead, towards the urban jungle of the Psychology Department in Gothenburg. A few months later, I met my future supervisor. Admittedly, he struck me as a rather intimidating man. He was, as he still is, a bit stressed but well dressed and had much to vent through his Gothenburg accent. Already at that time, he mentioned the Scharff idea – and I was completely blown away.

Professor Pär Anders Granhag. I consider myself privileged to have had the opportunity to work with you on this project. You have given me a great deal of freedom, responsibility and trust. Your work ethic is inspiring and the depth of your knowledge without equal. Your invaluable guidance throughout this journey has helped me grow wings of my own. I will be forever grateful.

Prior to meeting my supervisor, I attended a master's level course in forensic psychology. In the classroom was this fellow who switched to a distinct British accent whenever given the chance. I was amazed not by the accent, but by this lecturer's skills as an educator.

Professor Leif Strömwall. I remember the day I walked into your office with my PhD application, asking you to be my second supervisor. You had no facial expression, no objections and, in fact, no hesitations at all. You just uttered a simple "Yes". That meant a great deal to me at the time and still does. Your ability to switch from serious to humorous has helped me through this journey and your sense for spotting an issue's gravity is a gift. Thank you my friend.

During my time in the department, I have made many friends who have helped me, inspired me and laughed with me. I would like to thank each and every one of my colleagues in the research unit for Criminal, Legal and Investigative Psychology (CLIP). It has been a genuine pleasure working with such a hardworking, yet friendly group of people. I would like to particularly thank two dear friends, the proud islanders *Erik Mac Giolla* and *Dr. Olof Wrede*.

It should be noted that the department is bigger than its research groups, and all my colleagues are the reason I so greatly appreciate this place, especially people who are never here, *Martin Geisler*, or who left the building, *Sebastian Cancino Montecinos*. I would also like to thank two people who helped keep this project afloat administratively, *Christina Wanner* and *Malin Ceder*.

Finally, I would like to stress that this thesis would not have been completed without the involvement of a few exceptional people. *What would have been...*

... the substance without devoted assistants?

Thank you *Linn Allwood, Anna Elm, Ove Haugen and Helena Jansson*, as well as all others who helped throughout the project. You have my sincerest appreciation.

... the quality without the contributions of others?

Thank you *Professor Paul Taylor* for reviewing, *Nathan Jones* for proofreading, *Professor Anders Biel* for examination matters and my opponent, *Dr. Jacqueline Evans*.

... the relevance without distinguished collaboration?

Thank you *Colonel Steven Kleinman*.

... of me without creative relief?

Thank you my bandmates in Mr. Tom: *Johannes Quist, Emil Henskog and Gabriel Ek*.

... at all without funding possibilities?

Thank you *Dr. Susan Brandon* and the *HIG*.

I would also like to thank my family, who provided the support to persevere.

My mother *Agneta* for her unconditional love, my sister *Gabriella* and her fiancé *Johan* for always helping out, my brother *Adolf* and his fiancé *Kristin* for being the best of friends and my nephews *Abbe* and *Alessandro* who captured my heart without uttering a single word.

Renate, you allowed distance when needing me most. I love you.

... and an ode to those who had to leave us along this journey.

Aleksander Oleszkiewicz

You showed me the world, you taught me grit and you will always be in my heart.

Silver, I miss you every day.

Simon Oleszkiewicz
Gothenburg, December 2015

BACKGROUND

The April 2013 Boston marathon (US) and January 2015 Charlie Hebdo (France) attacks are two examples of the terrorist activity that continues to evolve on a global scale (Global Terrorism Index, 2014). The growing number of terror attacks, as well as subsequent reports of abusive treatment of detainees (Senate Select Committee on Intelligence, 2014), have inspired researchers, practitioners and policy-makers to call for evidence based methods for ethical and effective intelligence gathering (e.g., Brandon, 2011, 2014; Fallon, 2014; Fein, Lehner & Vossekul, 2006; Justice, Bhatt, Brandon & Kleinman, 2010; Loftus, 2011; Obama, 2009). On a positive note, within the field of legal psychology, there are some already established subfields that touch upon issues relevant for gathering information from human sources (i.e., human intelligence gathering). For example, research on memory-enhancing techniques (Fisher & Geiselman, 1992), deception detection (Granhag & Strömwall, 2004; Vrij, 2008) and false confessions (Lassiter & Meissner, 2010) addresses some elements relevant to the intelligence gathering process. However, the evaluation of human intelligence gathering techniques differs from these fields of research. Specifically, in evaluating an intelligence gathering interview, one must consider not only the amount of information elicited, but also the source's perception of and response to that particular exchange (Granhag, Cancinos Montecinos & Oleszkiewicz, 2015). Some researchers have recognized this gap in the academic literature and advanced our understanding of interviewing suspects by focusing on gathering so-called guilty knowledge rather than eliciting confessions and detecting deceit (Evans et al., 2013), but these studies are still quite limited in number. Furthermore, there has been no research focusing on developing measures to evaluate critical aspects typical for human intelligence interactions (e.g., the perceived amount of information revealed). Moreover, there have been few scientific examinations of the comparative efficacy of operationally relevant interview techniques listed in training manuals (Evans et al., 2014; Justice et al., 2010).

In accordance with this identified need for research, this thesis provides an examination of the interview approach used by WWII interrogator Hanns Scharff (1907-1992). Scharff was a member of the German Luftwaffe and interrogated hundreds of Allied aircrew members (Toliver, 1997). History has recorded his performance as an interrogator at the Luftwaffe's Intelligence and Evaluation Center (Dulag Luft). Scharff's accomplishments are noteworthy in light of the large volume of intelligence he collected and his methods of gathering information seem quite remarkable. Rather than compelling prisoners to reveal information through the use of coercive methods and/or torture, his success has been argued to be the result of carefully orchestrated, psychologically sophisticated and friendly exchanges with his prisoners (Granhag, 2010). Many of today's practitioners regard Hanns Scharff as an outstanding interrogator (Stone, Shoemaker & Dotti, 2010) and his methods stand in clear opposition to the "enhanced" methods that have been the focus of heated and politically charged debates (Senate Select Committee on Intelligence, 2014). Importantly, the majority of evidence for Scharff's success has been anecdotal (Toliver, 1997), which calls for an empirical evaluation of the efficacy of his technique.

To remedy the paucity of research on human intelligence gathering techniques, this thesis has five general aims: (a) to introduce the so-called Scharff technique, (b) to provide a psychological framework for the technique, (c) to conceptualize the technique (i.e., describe the specific tactics of the technique), (d) to introduce an experimental set-up mirroring some key aspects of a human intelligence gathering interaction and (e) to introduce a set of dependent measures relevant for evaluating the efficacy of intelligence gathering techniques. The more general aim of this thesis is to conduct the first scientific examination of the Scharff technique and to assess the comparative efficacy of the technique.

Human Intelligence Gathering

Gathering intelligence refers to the process of collecting information. Information can be collected using various methods and the procedures for gathering intelligence are typically categorized by the source of the information. For example, gathering electronic transmissions from/to ships and satellites is called signal intelligence (SIGINT) and gathering information from media and public data is called open source intelligence (OSINT). This thesis focuses on gathering information from people, known as human intelligence (HUMINT). Human intelligence can best be described as the gathering of information by means of an interaction between two or more individuals (Justice et al., 2010). The interaction occurs, for example, when military personnel question prisoners, police officers interrogate criminal suspects/witnesses or when such organizations handle informants. Human intelligence gathering thus revolves around the idea that information is collected through human communication (Kleinman, 2006). The purpose of gathering intelligence from human sources fits well within the broader purpose of any form of intelligence gathering: to identify information that satisfies intelligence objectives (US Army, 2006). Examples of such objectives are to ensure societal security and uphold civilian rights. By gathering this type of information, intelligence analysts can come to understand what activities are being planned and intervene before illegal activities take place (Bowman, 2010). The benefits of human intelligence can thus be substantial for national security purposes, for example, to prevent terrorist attacks.

One specific form of intelligence gathering is *information elicitation*, of which the goal is to gather information in such a way that the source remains unaware of the purpose of the exchange (Justice et al., 2010). The elicitation process can be described as a sophisticated interaction used when the interviewer does not want the source to realize s/he is providing information to meet specific intelligence requirements. More precisely, information elicitation refers to gathering information in such a manner that the source (a) underestimates his/her contribution of new information and (b) remains unaware of the interviewer's information objectives.

Intelligence gathering and law enforcement interviewing

Human intelligence gathering is both similar to and different from the typical suspect interview conducted during criminal investigations. Evans, Meissner, Brandon, Russano and Kleinman (2010) identified three features shared by the human intelligence gathering interaction and the law enforcement interview (see also, Redlich, 2007). In brief, both forms of interaction: (i) profit from extensive pre-interaction planning, (ii) aim to gather information and (iii) demand a post-interaction assessment of the information gathered. However, there are also some differences between the two forms of interaction. Evans and colleagues (2010) proposed that the main difference between human intelligence gathering and law enforcement interviewing is the *purpose* of the interaction. The primary goal of a law enforcement interview is to gather information from a suspect relevant to a crime committed in the past (i.e., to collect evidence). Briefly put, the interviewer has to obtain reliable information from a suspect that is often perceived as uncooperative (Evans et al., 2010). Intelligence gathering, however, can be even more complex in nature. More specifically, in addition to mapping out past events with precise requirements, the intelligence scenario may involve generating information to map intentions, future plans and possible upcoming events (Hartwig, Meissner & Semel, 2014). A second difference is that, while the law enforcement interview is conducted in a formal, custodial setting, the intelligence interaction can occur as a casual conversation (e.g., at a bar). It should, however, be noted that the human intelligence interaction can also take place in a conventional, custodial setting where the source expects and receives direct questions from an interviewer. A third difference is that suspect interviews are characterized by an overt component (i.e., the suspect is aware of his/her situation). In contrast, the intelligence situation may be characterized by a covert component (i.e., the source provides information but may be unaware of the relevance of that information and/or the interviewer's specific interest in obtaining that information). A fourth difference is that the law enforcement interview is typically relatively short, while the intelligence interview may take place on a more or less regular basis over the course of several years. Thus, the longer-term relationship between interviewer and source plays a more central role in intelligence gathering (see, Shumate & Borum, 2006).

It should be noted that the differences and similarities between human intelligence gathering and suspect interviewing might hold more academic than practical relevance. In actual use, it can be argued that intelligence gathering, as discussed in this thesis, can occur during any type of human interaction (including a suspect interview). However, the definitional differences are important for understanding how two types of interviews are studied in the laboratory.

Research on law enforcement interviewing

Research on suspect interviewing has a rather extensive history and can, broadly speaking, be grouped into two branches: (a) confessions and (b) lie detection. The first branch mainly focuses on factors that elicit true and false confessions and factors that make people more (or less) susceptible to interrogative pressure (Lassiter & Meissner, 2010). The laboratory based research on confession typically employs one of two experimental

set-ups. The first of these is the Kassin and Kiechel (1996) crashed-computer paradigm in which participants were accused of pressing a forbidden key (i.e., the ALT key) during a typing task. No participant actually pressed the ALT key and all participants initially deny having pressed it. However, the results show that the most intense interview conditions (high memory vulnerability and presenting false evidence) resulted in a 100% rate of exhibited compliance (i.e., a confession was signed), 65% rate of internalization (i.e., participants believed that the ALT key was pressed) and 35% rate of confabulation (i.e., false memories were generated; Kassin & Kiechel, 1996). Although this experimental scenario was an important first step in examining confessions, it was designed to investigate false confessions only. To evaluate the diagnostic features of confessions (i.e., both true and false), Russano and her colleagues (2005) introduced a guilt-innocence manipulation. Participants were instructed to solve a series of logic problems designated to be solved either individually or in teams (i.e., with a confederate). In the guilty condition, the confederate asked the participant for help with a problem designated as individual. If the participant chose to comply with the request (i.e., to break the rules of the study), s/he was considered to be guilty of cheating. No such requests were made for the innocent condition. The participants were then interviewed and asked to sign a confession statement. The overall results showed that an inquisitorial approach (e.g., explaining the seriousness of the offence and emphasizing honesty and truth) produced fewer false confessions and increased true confessions when compared to an accusatorial approach (e.g., minimizing or maximizing the seriousness of the offence; Lassiter & Meissner, 2010). In sum, the research shows that information-gathering approaches generally result in fewer false confessions than accusatorial approaches (Meissner, Redlich, Bhatt & Brandon, 2012).

The second of these branches typically employs an experimental set-up that examines truth and deceit. The majority of this research involves participants viewing short videotaped statements showing individuals either lying or telling the truth. The observers are then asked to make a veracity judgment of the person in the video. Typically, results are just slightly better than chance (i.e., approx. 54% correct judgments) when observers try to discriminate between lies and truth (Bond & DePaulo, 2006). Research has shown that people generally rely on the correct cues to detect deception, but that those cues are subtle and difficult to notice (Hartwig & Bond, 2011). Hence, Vrij and Granhag (2012) have called for new ways of developing and evaluating interview techniques (e.g., increasing cognitive load, Strategic Use of Evidence) that would yield more diagnostic cues to deceit. In these studies, participants are typically assigned the role of performing either a mock criminal or non-criminal act and are subsequently interviewed. For example, in a study by Granhag and colleagues (2013), the participants were instructed to visit a bookstore and either steal a specific book (guilty condition) or find out the price of that book (innocent condition). Once the participants returned from the bookstore, they were interviewed with one of three interview techniques. The techniques differed only with respect to the moment when evidence was presented to the suspects (i.e., evidence presented early, late or incrementally). The results showed that presenting evidence early produced the smallest difference between liars and truth-tellers and that an incremental presentation of evidence produced the largest difference (Granhag, Strömwall, Willén &

Hartwig, 2013). Overall, researchers in this area aim to develop interview protocols which may enhance and elicit cues to deceit and truthfulness from suspects who have committed a crime (Hartwig, Granhag, Strömwall & Kronkvist, 2006; Vrij & Granhag, 2012) or who are planning to commit one (Clemens, Granhag & Strömwall, 2011). The studies often use dependent measures that tap (a) the match between the suspects' statement and evidence and (b) changes within the suspects own statements. When evaluating the collected information, the number of verbal cues to deceit (e.g., reference to place and time) is often mapped. For example, Vrij and his colleagues (2007) reasoned that, as the number of words in a suspect's statement increases, so should the number of verbal cues to deceit/truthfulness. Their study showed that an accusatory interview style (i.e., indicating a higher degree of suspicion) had a negative effect on the length of suspects' statements and on the number of verbal cues to deception found in the statements when compared to an information gathering interview style.

Investigative interviewing. Until quite recently, the research field of suspect interviewing has primarily focused on anxiety-based interview approaches (Lassiter & Meissner, 2010; Vrij & Granhag, 2012). It has also been argued that, until quite recently, police officers tended to believe the main purpose of a suspect interview to be to elicit a confession (Bull, 2014). Rather than attempting to obtain the suspect's account of what had happened, the suspect was confronted with incriminating evidence and accusations (Bull, 2014). However, a number of high profile cases of miscarriages of justice in the UK (e.g., the Birmingham six) resulted in the creation of the Police And Criminal Evidence act (PACE; Home Office, 1985). With a focus on safeguarding innocent suspects, the PACE act developed into a nationwide interviewing standard, the five stage PEACE model of interviewing (Preparation and planning; Engage and explain; Account, clarification and challenge; Closure; Evaluation). The PEACE model has since been adopted in a number of other western countries (e.g., Australia, Norway,). Briefly explained, the model is a framework promoting ethical information gathering approaches as opposed to accusatorial tactics for extracting confessions. Consequently, in terms of interview techniques, the PEACE framework largely relies on Fisher and Geiselman's (1992) the Cognitive Interview (Shawyer, Milne & Bull, 2013).

In short, the cognitive interview (CI) draws on psychological research to enhance the memory retrieval of cooperative witnesses and victims. The elements of this technique relate to basic psychological processes such as cognition (e.g., context reinstatement & accuracy of responding), social dynamics (e.g., developing rapport & unburdening the victim) and communication (e.g., promoting extensive, detailed responses) (Fisher & Geiselman, 2010). Importantly, the CI has recently been adapted to be more compatible with the typical suspect interview leading to the development of the so-called cognitive interview for suspects (CIS). The CIS consists of eight stages: (1) building rapport, (2) asking for a narrative, (3) illustrating the story with a drawing, (4) follow-up questions, (5) reverse-order procedure, (6) challenging inconsistencies, (7) reviewing the interview with the suspect and (8) closure of the interview (Geiselman, 2012). The CIS has been shown to increase the interviewer's ability to distinguish truth from deceit (Geiselman, 2012).

It should be noted that, although the research conducted in accordance with the PEACE model has generated a body of literature on factors that may lead to false confessions, few studies have examined techniques that may result in true admissions and confessions (Meissner, Hartwig & Russano, 2010).

A recent, notable example is that of Tekin and her colleagues (2015) who demonstrated novel tactics for eliciting admissions from guilty suspects by drawing on the strategic use of evidence framework (Granhag & Hartwig, 2015). Briefly explained, one difference between guilty and innocent suspects is that the former tend to withhold critical details whereas the latter tend to be generally forthcoming. To exploit this difference, the interviewer can use existing evidence in a strategic fashion to gain truthful admissions. That is, before presenting a piece of evidence to the suspect, the interviewer poses questions to exhaust possible alternative explanations and makes the suspect address that piece of evidence. Subsequently, the interviewer confronts the suspect with the piece of evidence. This strategy increases the likelihood that guilty suspects provide statements inconsistent with the existing evidence (Granhag & Hartwig, 2015). However, if this strategy is repeated for each piece of evidence, guilty suspects might become aware of the interviewer's tactic (i.e., that the suspect is asked to address topics related to evidence already possessed by the interviewer). Hence, by strategically applying such an evidence-confrontation procedure (i.e., influencing the suspect to expect the interviewer's tactical pattern), Tekin and colleagues' approach (2015) more successfully influenced guilty suspects to provide truthful admissions for evidence not held by the interviewer (compared to interview approaches that present evidence early on or not at all). Furthermore, the interviewer using the SUE confrontation was perceived as holding relatively more information about the critical phase of the crime and generated more statement-evidence inconsistencies when compared to the interviewer presenting evidence early on (Tekin et al., 2015).

Emerging research on intelligence gathering

To remedy the paucity of research on human intelligence gathering, Granhag, Vrij and Meissner (2014) edited a special issue of the journal *Applied Cognitive Psychology*. The issue covers several important research avenues such as experienced interviewers' views of their own practices (Russano, Narchet, Kleinman & Meissner, 2014), suspects' counter-interrogation strategies (Luke et al., 2014), field observations for establishing rapport (Goodman-Delahunty, Martschuk & Dhimi, 2014) and memory enhancing techniques (Rivard, Fisher, Robertson & Hirn Mueller, 2014). Furthermore, important studies published before the special issue have organized interview techniques in taxonomies (Kelly, Miller, Redlich & Kleinman, 2013) and focused on systematic evaluations of real terrorist interviews (Alison, Alison, Noone, Elntib & Christiansen, 2013). This research has great potential to provide practitioners with evidence-based strategies for conducting intelligence interviews (Fallon, 2014).

Although researchers have recently started to examine techniques for collecting human intelligence, it is quite remarkable there are so few studies comparing the efficacy of

different techniques for interviewing not fully cooperative sources. To remedy this, Evans and her colleagues (2013) advanced the research on law enforcement interviewing. Drawing on the confession paradigm discussed earlier, Evans and colleagues (2013) made some alterations to better mirror a human intelligence gathering scenario. Briefly explained, a participant and a confederate were asked to answer a number of questions together in a trivia challenge. In the guilty condition, the confederate cheated on the test whereas, in the innocent condition, the confederate did not cheat. After completing the questions, the participant was accused of cheating. Two different interview protocols were tested. The accusatorial interview was designed to exploit participants' anxiety and downplay the consequences of admitting to the crime. In contrast, the information-gathering interview was designed to be cognitively challenging and increase the number of details recalled. The results showed that the information gathering approach was better for collecting relevant details and making suspects more talkative. This approach resulted in more admissions than the accusatorial approach. In addition, it was found that suspects interviewed with the accusatorial (vs. information gathering) approach were assessed (by observers blind to the conditions) to be more nervous and more pressured during the interviews. More recently, Evans and colleagues (2014) used this paradigm to compare three of the interview techniques described in the US Army Field Manual (US Army, 2006), considered to be the gold standard for intelligence interviewing in the United States (Obama, 2009). The direct approach (an approach consisting of open-ended and specific questions posed in a business-like manner) was used as a comparison technique for evaluating the efficacy of techniques aimed to induce positive or negative emotions in sources. The results showed that the emotional approaches resulted in more relevant information than the direct approach. Furthermore, the positive emotions (vs. the negative emotions) approach reduced anxiety while promoting a supportive interaction. Finally, guilty suspects (i.e., suspects holding guilty knowledge) experienced higher arousal than innocent suspects when interviewed with an emotional approach.

In summary, the research discussed thus far fits well within the framework advocated by the PEACE model. Research on suspect interviewing has, so far, mainly focused on false and true confessions and admissions, as well as techniques to distinguish liars from truth-tellers. With respect to techniques aimed at gathering human intelligence, the research on law enforcement interviewing relies, to a large extent, on the cognitive interview, a technique constructed primarily for sources willing to cooperate. Turning to research that more directly investigates intelligence gathering, the majority of these studies concern (i) methods to establish and facilitate communication (e.g., rapport-building), (ii) the exploration of practitioners' experiences and (iii) sources' resistance behaviors. Hence, there is a lack of research on the comparative efficacy of techniques for gathering human intelligence. The notable exception (Evans et al., 2013) focuses on suspect interviewing and thus revolves around gathering guilty knowledge about a singular crime.

Towards a Psychological Framework for the Scharff Technique

In Toliver's (1997) biography on Hanns Scharff, Scharff describes his technique in a rather elaborate fashion, claiming that each element of the technique was designed to serve a particular purpose. Briefly explained, when working at the evaluation center *Dulag Luft*, Scharff viewed the standard interview procedure as rather ineffective. Consequently, Scharff started to imagine himself in the position of an allied prisoner and how he, in that role, would prepare for the interview. Having identified his prisoners' typical behavior, Scharff tailored specific tactics to counteract those behaviors (Granhag, 2010). In essence, Scharff developed a technique that rested upon taking the perspective of the source.

Perspective taking

Perspective taking is the cognitive capacity to consider the world from another person's viewpoint, which facilitates an anticipation of other people's behavior and reactions (Galinsky, Maddux, Gilin & White, 2008). Psychological research shows that taking the perspective of others is predictive of success in negotiations (Galinsky et al., 2008; Galinsky & Mussweiler, 2001) and that it is of importance for interviewers (Granhag & Hartwig, 2008; Justice et al., 2010; Soufan, 2011; Thagard, 1992). Granhag and Hartwig (2008) argued that interviewers in a law enforcement context might be too occupied with their own strategies and tactics and might, therefore, neglect the suspects' strategies. Furthermore, Granhag and Hartwig (2008) reasoned that it is possible interviewers might risk falling prey to a false consensus effect if they adopt the suspect's perspective. That is, interviewers might use their own mental states as the point of reference when considering what strategies and tactics would make the suspect more compliant. For example, a police officer might reason that if s/he were in the situation of the suspect, s/he would surely confess when confronted with all the evidence pointing to his/her guilt. Importantly, even though most people's intuitive ability to adopt another's perspective is limited (Davis, Conklin, Smith & Luce, 1996), the ability to use perspective-taking effectively can be improved with simple instruction (Galinsky et al., 2008; Idson et al., 2004). Furthermore, the research program on the strategic use of evidence (SUE) technique has provided empirical support for the premise that the understanding of suspects' counter-interrogation strategies (Granhag & Hartwig, 2008, 2015) can be translated into effective interview tactics (Clemens et al., 2011; Granhag, Mac Giolla, Strömwall & Rangmar, 2013; Granhag, Strömwall et al., 2013). Granhag (2010) argued that Scharff used perspective taking to identify and exploit the counter-interrogation strategies adopted by his prisoners to withstand the interview. In brief, it is not unreasonable to say that perspective taking is at the core of the Scharff technique (Granhag, 2010).

Counter-interrogation strategies

Broadly speaking, a counter-interrogation strategy is an attempt to successfully withstand an interview and to appear credible and convincing (Clemens, 2013; Granhag, Hartwig, Mac Giolla & Clemens, 2015). For example, liars may attempt to control their behavior

when they believe someone is assessing their veracity (Burgoon, Buller, Floyd & Grandpre, 1996). Turning to the literature on terrorism and counter-terrorism, some extremist organizations have developed manuals instructing members how to avoid revealing information during detention (e.g., Al Qaeda Manchester Manual and the Irish Republican Army's green book). Hence, in an intelligence gathering context, the above definition of counter interrogation strategies might benefit from some clarification. Specifically, withstanding an intelligence interview refers to the use of deliberate strategies to resist cooperating, whereas appearing to be convincing refers to acting cooperative while providing information that does not advance the interviewer's knowledge (see also, Alison et al., 2014b). By studying the literature on Hanns Scharff, three counter-interrogation strategies have been identified (Scharff, 1950; Toliver, 1997): (i) "I will not tell very much during the interview"; (ii) "I will try to figure out what they are after and then make sure not to give them what they want"; (iii) "It is meaningless to deny or hold back what they already know". Importantly, the counter-interrogation strategies identified by Hanns Scharff are far from outdated (Alison et al., 2014b). Specifically, by analyzing the information revealed by modern terrorist suspects, Alison and his colleagues (2014b) categorized counter-interrogation strategies into five different tactics: (1) passive (e.g., remaining silent), (2) passive verbal (e.g., monosyllabic responses), (3) verbal (e.g., providing well known information), (4) retraction of previous statements and (5) no-comment.

The tactics used by Hanns Scharff

The purpose of Scharff's tactics was to counteract the counter-interrogation strategies adopted by his prisoners. The first of Scharff's tactics was to maintain a *friendly approach*. In contrast to many of his colleagues, Scharff avoided physical or coercive methods and became known for his equality-oriented and conversational approach. The second tactic was *not pressing for information*. Rather than demanding the prisoner answer questions, Scharff would tell stories, related in such a fashion as to encourage conversation. The third tactic was to build an *illusion of knowing it all*. Scharff would often open the interview by telling a detailed story that demonstrated his knowledge (Toliver, 1997). This tactic made it very clear that he already held a large amount of correct and detailed information. The fourth tactic was *confirmation/disconfirmation*. Instead of asking direct questions, Scharff presented claims that he wanted to have confirmed or disconfirmed by the prisoners. The fifth tactic was to *ignore new information*. When provided with critical information, Scharff would downplay it as unimportant or already known, hiding the fact that the information was of interest to him (Toliver, 1997). All five of these tactics will be described in more detail below.

The Scharff tactics can be combined to counteract the counter-interrogation strategies adopted by a source (Granhag, 2010). For example, by avoiding asking explicit questions and applying the confirmation/disconfirmation tactic, Scharff was able to counteract his prisoners' strategy of not saying very much. By not pressing the source to reveal information, Scharff was able to counteract his prisoners' strategy of trying to figure out what he was after. Furthermore, by painting the knowing-it-all illusion, Scharff was able

to take advantage of the prisoners' strategy of not holding back what they believed Scharff to already know. That is, the knowing-it-all story was used to open up the conversation and Scharff could then elicit new pieces of information by using the confirmation/disconfirmation tactic.

Conceptualizing the Scharff Technique

Scharff's most consistently cited attribute was his ability to appear as if he was already familiar with all information of value. He achieved this by citing apparently relevant and detailed information to his prisoner. However, there is much more to the Scharff technique than merely giving the impression of being knowledgeable. Arguably, in order to fully understand the Scharff technique, one should consider not only the purpose of each tactic of the technique, but also the connections that exist between these tactics.

Friendly approach

Scharff became known for his friendly and conversational approach (Toliver, 1997). Many of his former prisoners remembered him as a gentleman who spoke polished English and was well versed in the nuances of both British and American customs. In accordance with rapport building (Alison et al., 2013), the friendly approach could be described as an atmosphere in which a source feels relaxed and comfortable. Just as clinical psychologists describe rapport as a therapeutic alliance (a personal bond between therapist and client that can lead to an improvement in clients' psychological well-being), rapport within a human intelligence context can be described as the relationship between the interviewer and source, where a positive relationship is considered critical for motivating the source's cooperation (Abbe & Brandon, 2014; Vallano & Schreiber Compo, 2015). Importantly, in order to achieve cooperation, not just compliance, research has highlighted the importance of building trust (Johnson & Mislin, 2011). Trust is even more important for achieving cooperation when there is a relatively high degree of conflicting interests (Balliet & Van Lange, 2013) and trustworthiness is predicted by the display of positive traits such as ability (e.g., knowing your source and topic), benevolence (e.g., seeing the source rather than illegal activity) and integrity (e.g., being clear on rights and regulations even if negative) (Mayer, Davis & Schoorman, 1995). Additionally, in order to establish a friendly atmosphere in an interview context, research has highlighted the importance of expressing understanding for the source's situation, displaying acceptance and adopting adaptive interpersonal behavior (Alison et al., 2013).

Not pressing for information

Many of Scharff's prisoners told that they had expected to be on the receiving end of endless and detailed questions (Toliver, 1997). But instead of asking questions, Scharff told long stories related in a fashion that offered his prisoners the opportunity, encouragement even, to add details or correct apparent errors. Simply put, this tactic is about evoking information rather than demanding it. Instead of asking for information

directly, an interviewer using the Scharff technique creates the circumstances in which a source has the opportunity to add details (to the illusion of knowing-it-all story) and respond to claims (confirmation/disconfirmation tactic). Furthermore, current research on intelligence gathering indicates that cooperation is stimulated through autonomy and intrinsic motivation (Alison et al., 2013). Alison and his colleagues (2015) argued that the source's internal conflict (i.e., balancing whether or not to reveal information) is key to his/her cooperation. Allowing autonomy and showing respect increases this inner conflict by inducing ambivalence (e.g., *the interviewer is treating me better than I expected, maybe s/he is not as bad as I have been told*), which can lead sources to infer it as positive to cooperate. In direct contrast, pressing unwilling sources to reveal information might reinforce out-group identities (i.e., highlighting positive aspects of the terrorist organization while downplaying positive aspects of the interviewer), which may result in increased resistance (Alison, Giles & McGuire, 2015). Similarly, if it becomes obvious that the interviewer is driving an agenda (to establish rapport, trust etc.), this could distance sources rather than create a communicative bond and even influence them to shut down completely (Alison et al., 2014a). Thus, an interviewer whose feelings are perceived as dishonest is more likely to be met with silence or compliance than cooperation. On a different note, one effect that might result from this tactic is better masked information objectives. That is, as the interviewer refrains from posing explicit questions, the source will have a difficult time understanding what information the interviewer wants to collect.

The illusion of knowing it all

Scharff often opened the interaction by stating it was unlikely the source could offer any new information beyond what he already knew. He then told a long and detailed story that made it utterly clear he was indeed well informed on the topic (Toliver, 1997). Broadly speaking, this tactic is about making it clear that the interviewer is knowledgeable about the situation and the topic. To convince a source this is true, the interviewer's knowledge has to be demonstrated by presenting a detailed and credible story. It is important to note that this knowing-it-all story has two main objectives. The first is to influence the source to provide information beyond the interviewer's knowledge. The second is to build an illusion of being more knowledgeable than one actually is. Put differently, the objective is to make the source believe the interviewer holds information beyond what s/he has told. Both of these objectives will be discussed in more detail below.

First, the knowing-it-all story might direct a source towards providing new, rather than already known, information. That is, if the story is told in the friendly atmosphere described above, the storytelling might influence the source to maintain his/her willingness to cooperate while leaving him/her with fewer options with respect to *what* to tell. From a theoretical perspective, this story could initiate the so-called cooperative principle (Grice, 1970). That is, if the interviewer starts the interview by making it clear that s/he will present the already known information to the source, the interaction might fall rather closely to the social guidelines of a normal conversation. Explained on a conceptual level, the source is likely to have considered how many and which pieces of information s/he is willing to reveal during the upcoming interview (e.g., information

units A, B and C). During the interview, the interviewer attempts to build the illusion of knowing it all by telling the source some of the information that is already known (e.g., information units A, B and D). If the source wants to contribute new information, s/he must adjust which information units to reveal by excluding the information presented by the interviewer (in this case, information units A and B). Then, the source must add other units of information in order to come across as helpful (e.g., information units C, E and F). In sum, the knowing-it-all tactic might influence the source to revise his/her initial plan and to provide additional (new) information.

Second, the knowing-it-all story might result in the illusion that the interviewer holds information beyond what was told. That is, the knowing-it-all story could influence the source to draw incorrect inferences (e.g., *if the interviewer already knows information units A and C, s/he must also know B*). Drawing on research on the curse of knowledge (Birch & Bloom, 2007; Camerer, Loewenstein & Weber, 1989), this psychological bias tells that a person's knowledge of the outcome of an event can color his/her judgment of other peoples' beliefs about the same event (so called false-beliefs). Furthermore, the strength of this curse may be increased if anchored in a perceived plausible rationale (Birch & Bloom, 2007). In the experiment conducted by Birch and Bloom (2007), participants saw a girl surrounded by four different colored boxes. The girl placed a violin in the blue box to her right and exited the room. After the girl left, the participants were told that the violin had been moved to another box and the boxes themselves rearranged. Participants who received minimal information were told simply that the violin had been moved to another box. Participants who received implausible information (i.e., indicating unlikeliness the girl would find the violin) were told that the violin had been moved to a different colored box placed at a different location. Participants in both these conditions believed that the girl would look for the violin in the blue box upon her return. Thus, their knowledge about the location of the violin (i.e., that it was moved) did not affect their prediction of the girl's behavior. However, participants who received plausible information (i.e., indicating likeliness the girl would find the violin) were told that the violin was put in a red box now replacing the blue box to the girl's right. These participants believed that the girl would look in the red box rather than the blue. Thus, the participants' knowledge of the violin's location influenced their prediction about the girl's behavior. Arguably, the effect found in this experiment translates quite well to how an illusion can be established when presenting the knowing-it-all story. First, as sources hold information that the interviewer does not, sources are susceptible to be cursed by their own knowledge. Second, compared to an interviewer who does not share information, one who does will add to the plausibility that s/he also holds additional relevant information beyond what was presented.

Confirmation/disconfirmation

Instead of asking direct questions, Scharff often presented claims (Granhag, 2010; Toliver, 1997). That is, Scharff would systematically present claims (for which he already knew the correct answer) to the prisoner. Occasionally, however, Scharff would make a claim for which he did not hold the correct answer. In order to explain the confirmation/

disconfirmation tactic, one could consider a situation where there is intelligence pointing in two different directions. For example, there will be a terrorist attack in either Manchester or London. Assume there is more reliable information pointing towards London than Manchester. An interviewer who wants to elicit information from a source who possibly holds knowledge of the location of the attack has a number of different options. The key to this tactic is to avoid asking an explicit question and instead make a claim. That is, the interviewer can either claim what s/he considers to be the most probable alternative (e.g., “*So, we know that London is the target!*”) and note whether the source disconfirms or confirms, or the interviewer could claim what s/he considers to be the less probable alternative (e.g., “*So, we know that Manchester is the target!*”) and note whether the source disconfirms or confirms. The advantage of using claims is that the source might be more willing to respond to these than explicit questions as dis/confirming claims can be perceived as a less active form of compliance. From the perspective of the source, confirming a claim might be viewed as “I only confirmed what they already knew,” and disconfirming might be viewed as “I only told them they were off target.”

Ignore new information

When a prisoner provided a critical piece of information, Scharff’s reaction was to downplay it as irrelevant, unimportant or already known. He would sometimes even appear to completely ignore the answer by overtly changing the subject to a different, often more trivial one (Toliver, 1997). The main purpose of this tactic was to mask the fact that the information revealed by the source was indeed of interest to him. It is important to note that this thesis employs a less explicit strategy for ignoring new information than Scharff’s. Rather than downplaying the value of critical information, the conceptualization presented in this thesis masks information value by treating all information as equal.

The Scharff Model

Inspired by the strategic use of evidence (SUE) model (Granhag & Hartwig, 2015), I here propose a model of the Scharff technique. This model is an attempt to illuminate the main psychological features behind the Scharff technique and, in particular, clarify how the different tactics can be used to influence a source’s perception of the interviewer’s knowledge. It is important to note that this model should not be considered complete; the aim is to broadly describe how Scharff’s tactics can influence general principles (e.g., the source’s perception of the interviewer’s knowledge and information objectives) and how this, subsequently, may affect the source’s counter-interrogation strategies and verbal responses.

Theoretical underpinnings

The Scharff model is underpinned by the assumption that sources adopt behaviors to withstand the interview (Granhag, 2010; Scharff, 1950; Toliver, 1997), also referred to as

counter-interrogation strategies (Alison et al., 2014b; Clemens, 2013; Granhag, Hartwig et al., 2015). A source interviewed for intelligence gathering purposes will likely attempt to balance an internal dilemma: what information to reveal and what information to withhold (Alison, Giles & McGuire, 2015). For this thesis, this dilemma was framed as an information management problem. The participants (taking on the role of sources) had agreed to trade information in exchange for the interviewer's assistance but did not want to reveal too much information as they sympathized with the terrorist group (that is, the group about which they were revealing information) and feared retaliation from the group. In essence, to withstand the interview, the sources had to strike a balance between (a) not revealing too much information and (b) not revealing too little information.

Counter-interrogation strategies are closely linked to the psychological theory of self-regulation (Granhag & Hartwig, 2008, 2015). The theory of self-regulation is a social cognitive framework for understanding how people achieve their goals and, specifically, how people control behavior to steer towards desired outcomes and away from undesired outcomes (Carver & Scheier, 2012). Much self-regulatory behavior occurs automatically without awareness or conscious thought (Aarts, Gollwitzer & Hassin, 2004), but some situations demand conscious and active intervention to regulate behavior. Self-regulatory behavior has been shown to be a dominating force when there is a perceived threat with negative consequences and especially so if one lacks knowledge about the forthcoming aversive event (Fiske & Taylor, 2013). For intelligence contexts, the source is likely to perceive an interaction with the authorities as a threat. Furthermore, not knowing what and how much information the authorities already know may add to the perceived threat. Accordingly, sources are likely to formulate goals, plan how to fulfill the goals, adopt self-regulatory strategies to reach the goals and then monitor whether the goals are achieved (Granhag & Hartwig, 2008). Self-regulatory behavior is thus mirrored in the information management dilemma that sources often have to navigate, reveal enough information to fulfill a desired outcome (e.g., receive assistance from the interviewer) but not too much or too little information so as to avoid undesired outcomes (e.g., face retaliations from a terrorist group).

To regain perceived control in the interview setting, a source may use different types of control methods. The method of particular relevance for understanding counter-interrogation strategies is cognitive control, specifically information control and decision control (Granhag & Hartwig, 2008). Information control refers to the control achieved after obtaining information about the aversive event. In the interview setting, the information control would translate to trying to predict what will happen during the interview, for example, estimating the amount of information already held by the interviewer and how much pressure the interviewer will apply to get the information that s/he wants. Decision control refers to the control achieved after having decided how to act during the upcoming event. In an interview setting, decision control would translate to deciding how to act after the interviewer's information interests have been estimated. Consequently, sources might adopt a number of self-regulatory behaviors with the common objective being to regain control. These behaviors can be categorized as either avoidance strategies or escape strategies (Granhag & Hartwig, 2015; cf. Taylor, 2014).

Avoidance strategies concern behavior that aims to evade confrontation with threatening stimuli. Avoidant behavior could be mirrored in a source's aiming to work around the issue by revealing information already known to the interviewer, or by trying to avoid providing information that satisfies the interviewer's objectives. Escape strategies concern behavior that aims to terminate a direct threat. Escape behavior could be mirrored in a source's direct refusal to cooperate by staying silent or retracting previous statements (Alison et al., 2014b).

Principles of the Scharff model

The Scharff technique is based on influencing a source's perceptions of the information held by the interviewer and the technique draws on four general principles (Granhag & Hartwig, 2015). The four general principles underlying the Scharff technique are outlined below. Three of these principles are directly related to the source: (1) the source's perception of the interviewer's knowledge and information interests, (2) the source's counter-interrogation strategy and (3) the source's verbal response. The fourth principle relates to the interviewer: (4) perspective taking.

The first principle concerns the source's perception of the interviewer's knowledge and information interests. Sources are likely to predict (a) what and how much information the interviewer already holds and (b) which pieces of information the interviewer wants to collect. An estimation of the interviewer's knowledge can be more and less calibrated, meaning that the source might over or underestimate the interviewer's knowledge. Also, the interviewer's information objectives can be more or less difficult to figure out, leading the sources to be more or less correct when assessing which pieces of information the interviewer aims to collect. Critically, the source's perception of the interviewer's knowledge and objectives can be altered as a function of the Scharff tactics employed by the interviewer (Figure 1).

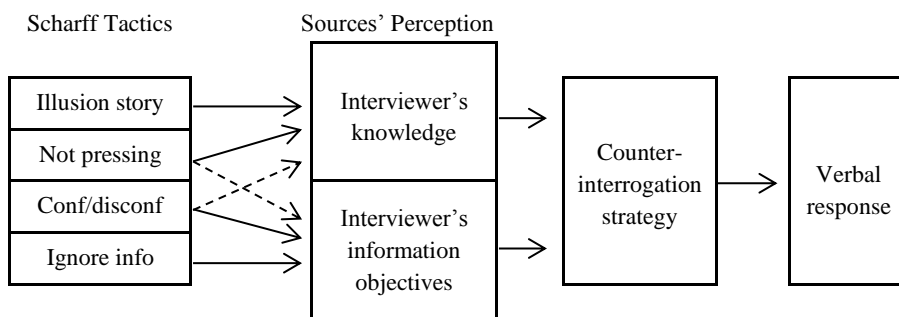


Figure 1. A model of the Scharff technique.

The second principle concerns the source's counter-interrogation strategies. The basic assumption is that sources have some degree of willingness to cooperate but are only willing to provide a portion of the information they hold. Another premise is that many sources will adopt strategies to convince the interviewer that they hold less information than they actually do. Consequently, sources will use avoidant strategies with respect to providing critical information. This can be accomplished by adopting strategies such as being conservative with new (to the interviewer) information but willing to discuss common knowledge and/or unrelated topics (Alison et al., 2014b). However, if sources are deprived of the avoidance alternative, they will turn to escape responses. For example, if approached with coercive tactics, the source is likely to terminate the communication by denying that s/he holds any information or retracting previously provided information (Alison et al., 2014b).

The third principle concerns the source's verbal responses. His/her verbal responses are the basis for evaluating the outcome of the interview, for example, the total amount of information revealed by the source and the quality of the information collected. Evaluating the outcome of an intelligence gathering interview will be discussed in the next section.

The fourth principle concerns perspective taking by the interviewer. As has been discussed, perspective taking is the capacity to consider the world from another's viewpoint. This then allows the interviewer to anticipate a source's reactions and behavior (Galinsky et al., 2008). By imagining him/herself in the source's position, the interviewer can attempt to (1) read the source's perception of the interviewer's knowledge and information objectives, (2) predict the source's counter-interrogation strategies and (3) predict the verbal response that is likely to follow (Granhag & Hartwig, 2015; see also, Thagard, 1992).

The relation between these four general principles is at the heart of the Scharff technique. That is, the perception of the interviewer will guide the source's choice of counter-interrogation strategies and the adopted strategy will affect his or her verbal response (Figure 1). By making use of perspective taking, the interviewer will put him/herself in a better position to employ tactics to counteract the source's behavior (Granhag, 2010; Scharff, 1950; Toliver, 1997). Illustrated by an example, consider a source who adopts the strategy of revealing minimal information, but who must show some signs of cooperation in order to receive a favor. The interviewer begins the interview by painting the knowing-it-all illusion without pressing for information. The knowing-it-all story might affect the source's perception of the interviewer's knowledge ("*S/he knows much more than I thought!*") resulting in the source being required to provide information beyond what the interviewer just told (to show signs of cooperation). Subsequently, as the source's perception is affected, the source might adopt a different strategy ("*I have to figure out what information s/he wants so I don't provide anything critical*"). As the interviewer avoids asking questions, the source might adjust his/her strategy ("*I can't figure out what they are after. I better only bring up information they already know*"). By only reacting to claims presented by the interviewer (e.g., "*Yes, that's correct*" or "*No, that's incorrect*"),

the source is kept under the impression that s/he is only providing already known information. Ideally, the Scharff tactics can be used to elicit reliable information from a source without pointing to the interviewer's interest in that information.

Introducing an Experimental Paradigm and Measures of Efficacy

As there is a paucity of research on the comparative efficacy of intelligence gathering techniques, one goal of this thesis is to develop and make use of an experimental set-up which mirrors some of the more important features of a typical human intelligence interaction. In brief, the experimental set-up was characterized by four trademarks. First, the interviewer already held some intelligence about a possible future crime (for this thesis, plans to bomb a shopping mall). Second, as there were important gaps in the intelligence on this threat, the interviewer was obliged to seek information from an outside human source. Third, the source held knowledge that could fill some, but not all, of the gaps in the already existing intelligence. Fourth, the source was placed in an information management dilemma. Specifically, the source was motivated to talk to the interviewer (if the source talked, s/he would receive help to flee the country) but was unwilling to share a substantial amount of information (the source was to imagine s/he had rather strong social ties to the terrorist group). That is, the source was placed in a position where it was necessary to strike a balance between not revealing too much nor too little information. This dilemma was inspired by research showing that sources often have divided loyalties or work on a quid pro quo basis (Herbig, 2008; Kramer & Heuer, 2007; Shumate & Borum, 2006).

Measures of efficacy

Studying techniques for eliciting human intelligence requires a paradigm which is rather different from the typical paradigm used for studying techniques for collecting information from eyewitnesses and techniques used for interviewing suspects. First, for the typical eyewitness study, sources are cooperative and the techniques are evaluated in terms of the witnesses' memory performance, for example, the extent to which the technique can increase the correct and decrease the incorrect details recalled (Memon, Meissner & Fraser, 2010). Second, studies on suspect interviews typically aim to secure true confessions or admissions (while avoiding false confessions) or to discriminate between liars and truth tellers (e.g., Lassiter & Meissner, 2010; Vrij et al., 2007). Broadly speaking, the aim is typically to evaluate techniques with respect to their efficacy in collecting information relevant to the suspect's guilt/innocence. In human intelligence situations, however, the source is not typically expected to provide an extensive statement. Furthermore, although sources might hold information that is more or less sensitive, the information is not necessarily self-incriminating. Assessing the efficacy of techniques aimed at eliciting such information is thus a relatively more complex task and the measures used for tapping the efficacy of such techniques has generally been overlooked. More specifically, there are two critical aspects that have been more or less neglected in prior research: evaluating the efficacy of techniques for interviewing sources who (a) hold

incomplete information on a topic and (b) are only prepared to share a portion of the information they hold. Hence, in assessing the efficacy of information elicitation techniques, one needs to consider not only the amount and reliability of the information collected during the actual interview, but also the source's perception of and response to that particular exchange. For the studies on which this thesis is based, eight dependent measures were identified.

Objective measures

The objective measures refer to the information elicited during the interaction. These measures capture the efficacy of the technique by examining the quantity and quality of the information gathered.

Total information. One of the more basic and straightforward measures for evaluating interview techniques is the total amount of information gathered. The total amount of information refers to everything that is mentioned during the interview. This measure captures the quantity of information and is less concerned with the precise value of the information. As intelligence gathering concerns basically any type of information (Hartwig et al., 2014), critical details are preferable to large amounts. Thus, the total amount of information gathered is not of major concern for this thesis.

New information. As interviewers often hold some information on the topic under discussion, a relatively more important measure of efficacy is the objective amount of new (previously unknown) information elicited from the source. In most situations, the relationship is straightforward: the more new information elicited, the better the interview technique. However, it is easy to imagine exceptions to this rule. For example, in some situations, one might prefer a technique that is consistently successful at eliciting relatively few but highly valuable pieces of information (e.g., a name or a street address) over a technique that is effective at eliciting larger volumes of new, but less useful, information. Hence, the sheer amount of new information elicited does not necessarily automatically speak to the efficacy of an intelligence gathering technique.

Quality of new information. All new pieces of information elicited are not of equal value. However, it is not always an easy task to decide which pieces of information are more, or less, important on a larger scale. The information could be immediately relevant or prove to be of critical importance at a later stage. That is, new information is often of potential value even though the timing of this value may vary. Assessing the quality of the new information gathered is complicated from an objective standpoint and even more complex from a subjective one (i.e., the intelligence agency, the interviewer and the source might all have different views of what is critical and what is not). Thus, although the quality of the information collected is critical when evaluating the efficacy of intelligence gathering techniques, this particular issue will not be examined in this thesis.

Precision of new information. Memory research has shown that, in order to prevent inaccurate statements, people tend to provide answers at a level of generality that

corresponds with the certainty of their knowledge (Goldsmith, Koriat & Weinberg-Eliezer, 2002). That is, people seem to prefer to provide answers that include details they believe to be correct. If the confidence for the correctness of a detail is low (i.e., if a person questions his/her own knowledge), the individual might prefer to not report that detail. Similarly, a source may provide statements at different levels of generality. However, this will depend on both the source's confidence and willingness to provide information. That is, a source unwilling to volunteer information might be deliberately vague. Instead of not saying anything, the source can opt to reveal general and vague information. The source might claim, for example, that all s/he knows is that an attack will take place sometime in December while intentionally withholding more specific (i.e., around Christmas) or exact (i.e., December 27) information. In brief, more new information does not necessarily equal more precise information. In order to avoid revealing too much, a source can relate a relatively large amount of general information. It is thus important to consider the grain-size (or specificity) of the new pieces of information reported when evaluating human intelligence gathering techniques.

Subjective measures

The subjective measures refer to the source's perception of the interview and these measures attempt to capture the source's experience of and beliefs about the interaction. The perceived knowledge of the interviewer, the perception of what information s/he is after and the perceived amount of information revealed is critical considering that these perceptions will affect the interview on several levels. For example, the source's perception of the interview can have immediate relevance (e.g., "*What information does the interviewer already hold?*"), may set the stage for following interviews (e.g., "*Did I provide enough information to receive help in exchange?*") and influence how the source shares information (e.g., "*If the interviewer already holds information unit A, there is no reason to avoid it*"). In conclusion, the efficacy of a human intelligence gathering technique cannot be properly assessed without considering the source's perception of the interaction.

Perceived interviewer knowledge. For this thesis, this measure concerns the source's perception of the amount of information possessed by the interviewer prior to the interview. There is no straightforward relation between this measure and the efficacy of an interview technique. For some situations, it may be effective to let the source believe the interviewer holds more information than is actually the case, whereas, for other situations, the opposite may hold true. For example, the perception of being interviewed by a very knowledgeable interviewer might influence the source to open up and share more information. It is reasonable to argue that a semi-cooperative source would generally prefer to reveal information closer to what the interviewer already knows. However, perceiving the interviewer as very knowledgeable could also make the source hesitant to provide details in fear of contributing the final piece of the puzzle. In conclusion, being perceived as knowledgeable relates to the illusion of the knowing it all tactic. Thus, this measure also works as a manipulation check for the knowing-it-all story of the Scharff technique.

Misperceived interviewer knowledge. Sources can be more or less correct when assessing an interviewer's knowledge. This measure captures the accuracy of the source's judgment with respect to which particular pieces of information are known/unknown to the interviewer. The rationale for including this measure is that a source might want to exploit the possibility of revealing already held (by the interviewer) information. By revealing known information, the source can claim that s/he is cooperative while deliberately finding ways to avoid providing new information. Revealing already known information is a common counter-interrogation strategy (Alison et al., 2014b; Soufan, 2011; Toliver, 1997). Critically, this strategy will only work if the source correctly predicts what information the interviewer holds. If the source's prediction is incorrect, s/he may unknowingly provide the interviewer with new information. Hence, this measure maps the extent to which the tactics (mainly storytelling) of the Scharff technique result in the source perceiving the interviewer to hold information that s/he, in fact, does not.

Perceived interviewer information objectives. In a human intelligence interaction, it may be of importance to ensure the source is not alerted to the interviewer's specific information interests. The reason for this is that such an understanding might increase the risk that the source withholds or fabricates statements concerning this particular information. An information elicitation technique is arguably more fundamentally sound if it does not reveal gaps in the interviewer's knowledge. Thus, this measure aims at assessing how difficult it is for the source to understand what information the interviewer seeks to collect.

Perceived amount of new information revealed. This measure concerns the source's perception of how much new information s/he revealed during the interview. Broadly speaking, a technique is more effective if it leaves the source believing that s/he revealed very little (or no) new information when, in fact, the interviewer was able to elicit an extensive amount of new and useful information. This measure is crucial considering that information elicitation is characterized by the source unknowingly providing information (Justice et al., 2010). Furthermore, a source that believes s/he revealed no (or very little) new information might be more willing to talk to the interviewer again. This can be compared to a source under the impression that s/he (for one reason or another) provided too much information and, as a result, might likely be *more* guarded and *less* cooperative during subsequent engagements.

Combining Measures

All of the above measures can be analyzed independently, but some can also be combined. Arguably, one of the more informative measures of efficacy is obtained by relating: (a) the objective amount of new information gathered and (b) the source's perception of the amount of new information revealed. An effective information elicitation technique should result in sources underestimating the amount of new information revealed. In brief, a source who (i) deliberately aims to reveal little information of value and (ii) is led to reveal new information unknowingly would provide more valuable information than s/he

deliberately aimed to. Another potential benefit is that the source might be more prepared to talk to the interviewer again. For example, a source who leaves the interview believing that s/he contributed very little new information might be more prepared to reveal more information in subsequent interactions.

SUMMARY OF THE EMPIRICAL STUDIES

General and Specific Aims

The legal-psychology literature has little to offer with respect to techniques aimed at eliciting intelligence from human sources. This is quite remarkable considering the prominent role of human intelligence gathering and the resurgent interest in collecting intelligence witnessed since the 9/11 terrorist attacks. Although operational experience has given rise to a wide array of human intelligence gathering techniques, these have rarely been subjected to scientific evaluation (Justice et al., 2010). This thesis sets out to remedy this gap in the academic literature. Consistent with the recent call for evidence-based evaluations of intelligence gathering techniques (Brandon, 2011), the studies included in this thesis had five general aims: (i) introduce the Scharff technique, (ii) provide a psychological framework for the technique, (iii) conceptualize the technique, (iv) introduce an experimental set-up mirroring some key aspects of a human intelligence gathering scenario and (v) develop relevant dependent measures to evaluate the efficacy of intelligence gathering techniques. The more specific aim was to conduct the first scientific examination of the Scharff technique.

Table 1
The progression of the three studies constituting this thesis

	Study I	Study II	Study III
Interaction	Phone	Face-to-face	Face-to-face
Information	On paper	From memory	From memory
Fabrications	Not allowed	Allowed	Allowed
Sources	Received the same instructions	Received the same instructions	Received different instructions
Claims	Included only correct alternatives	Included correct and incorrect alternatives	Included only correct alternatives

Specifically, the aim of Study I was to validate and advance Granhag and his colleagues' (2015) study on the Scharff technique. For example, the experimental paradigm was refined, the Scharff technique was conceptualized in a more proper manner and the dependent measures were more properly developed (see Table 1). For Study II, the ecological validity of three issues was increased: (i) the source and the interviewer met in person, (ii) the source was allowed to fabricate information during the interview and (iii) the direct approach was compared with two versions of the Scharff technique (Scharff confirmation [presenting claims that included correct alternatives only] and Scharff

dis/confirmation [presenting claims that included a mix of correct/incorrect alternatives]). For Study III, the ecological validity was increased by systematically varying the sources' level of cooperation (i.e., more/less willing) and capability to provide information (i.e., more/less able). The three studies and resulting outcomes are briefly described below.

Study I

Study I examined the comparative efficacy of the Scharff technique and the direct approach. The direct approach (US Army, 2006) was chosen as the point of comparison due to its operational relevance; this approach has proven to be one of the most commonly used techniques in the United States (Redlich, Kelly & Miller, 2011). The direct approach consists of open-ended and specific questions and does not make use of leading questions.

Sixty university students (37 women, 23 men) with the mean age of 26 were randomly allocated to two interview conditions. Each participant was instructed to take on the role of a source and received a coherent story holding incomplete information about a terrorist group planning an attack. The story contained 35 separate pieces of information. Thirteen of those were already known to the interviewer and 22 were unknown. The sources received no information on what information the interviewer already held. In addition, each source was instructed to be semi-cooperative during the interview by balancing an information management dilemma; some information had to be revealed (to assist the police and be allowed to leave the country), but revealing too much information would be detrimental (as the sources had rather strong social ties to the terrorist group). Importantly, the sources were not allowed to lie (i.e., fabricate information) during the interview.

Each source made a phone call to the interviewer from a room at the department of psychology in Gothenburg. The phone conversations were taped in order to later score the objective amount of information revealed. The conversations lasted six minutes on average. All sources had access to the information in written form so there was no need to memorize anything. The Scharff condition started with the interviewer implementing the friendly approach tactic (e.g., showing awareness of the source's situation) and explaining that he would start the interview by outlining what was already known about the situation. After presenting the known information (i.e., the tactic of creating a knowing-it-all illusion), the interviewer again acknowledged that he was aware of the source's situation and had reserved time to listen to the source. The interviewer then asked an open-ended question. After the source's response, the interviewer presented five claims that he sought to have confirmed/disconfirmed by the source. All five claims were always presented in the same order and contained the correct alternative for the sources to affirm. After the fifth claim, the interviewer asked a final open-ended question and then concluded the interview.

The direct approach interview started with the interviewer stating, "*Okay, shall we start talking about what we are supposed to talk about? As you surely can understand, I am very interested in what you have to tell me about this upcoming event.*" This was directly

tied to the initial open-ended question. After the source responded, the interviewer went on to pose five specific questions. The questions concerned the same information and were presented in the same order as the claims in the Scharff condition. After the fifth specific question, the interviewer asked a final open-ended question and concluded the interview. Importantly, despite the different interviewing protocols, all interviews began and ended in an identical manner.

After the interview, the sources filled out three sequentially presented questionnaires and were instructed to answer them truthfully. The first questionnaire contained one crucial question (How easy/difficult was it for you to understand what information the interviewer was seeking to obtain?). The second questionnaire consisted of a checklist containing all pieces of information available to the sources (i.e., 35 units). The sources were asked to mark the specific information they perceived themselves to have revealed during the interview. The third questionnaire contained the same checklist of 35 units of information. Here, the sources were asked to tick the information they believed to be known by the interviewer prior to the interview.

The interviewers were trained to strictly (word for word) follow the interview protocols. Each interview was transcribed verbatim and coded in terms of the amount of information revealed by a source. A piece of information was scored as new if it was not known to the interviewer prior to the interview (range: 0–22). Furthermore, the interview was divided into three phases (initial open-ended questions, claims/specific questions and final open-ended question) and the amount of new information revealed in each phase was scored. Importantly, each piece of new information was only counted once (i.e., in the phase it was first mentioned). The information revealed as a result of presenting claims was scored and counted only if the source clearly affirmed a confirmation (e.g., “yeah”).

Broadly speaking, the following hypotheses are backed up by twofold reasoning. First, sources faced with the knowing-it-all story and who want to be perceived as willing to cooperate cannot simply repeat the information stated by the interviewer. Instead, they have to go beyond the story and provide additional (new) pieces of information. Second, sources faced with the Scharff technique are expected to come to believe that the interviewer holds information that s/he, in fact, does not. If these sources act on the “it is meaningless to withhold what they already know” counter-interrogation strategy, it may follow that they (unknowingly) reveal new information in the belief that the information is already known to the interviewer. In contrast, when answering explicit questions, the sources are free to report the information they had previously planned to share and this can be expected to be a mix of new information and information already held by the interviewer.

Hypothesis 1: Sources in the Scharff condition would reveal more new information than the sources in the direct approach condition.

Hypothesis 2: The new information revealed in the Scharff condition would hold a relatively higher degree of precision.

Hypothesis 3a: Sources in the Scharff condition would reveal relatively more new information after the initial open-ended question.

Hypothesis 3b: Sources would reveal more new information as a result of responding to claims (Scharff technique) compared to direct questions (direct approach).

Hypothesis 4a: The interviewer in the Scharff condition would be perceived as relatively more knowledgeable about the situation.

Hypothesis 4b: Sources in the Scharff condition would have a relatively less clear understanding of what information the interviewer was after.

Hypothesis 5: Sources in the Scharff condition would *underestimate* the amount of new information revealed. The sources in the Direct Approach condition would, in contrast, *overestimate* the amount of new information revealed. The rationale behind this prediction was the expectation that the Scharff tactics would result in the sources unknowingly providing new information. The sources interviewed with the direct approach were expected to share a mix of new and old information but estimate (almost) all of this information to be new to the interviewer.

Results. In support of H1 and H2, the Scharff technique elicited relatively more, and more precise, new information. Moreover, the Scharff technique resulted in more new information as a result of the initial open-ended question (supporting H3a) and presenting claims elicited more new information than asking direct questions (supporting H3b). The sources interviewed with the Scharff technique perceived the interviewer to have been relatively more knowledgeable about the situation (supporting H4a) but did not find it relatively more difficult to understand what information the interviewer sought to collect. Thus, H4b found no support. Finally, the sources interviewed with the Scharff technique underestimated the amount of new information revealed. In contrast, the sources interviewed with the direct approach overestimated the amount of new information revealed (Figure 2). Thus, H5 was supported.

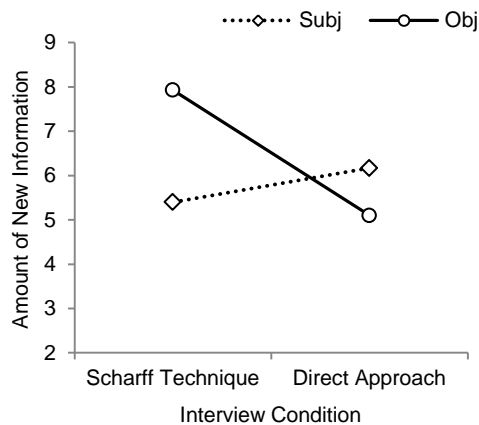


Figure 2. Illustration of the interaction effect for the subjective and objective scores of new information revealed for the two interview conditions.

Discussion. The Scharff technique resulted in more new information than the direct approach. This finding can be explained by considering the source's information management dilemma. A source who needs to be perceived as willing to cooperate and is faced with the knowing-it-all story has to provide information beyond what has already been disclosed by the interviewer. Thus, information revealed by the source after having been presented with the knowing-it-all story is likely to be new to the interviewer. In contrast, an interviewer who poses explicit questions allows the source to provide a mix of new and already known information. Furthermore, a source who capitalizes on the opportunity to reveal already known information can pretend to be willing to cooperate, while only providing already known information. Importantly, however, such a strategy will only work if the source correctly predicts the interviewer's knowledge. Critically, in this study, the sources in both interview conditions misperceived the interviewer's knowledge to a similar extent. Thus, misperceiving the interviewer's knowledge (i.e., an incorrect prediction of what information is new/old to the interviewer) cannot explain the fact that the Scharff technique resulted in relatively more new information. It is thus likely that only the first reason (i.e., sources had to go beyond the interviewer's story) accounts for the Scharff technique's superiority in gathering new information.

The Scharff technique resulted in almost double the amount of new information revealed when sources answered the first open-ended question compared to the direct approach. This finding is attributed to the knowing-it-all tactic and provides further support for the reveal-beyond-what-is-known reasoning. For the second phase, claims were compared to specific questions. Again, the Scharff technique outperformed the direct approach. It should be noted that this result emerged despite the Scharff technique already resulting in double the amount of new information in the first phase. For the third and final phase, the direct approach resulted in relatively more new information. However, the overall superiority of the Scharff technique had already been established from the analysis of the first two phases.

The level of precision was relatively higher for the new information obtained using the Scharff technique. The amount of new information revealed and the precision of that information was highly correlated indicating that the new information revealed in the Scharff condition also had relatively more actionable value. However, these two measures (i.e., quality and quantity) are easily confounded and the finding should thus be interpreted with caution (Evans & Fisher, 2011). Furthermore, as sources were not allowed to lie and had access to the information (in hardcopy form) during the interview, the average amount of misinformation (i.e., incorrect pieces of information) was very low (four pieces).

The Scharff technique interviewer was perceived to be relatively more knowledgeable about the situation. Importantly, about a third of the information ascribed to the interviewer's knowledge was information that was not, in fact, known to the interviewer. That the corresponding proportion was even larger for the direct approach interviewer is, in hindsight, unsurprising. That is, as the sources interviewed with the direct approach were given no indication of what information the interviewer actually held, their

assessments were largely ungrounded. Furthermore, the sources in both interview conditions found it to be quite easy to understand the interviewer's information interests. However, as the claims were expected to mask the interviewer's information objectives better than specific questions, this outcome is a bit difficult to explain.

Finally, an effective information elicitation technique should lead a source to reveal new information unknowingly. For the Scharff technique, almost 90% of the sources underestimated their contribution of new information (see Figure 2). This finding was attributed specifically to the claims posed during the interview as these claims were highly successful in gathering new information. In contrast, the direct approach led sources to overestimate their contribution of new information. This finding indicates that answering direct questions generates the perception that most information revealed is new to the interviewer.

Study II

Study II drew on the experimental setup and measures used in Study I. Importantly, it advanced the previous study as pertains to three points. First, in place of phone interviews, sources and interviewers met in person. Second, sources were allowed to actively fabricate information during the interview. Third, the direct approach was compared with two versions of the Scharff technique: Scharff confirmation (presenting claims that included correct alternatives only) and Scharff disconfirmation/confirmation (presenting a mix of correct/incorrect claims). One hundred and nineteen adults (72 women, 47 men) with a mean age of 27 were randomly allocated to groups and interviewed using one of the three interview conditions.

Similar to Study I, each participant took on the role of a semi-cooperative source holding incomplete information about an upcoming terrorist attack. In addition, sources were given the opportunity to fabricate information during the interview (with the risk of losing their compensation of €15 if caught lying). Prior to the interview, the sources completed a memory test asking about 15 key pieces of background information (e.g., at what time will the bomb explode?). An identical memory test was filled out immediately after the interview. To be included in the study, the participant had to achieve a minimum score of 11 correct on both of these tests.

The sources established contact with the interviewer by knocking on the interviewer's door. The interviewer invited the source to take a seat and then started the interview. The interviewer and source were alone in the room during the interaction. The interviews lasted, on average, eight minutes.

The two Scharff protocols started with the interviewer presenting the information already held by him/herself on the terrorist attack while maintaining a friendly approach. This was followed by an open-ended question. This question constituted the first phase of the interview. For the second phase, the interviewer presented three claims and, exclusively in

this phase, the two Scharff conditions differed. The Scharff confirmation condition presented three claims that included only correct alternatives (e.g., “*We thought it a bit ironic that Nordstan is again the target...*”). The claims in the Scharff disconfirmation/confirmation condition were identical to the claims in the Scharff confirmation condition with one exception; one of the three claims made included an incorrect alternative (e.g., “*We thought it a bit ironic that NK is again the target...*”). For the third phase, the interviewer asked a final open-ended question after which the interview was concluded.

The direct approach condition was opened with a general invitation, “*Okay, let’s start talking about what we are supposed to talk about. I have a few questions I would like you to answer. You can start by telling me what you know about the situation.*” (i.e., phase 1). This was followed by three specific questions (asking for the same information as the claims made in the Scharff conditions) in phase 2. If a source did not answer a question, the question was repeated two times. Hence, sources could potentially be faced with as many as nine questions (three individual questions, each potentially asked a total of three times). When all questions had been asked, the interviewer asked a final open-ended question and concluded the interview.

One man and one woman, both with acting experience, were trained as interviewers. The aim of the training was to ensure that they memorized the interview scripts verbatim and would refrain from improvising during the interviews. The interviewers had access to a small notebook to consult if they felt they were losing track of their lines from the interview script.

After the interview, the sources filled out three questionnaires (similar to the questionnaires in Study I) and were instructed to answer truthfully. The interviews were transcribed verbatim and coded for new information revealed (range: 0–22). Furthermore, the interview was divided into three phases and the amount of new information revealed was scored for each phase (scoring only exclusive units as described in Study I).

In line with previous reasoning behind the Scharff technique (outlined in Study I), the following hypotheses were formulated:

Hypothesis 1: Sources in both Scharff conditions would reveal more new information than sources in the direct approach.

Hypothesis 2a: Sources in both Scharff conditions would reveal relatively more new information after the initial open-ended question.

Hypothesis 2b: Posing claims would result in more new information compared to asking direct questions.

Hypothesis 3: Sources in both Scharff conditions would fabricate information to a relatively lesser extent. The rationale for this prediction is that it might be perceived as more likely to be caught in a lie when the interviewer is perceived as relatively more knowledgeable.

Hypothesis 4a: The interviewer in both Scharff conditions would be perceived as relatively more knowledgeable about the situation.

Hypothesis 4b: Sources in both Scharff conditions would misperceive the interviewer’s knowledge to a relatively higher degree.

Hypothesis 4c: Sources in both Scharff conditions would have a relatively less clear understanding of what information the interviewer is after.

Hypothesis 5: Sources in both Scharff conditions would *underestimate* their contribution of new information. The sources in the Direct Approach would *overestimate* their contribution of new information.

Results. The Scharff confirmation condition resulted in more new information than the direct approach. Furthermore, the two Scharff versions combined outperformed the direct approach in terms of new information gathered. Thus, H1 was largely supported. In support of H2a, both Scharff versions elicited more new information than the direct approach after the initial open-ended question. Unexpectedly, the Scharff confirmation condition outperformed the Scharff disconfirmation/confirmation in this phase. No difference was found between posing claims and asking direct questions. Thus, H2b found no support. Most sources refrained from lying (overall, less than 3% of the new information was deceptive). Thus, inferential tests could not be performed and H3 could not be tested. The sources interviewed with the Scharff versions perceived the interviewer to be relatively more knowledgeable about the situation (supporting H4a). These sources also misperceived the interviewer’s knowledge to a relatively higher degree (i.e., an illusion was established thus supporting H4b). Furthermore, sources interviewed with the Scharff versions found it relatively more difficult to read the interviewer’s information objectives (supporting H4c). Finally, the Scharff versions resulted in sources underestimating their contribution of new information. When interviewed with the direct approach, sources overestimated their contribution of new information (Figure 3). Thus, H5 was supported.

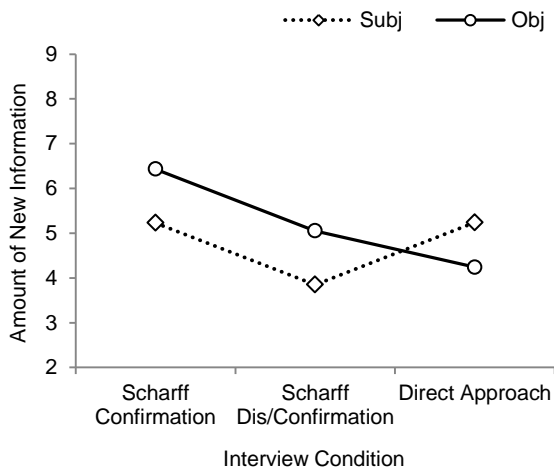


Figure 3. Illustration of the interaction effect for the subjective and objective scores of new information revealed for the three interview conditions.

Discussion. Generally speaking, the Scharff techniques outperformed the direct approach in gathering new information. Replicating the findings in Study I, both Scharff conditions resulted in relatively more new information after the initial open-ended question. It was surprising, however, that the Scharff confirmation condition outperformed the Scharff disconfirmation/confirmation condition for this phase. This finding is quite difficult to explain as the two Scharff conditions were identical up to that point.

When comparing the techniques of making claims and specific questions, no difference in terms of amount of new information gathered was found between the techniques in this phase. Hence, the findings from Study I (that claims that included the correct alternative would result in more new information than asking specific questions) were not replicated. One explanation for this outcome is that the direct approach interviewer was more persistent in attempting to obtain information (when compared to Study I). That is, if a specific question was not answered appropriately (e.g., revealing a date when a date was asked for), the interviewer repeated the question twice. Furthermore, no clear difference was found when comparing confirmation with disconfirmation claims. In fact, the descriptive data showed the opposite pattern of what was expected. Correct claims resulted in more new information than incorrect claims. One plausible explanation for this result might be that it is easier to recognize memorized information (i.e., confirming a correct claim) than information not appearing in the material (disconfirming an incorrect claim). An additional explanation might be that disconfirmations are more effective with sources who are very cautious about revealing information. It is for future research to test under which circumstances disconfirmation might be relatively more effective for eliciting information.

Most sources refrained from lying (only about 3% of the new information revealed was deceptive across all three conditions). The lies were so few that proper tests could not be conducted. The memory errors were even fewer (1% of all new information reported).

Replicating the outcome of Study I, in both Scharff conditions, the interviewer was perceived to be relatively more knowledgeable about the situation. About a third of the information ascribed to the interviewer's knowledge was information that was, in reality, not known to the interviewer prior to the interview. Furthermore, the Scharff tactics resulted in an illusion. That is, when comparing the Scharff conditions with the direct approach, the corresponding amount of misperceived information ascribed to the interviewer's knowledge was lower for sources interviewed with the direct approach (this was not the case in Study I). Arguably, this illusion helps explain the finding that about 20% of the new information was revealed unknowingly in both Scharff conditions. In both Scharff conditions, about 70% of the sources underestimated their contribution (see Figure 3). Furthermore, the sources in both Scharff conditions found it relatively more difficult to understand the interviewer's information interests. The likely reason for this result is that no direct questions were asked and new information was ignored. These findings cut to the core of the Scharff technique: to elicit information without alarming sources of their contribution. In direct contrast, sources in the direct approach condition overestimated their contribution of new information.

Study III

For Study III, the ecological validity was improved by systematically varying the sources' level of cooperation (less willing/more willing) and capability to provide information (less able/more able). The Scharff technique was compared with the direct approach. Two hundred adults (130 women, 70 men) with a mean age of 27 were randomly allocated into four categories, 50 participants in each category, 25 for each interview condition. The experimental setup and dependent measures were drawn from Studies I and II.

To systematically vary the sources' level of *cooperation*, the information management dilemma was manipulated (i.e., attempting to strike a balance between not revealing too much nor too little). The more willing sources were instructed to reveal quite a bit of information without revealing everything they knew. Their priority was to ensure they would receive help in exchange for information. The less willing sources were instructed to reveal only some information while not revealing too little. They were instructed to bring a negative attitude towards the police into the interview and their priority was to not sell out friends in the terrorist group. Hence, the instructions describe two different information management dilemmas: to reveal information but not say everything (more willing) and to reveal only a small amount of information but not stay completely silent (less willing). To systematically vary the sources' *capability* to provide information, the amount of information they were given about the attack was manipulated. The more able sources received a background story consisting of 36 pieces of information. The less able sources received the same general story. However, this story consisted of only 24 pieces of information (i.e., 12 pieces fewer than found in the more complete story given to the more able sources). Importantly, the interviewer's prior knowledge constituted 12 pieces of information, all 12 of which were included in the sources' either 24 or 36 pieces of information. This resulted in the more able sources holding 24 pieces new to the interviewer and the less able sources holding 12 pieces new to the interviewer. In addition, the sources had the opportunity to lie and were required to complete pre and post interview memory tests to take part in the study (similar to Study II).

Sources established contact with the interviewer by knocking on the interviewer's door. The interviewer and source were alone in the room during the interaction. The interviews lasted, on average, six minutes. The Scharff protocol started with the interviewer presenting the illusion of knowing-it-all story while maintaining a friendly approach, followed by an open-ended question. After the source had finished talking, the interviewer presented three claims. The interview was concluded after a final open-ended question. The direct approach protocol began with an open-ended question. This was followed by three specific questions (asking for the same information as the claims). If a source did not answer a question appropriately, it was repeated once. The interview was concluded after the final open-ended question.

One man and one woman, both with acting experience, were trained as interviewers (see Study II). After the interviews, sources filled out three questionnaires and were instructed to answer truthfully. With the exception of the less able sources' checklist including only

24 pieces of information, all questionnaires were very similar to those of Study II. The interviews were transcribed verbatim and coded for new information revealed (0-24 for more able sources; 0-12 for less able sources). To compare the more and less able sources as pertains to the amount of new information revealed, ratios were calculated. The new information ratio for each source ranged from 0 (revealing no new information) to 1 (revealing all new information).

In line with previous reasoning behind the Scharff technique (outlined in Study I), Study III had the following hypotheses:

Hypothesis 1: The Scharff protocol would result in relatively more new information.

Hypothesis 2: As pertains to the amount of new information revealed, we expected the difference between the Scharff protocol and the direct approach to be more pronounced when interviewing sources less (vs. more) willing to cooperate.

Hypothesis 3: Sources interviewed with the Scharff protocol would perceive the interviewer as relatively more knowledgeable.

Hypothesis 4: In terms of information misperceived to be already known by the interviewer, such misperceptions would be relatively more common for sources faced with the Scharff protocol.

Hypothesis 5: Sources in the Scharff condition would have a relatively less clear understanding of what information the interviewer was after.

Hypothesis 6: Sources in the Scharff condition would underestimate their contribution of new information. Sources in the direct approach would overestimate their contribution of new information.

Results. In support of H1, the Scharff technique resulted in relatively more new information for all four source categories (but not significantly so for the more willing/less able sources). When comparing the more and the less willing sources, the Scharff technique resulted in a slight *increase* in the amount of new information gathered from less willing sources, whereas the direct approach resulted in a slight *decrease* of new information gathered (Figure 4). Thus, H2 was supported. In addition, sources interviewed with the Scharff technique (i) found the interviewer to be more knowledgeable (supporting H3), (ii) misperceived the interviewer's knowledge to a higher degree (supporting H4) and (iii) found it more difficult to read the interviewer's information objectives (supporting H5) when compared to sources interviewed with the direct approach. Finally, with the Scharff technique, all categories of sources underestimated their contributions of new information. With the direct approach, all categories of sources overestimated their contributions of new information but only significantly so for the more able/less willing sources. Thus, H6 was largely supported.

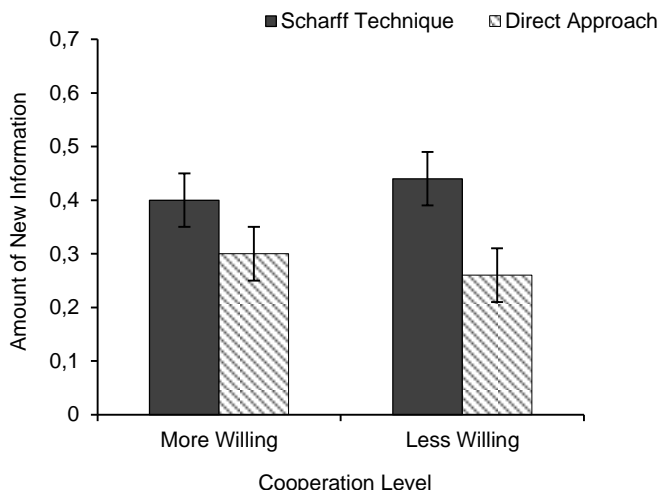


Figure 4. Mean ratio of new information revealed for the interview conditions when interviewing sources with different levels of cooperation. Error bars represent 95% CI's.

Discussion. When interviewing sources less willing to cooperate, it is important to use effective interview tactics. Comparing the more and less cooperative sources, the direct approach resulted in a slight decrease in the amount of new information gathered from less willing sources (see Figure 4). The Scharff technique, however, resulted in a slight increase in the amount of new information gathered from less willing sources. That is, the comparative efficacy of the Scharff technique was magnified when interviewing sources who were less willing to cooperate. More specifically, the Scharff technique outperformed the direct approach when interviewing both categories of less willing sources (both more and less capable of providing new information). Arguably, these results point towards the Scharff technique's efficacy for circumventing sources' counter-interrogation strategies. When interviewing sources who are quite willing to cooperate, the choice of interview technique might be less important. Nonetheless, the Scharff technique still outperformed the direct approach when interviewing the more cooperative and more capable sources. It was only when the sources were more cooperative and less capable of providing information that the direct approach resulted in a similar amount of new information as the Scharff technique.

Sources interviewed with the Scharff technique consistently perceived the interviewer to be relatively more knowledgeable about the situation. Furthermore, the knowing-it-all story, in combination with presenting claims including the correct alternative, resulted in the illusion that the interviewer held information beyond what was told. This finding is supported by the fact that sources consistently misperceived the interviewer's knowledge to a relatively higher degree when interviewed with the Scharff technique. Furthermore, the Scharff technique consistently resulted in sources finding it more difficult to

determine what information the interviewer sought to collect. A reasonable explanation for this is that no questions were asked and that new information was ignored.

Finally, with the Scharff technique, all sources underestimated their contributions of new information. With the direct approach, the results showed a strong tendency for sources to overestimate their contributions. This pattern was significantly displayed with the more willing and more capable sources.

GENERAL DISCUSSION

The major aim of this thesis was to examine interview techniques for gathering intelligence from human sources. In response to the paucity of research on techniques aimed at human intelligence gathering, this thesis introduced a novel experimental set-up as well as a set of new dependent measures for evaluating the efficacy of human intelligence gathering techniques. Furthermore, the thesis (a) suggested a psychological framework for the Scharff technique and (b) provided a conceptualization of the tactics used by WWII interrogator Hanns Scharff. The efficacy of the Scharff technique was examined in a series of studies. In Study I, the conceptualization of the Scharff technique was refined, and the dependent measures advanced, compared to the first scientific examination of the technique (Granhag et al., 2015). In Study II, the ecological validity of three aspects was improved: (i) the source and interviewer met in person (in Study I, they talked on the phone), (ii) the source was allowed to fabricate information (this was not the case in Study I) and (iii) two versions of the Scharff technique were used (the additional version presented claims that included a mix of correct/incorrect alternatives while, in Study I, all claims included only the correct alternative). In Study III, the ecological validity was further improved by systematically varying the sources' level of cooperation (i.e., more/less willing) and capability to provide information (i.e., more/less able).

Main Findings

The Scharff technique demonstrated its superiority over the direct approach as a tool for gathering intelligence from human sources in all three studies. The Scharff technique consistently resulted in relatively more new information and led sources to provide new information unknowingly. Furthermore, the sources interviewed with the Scharff technique had a relatively more difficult time understanding what information the interviewer sought to collect. Finally, the Scharff technique interviewer was consistently perceived as relatively more knowledgeable about the topic under discussion. As will be discussed in detail below, these outcomes are largely based on two factors pulling in the same direction. First, semi-cooperative sources who faced the knowing-it-all story provided information beyond the story presented by the interviewer. Second, the knowing-it-all story in combination with presenting claims resulted in sources misperceiving the knowledge of the Scharff interviewer, which, in turn, led them to provide new information unknowingly. Successively, the scope of this discussion will be broadened by considering the interview context for the Scharff technique. In the following section, the introduced experimental set-up and some distinctive aspects of the studies will be discussed. After that, the psychological aspects of the Scharff technique will be considered, as well as the technique's placement in the research field. Finally, areas for advancement will be suggested, ethical issues acknowledged, practical implications proposed and limitations of the research mentioned.

New information

It was expected that a semi-cooperative source who strives to be perceived as willing to cooperate would provide relatively more new information when faced with the knowing-it-all story. This prediction was clearly supported in Study I and II and received indirect support in Study III (this particular topic was not directly examined in Study III). This outcome is mainly attributed to two of the Scharff technique's tactics. The interviewer started the interaction by expressing understanding for the source's situation and offered to share already held information to make the conversation more efficient (i.e., by adopting a friendly approach). When the request to share information was accepted, the interviewer presented the knowing-it-all story. Then, the interviewer invited the source to contribute. These tactics resulted in the source avoiding repeating the information already presented by the interviewer. In contrast, when the direct approach interviewer invited the source to reveal information via an open-ended question, the source provided, as expected, a mix of information known and unknown to the interviewer. Hence, the Scharff tactics preserved the source's willingness to provide information while redirecting the source towards revealing information beyond what the interviewer told.

Towards an illusion of knowing it all

It was argued that the knowing-it-all story would establish the illusion of the interviewer being more knowledgeable than s/he actually was. That is, storytelling would influence the source to make incorrect inferences regarding the interviewer's knowledge. This issue can be discussed on two levels. The first level refers to the perceived amount of information held by the interviewer. The second level refers to the accuracy with which knowledge is ascribed to the interviewer. As will be discussed in detail below, the sources ascribed a rather accurate amount of information to the Scharff interviewer's knowledge, but many of those pieces of information were not known to the interviewer. With the direct approach, both the amount and accuracy of the information ascribed to the interviewer were low.

First, the number of information pieces ascribed to the interviewer was counted. For all three studies, the Scharff interviewer was perceived as holding more information about the situation than the direct approach interviewer. Furthermore, the source's perception of the amount of information held by the Scharff interviewer corresponded with the actual amount of information known to the interviewer. The explanation for these findings is rather straightforward; presenting known information provides a basis for sources to assess how much information the interviewer holds. In comparison, the sources underestimated the amount of information held by the direct approach interviewer. Specifically, the interviewer was believed to hold, on average, half of the information that s/he actually held. The likely explanation for this outcome is that this interviewer did not openly demonstrate having any knowledge. Thus, these sources had no indication on which to base their estimate when ascribing the amount of information held by the interviewer.

Second, the accuracy of the information pieces ascribed to the interviewer was assessed. That is, we matched (a) the pieces of information perceived to be held by the interviewer with (b) the pieces actually held by the interviewer. It was expected that sources facing the knowing-it-all story would make relatively more incorrect inferences when assessing the interviewer's knowledge. This prediction was supported in Study II and III (and to some extent in Study I as well). That is, the sources in the Scharff condition perceived, to a larger extent than the sources in the direct approach condition, the interviewer to hold information that the interviewer did, in fact, not hold.

It is reasonable to draw on the psychological phenomenon known as the curse of knowledge (Birch & Bloom, 2007) to explain sources' perceptions of the interviewer's knowledge. First, the source held more information than the interviewer. Thus, the source was susceptible to being cursed by his/her knowledge. Second, the likelihood of being cursed by knowledge increases if the curse is tied to a plausible rationale (Birch & Bloom, 2007). Hence, an interviewer who starts an interview by presenting relatively much information would add to the plausibility that s/he holds information beyond what was presented. In support of this notion, sources perceived the amount of information held by the Scharff interviewer to be rather substantial. Furthermore, sources' accuracy when ascribing knowledge to the Scharff interviewer was low. Thus, it is reasonable to argue that sources were cursed by their own knowledge. Consequently, the sources interviewed with the Scharff technique made incorrect inferences when ascribing knowledge. It is important to note that this thesis could not clarify the extent to which the misjudgments (as pertains to the interviewer's knowledge) were due to the knowing-it-all story or the posed claims (i.e., confirmation/disconfirmation tactic). However, it is reasonable to argue that the knowing-it-all story was the first step towards establishing the illusion that the interviewer held information beyond the story presented.

The explanation for sources making relatively fewer incorrect assessments when ascribing knowledge to the direct approach interviewer is rather straightforward; an interviewer who only poses direct questions will point the source towards information that is unknown rather than provide a rationale for being knowledgeable. Hence, the source is less likely to be cursed by his/her own knowledge and might, instead, be hesitant to ascribe knowledge to the interviewer. Consequently, sources interviewed with the direct approach made relatively fewer incorrect assessments when ascribing knowledge to the interviewer.

The claims

In brief, in a situation where information exists pointing in two different directions (e.g., an attack will happen at either location A or location B), the interviewer can present one alternative as a claim for the source to confirm or disconfirm. For this thesis, it was expected that the confirmation/disconfirmation tactic would result in elicitation advantages when compared to direct questions (e.g., "*tell me where the attack will take place*"). However, the advantage of presenting claims seemed to be dependent upon how the tactic was employed. That is, in Study I, the claims elicited significantly more new

information than specific questions. This finding should be discussed in light of two factors. First, the number of claims presented/specific questions asked was rather high. Second, each claim/specific question was posed only once. In Study II, the claims elicited more new information than the direct questions but not to a significant extent. The most likely reason for this is that the conditions for posing claims/asking questions were slightly changed. Specifically, the number of claims/specific questions were fewer and the specific questions (but not the claims) were repeated twice if not answered properly. Importantly, the claims did not result in relatively more new information, but the information objectives of the Scharff interviewer were relatively better masked. It is thus reasonable to argue that, as the interview conditions in Study I and II were largely similar, these findings support the notion that the efficacy of posing claims depends on how the claims are used. Furthermore, it should be noted that prior to presenting the claims, the Scharff technique had already resulted in relatively more new information from the initial open-ended question. This arguably strengthens the support for the information gathering advantage of presenting claims as found in Study I (it should be noted that the efficacy of the claims was not specifically examined in Study III).

It is important to note that presenting claims without first demonstrating one's knowledge seems to be ineffective (Granahag, Cancinos Montecinos et al., 2015). Hence, the claims should be viewed as an extension of the knowing-it-all story rather than a quick fix to elicit information (May, Granahag & Oleszkiewicz, 2014). That is, it is crucial that the source perceives the interviewer as knowledgeable before the interviewer presents claims.

Sources' counter-interrogation strategies

To reiterate, after having instructed a source to be semi-cooperative, s/he was expected to exploit opportunities to be perceived as cooperative and attempt to provide information s/he believed to already be known to the interviewer. However, for such a strategy to work successfully, the interviewer's knowledge had to be correctly predicted. Otherwise, the source would risk revealing information new to the interviewer. Studies II and III showed that sources interviewed with the Scharff technique are more likely to misjudge the interviewer's knowledge. Hence, these sources were expected to act on the reveal-only-known-information counter-interrogation strategy and would thus unknowingly reveal information that was new to the interviewer. Accordingly, in all studies, sources faced with the Scharff technique consistently perceived that they revealed somewhat less new information. Thus, when relating sources' perceptions with the new information actually revealed, the sources faced with the Scharff technique consistently underestimated their contributions of new information (Studies I, II & III). This underestimation is mainly attributed to three Scharff tactics all pulling in the same direction. First, as the interviewer presented the knowing-it-all story, the first step towards establishing an illusion was taken. Second, by presenting claims the interviewer was perceived to hold information beyond what was told in the knowing-it-all story. Third, as the interviewer did not signal when new information was collected, the source had a difficult time understanding when s/he had provided new information. It is reasonable to argue that these three tactics directed the source towards new information while making it

difficult for the source to understand when new information had been revealed. This notion is supported by the fact that sources revealed more new information when interviewed with the Scharff technique than with the direct approach. That is, the Scharff technique led the sources to provide new information unknowingly.

In contrast, sources faced with the direct approach generally overestimated their contributions of new information (Studies I & II). This outcome can be explained by the fact that the direct approach interviewer did not present information during the interview. Thus, these sources had an inferior basis for assessing the interviewer's knowledge and were therefore hesitant to ascribe knowledge to the interviewer. Hence, the sources interviewed with the direct approach underestimated the interviewer's knowledge, which, in turn, made them overestimate their contributions of new information.

In Study III, the sources were either more or less willing to cooperate and either more or less capable of providing information. When faced with the direct approach (but not when faced with the Scharff technique) the sources' level of willingness and ability affected their estimation of the amount of new information revealed. Specifically, with the direct approach, the sources who were more willing to cooperate and more able to provide information overestimated their contribution of new information. The sources who were less willing and/or less capable also overestimated their contribution of new information, but not to a significant extent.

The lack of significant overestimations in Study III could be explained in light of the argument that the direct approach provides an inferior basis for assessing the interviewer's knowledge. First, the more capable sources were given more pieces of information about the upcoming terrorist attack. Arguably, sources holding more information may be affected by their willingness to cooperate with the interviewer. That is, sources who are less willing to cooperate may be more careful when revealing information. Thus, these sources may have been relatively more aware of every piece of information revealed when facing direct questions. Second, the more willing sources were instructed to reveal quite a lot of information but not reveal everything they knew. These sources' perceptions may have been affected by the amount of information they held on the topic. That is, holding little information may make it easier to keep track of the relevance of the information held. Thus, they might have been able to better understand the value of their own contribution when facing direct questions.

Furthermore, it is noteworthy that the Scharff technique resulted in a slight increase of new information when interviewing sources less willing to cooperate compared to sources more willing to cooperate, particularly so when taking into account that the opposite pattern was found with the direct approach. That is, with the direct approach, the more willing sources revealed slightly more new information than the less willing sources (Study III). Thus, comparing the more and less willing sources between the interview conditions, the comparative efficacy of the Scharff technique was magnified when interviewing less cooperative sources. Hence, this thesis lends support to the idea that the Scharff technique can be used to circumvent sources' counter-interrogation strategies.

Masking information objectives

Another aspect of information elicitation is the attempt to mask what information the interviewer is after. As the Scharff technique interviewer only asked the source to add information after the knowing-it-all story, this technique was expected to result in relatively better masked information objectives. This was supported in Studies II and III. That is, both studies showed sources faced with the Scharff technique had a relatively less clear understanding of what information the interviewer aimed to collect. The reason for this effect is mainly attributed to three of the Scharff technique's tactics. First, the interviewer avoided asking explicit questions (not pressing for information tactic). Second, instead of explicitly asking for specific details, the interviewer presented claims (confirmation/disconfirmation tactic), which made it less obvious that this was information actually being asked for. Third, when a source provided new information (e.g., by responding to a claim), the interviewer treated the contribution similarly to when already known information was discussed (i.e., ignore new information tactic). Thus, it can be argued that the combination of these tactics makes it difficult for the source to understand what information the interviewer is after. It should be reiterated that the Scharff technique did not result in relatively better masked information objectives in Study I. The reason for this is attributed to the large number of claims posed. The sources faced with the direct approach expressed a relatively clearer understanding of the interviewer's information interests (Studies II & III). The explanation for this outcome is rather straightforward; posing explicit question provides a relatively good understanding for what information the interviewer seeks to collect.

The context for the Scharff technique

Before adopting any interview technique for gathering intelligence, it is important to properly assess a source's level of cooperation. A source's cooperation level can be illustrated on a continuum that ranges from being fully cooperative to completely uncooperative. If a source is identified as *fully cooperative*, the source is willing to provide all known information. In such cases, there is little need for elicitation tactics. The interviewer should instead use memory-enhancing techniques (e.g., the cognitive interview) to extract a reliable and comprehensive report (Fisher & Geiselman, 1992). If a source is *completely uncooperative*, the source will not engage in communication and might even refuse to acknowledge the presence of an interviewer. In such cases, elicitation tactics might not work. The interviewer should instead establish communication by using rapport-building techniques (Abbe & Brandon, 2013; Alison et al., 2013; Alison et al., 2014a) and an adaptive communication style (Taylor, 2002, 2014). Consequently, the conceptualization of the Scharff technique presented in this thesis is not designed for interviewing fully cooperative or completely uncooperative sources; it is tailored towards semi-cooperative sources. In such cases, sources are willing to share only a portion of the information held and elicitation tactics can lead the sources to (unknowingly) increase the value of their contribution. Importantly, semi-cooperative sources are common in real life (cf. Fein, Lehner & Vossekui, 2006).

It is not uncommon for sources to try their best to reveal little new information. In such cases, the interviewer might be required to direct the source towards specific information topics to better assure new information being revealed. An unobtrusive way of directing a source towards new information is to make use of the intelligence already held (by the interviewer). For information gathering purposes, the known information can be presented at the outset of the interview in order to direct the source away from already known information and towards new information. Consider an interviewer who starts the interview by presenting all information already held on the case. If the source then wants to be perceived as cooperative, s/he cannot simply repeat the information already stated by the interviewer. The source will instead have to go beyond the interviewer's story and provide new information.

Methodological Considerations

The experimental paradigm

Fully mirroring the conditions of a human intelligence interaction is arguably impossible in a controlled lab-study. However, there are important features that can be mirrored in an experimental setting. One important aspect of the experimental paradigm introduced is the information management dilemma sources were required to navigate. To reiterate, sources were told that they had to reveal some information in exchange for assistance. They were also told that they had to avoid revealing too much information in order to prevent repercussions from the terrorist group. However, as no detailed instructions were provided for how to manage the information, the dilemma could have been interpreted differently by different sources. Importantly, this thesis provides two findings that point toward the validity of this dilemma. First, in all studies, the sources rated the instructions as easy to understand. Second, averaged over all sources in Studies I and II, a bit more than one fifth of the total amount of information held by sources concerning the upcoming attack was revealed (approx. 24% with the Scharff technique and 22% with the direct approach). This shows that the sources were more uncooperative than cooperative and took their task seriously (Study III is not included here as the dilemma was manipulated). Furthermore, as has been argued, the total amount of information might be of lesser value for intelligence gathering purposes (e.g., for mapping networks and future plans). Thus, it is important to examine the proportion of new information revealed. Consequently, we investigated the pieces of information known to the sources but not to the interviewer prior to the interview. Collapsing the new information revealed in Studies I and II, the Scharff technique resulted in approximately 29% of the new information available to the sources being revealed to the interviewer. The corresponding percentage for the direct approach was 21%. These percentages support the notion that information elicited with the Scharff technique has a higher ratio of new information compared to information elicited with the direct approach. In conclusion, the information management dilemma introduced in this thesis shows promise for encouraging sources to be semi-cooperative.

The progression of the examination

The studies in this thesis have followed a practicality-oriented progression. Broadly speaking, the progression started with Granhag's (2010) first theoretical conceptualization of the Scharff technique, followed by the first scientific test of the technique (Granhag et al., 2015). Following in those footsteps, this thesis has advanced the experimental set-up by successively increasing the ecological validity of the examinations. The experimental progression is discussed below.

First, the source/interviewer interactions became more realistic. With respect to physical distance, the Scharff technique outperformed the direct approach when the interviewer and source (a) sat in separate rooms talking over the phone, as well as (b) sat face-to-face in the same room.

Second, as pertains to managing information, some psychological factors were made more realistic. With respect to the information management dilemma, the Scharff technique outperformed the direct approach when sources balanced their dilemma (a) with the information on paper in front of them as well as (b) when the information was memorized. Importantly, no direct effects resulting from changing the ways in which sources managed information have been identified. For example, the amount of misinformation reported was very low in all three studies and equally distributed between the conditions. Moreover, the opportunity to fabricate information did not affect the efficacy of the Scharff technique. However, it should be noted that only a handful of participants provided false details when allowed. The reason for the low number of fabrications could be explained by two factors pulling in the same direction. First, in order to balance the information management dilemma, the sources had to withhold truthful information during the interview. Thus, as withholding information is considered lying (DePaulo, Kashy, Kirkendol, Wyer & Epstein, 1996), balancing such an information management dilemma could arguably account for some degree of cognitive load (Vrij, 2008; Vrij & Granhag, 2012). Second, as the sources were to receive a favor in exchange for information, fabricating information in combination with balancing the information management dilemma likely made the challenge (receiving the favor) even more difficult. It is thus reasonable to assume this dilemma largely accounts for the low number of fabrications. Simply put, a source who aims to receive a favor in exchange for information might find it too risky to fabricate information.

Third, sources are often screened and categorized based on (a) the likelihood they hold information and (b) their estimated level of cooperation (US Army, 2006). Thus, the sources in this thesis became more representative of real-life sources (Study III). That is, the capability to provide information was manipulated by providing background information containing a fixed amount of more (36 pieces) or less (24 pieces) information. Manipulating the sources willingness to cooperate was a bit less straightforward. Specifically, the sources were instructed to either reveal only a small amount of information but without being completely silent (less willing) or reveal a fair amount of information but without telling everything (more cooperative). It should be noted that the

sources rated the instructions as very easy to understand. This provides some support for the notion that the instructions were understood and followed.

Fourth, the use of claims was made more flexible over the studies. For Studies I and III, the Scharff technique interviewer presented claims that included the correct alternative (for the source to confirm). However, in Study II, the Scharff technique interviewer also presented claims that included an incorrect alternative (for the source to disconfirm). Although the claims including incorrect alternatives were too few to analyze statistically in this thesis, the tactic of presenting incorrect alternatives (i.e., incorrect claims) still merits discussion. The reason for including relatively few incorrect claims is that presenting a high number of incorrect alternatives would work against establishing the illusion of knowing it all. Importantly, presenting one incorrect claim (out of three total claims) did not affect the illusion negatively (Study II). That is, the interviewers' knowledge was misperceived to a similar extent when presenting (a) three claims that included correct alternatives as when presenting (b) one incorrect claim and two correct claims. Furthermore, posing incorrect claims was expected to result in the source responding with simple corrections (e.g., "No" or "That's incorrect"). However, simple corrections to incorrect claims did not occur more often than affirmations to correct claims.

Theoretical Contribution

The psychology of the Scharff technique

As stated earlier, Scharff tried to imagine himself in his prisoners' position and he did this to attempt to better understand and predict their behavior. This allowed him to develop tactics to circumvent his prisoners' counter-interrogation strategies (Granhag, 2010). In line with the suggestion that an interviewer should consider the cognitions of a source (Granhag & Hartwig, 2008), the Scharff technique promotes perspective-taking (Galinsky et al., 2008). By placing him/herself in the shoes of the source, the interviewer can contemplate the source's motives (Carver & Scheier, 2012) and predict the source's behavior (Granhag & Hartwig, 2008, 2015). Differently stated, through perspective taking, the source's perceptions of the interview can be monitored and the source's counter-interrogation strategies anticipated. Consequently, perspective-taking can be valuable for implementing tactics to reach specific interview objectives (Luke et al., 2014; Tekin et al., 2015).

This thesis indirectly supports the notion that the psychological concept of perspective taking is important for intelligence interviewers (Granhag & Hartwig, 2008; Justice et al., 2010; Soufan, 2011). The Scharff technique draws on sources adopting counter-interrogation strategies (Granhag, 2010; Scharff, 1950). These strategies can be linked to the basic psychology of self-regulation theory (Carver & Scheier, 2012), a social cognitive framework for understanding how people control their behavior to steer towards desired goals and steer away from undesirable outcomes (Granhag & Hartwig, 2008, 2015). For this thesis, this idea was mirrored in the information management dilemma

sources were required to navigate, to reveal information to receive the help needed (the desired outcome), but without revealing too much or too little information (the undesirable outcome). To counteract the sources' strategies, the Scharff technique played on their perceptions of the interview. Specifically, to affect the source's perception of the interviewer's (a) knowledge and (b) information interests. The aim of affecting the source's perceptions was to influence the source to alter his/her initially planned behavior by adopting an alternative and less calculated plan on the spot. That is, the interview protocol was developed with the source's perception of the interviewer in mind (e.g., *the interviewer probably knows nothing [or very little] about the situation*). It is reasonable to assume that by presenting information at the outset of the interview, the source's perception was changed (e.g., *I was wrong, the interviewer knows a lot*). This might have resulted in the source's counter-interrogation strategies being affected, leading the source to reveal information other than what s/he had initially planned to reveal (e.g., *I was prepared to say A and B, but now I have to say C and D*). In sum, it is probably fair to argue that the Scharff technique influenced the sources to revise their initial plan and adopt a new one.

In conclusion, the Scharff technique is anchored in the following basic principles: (a) a source typically forms a hypothesis on how much and what information the interviewer already holds, (b) the source's perception will affect his/her counter-interrogation strategies and (c) the counter-interrogation strategies employed will affect how much and what information the source reveals. These basic principles compose a model reflecting the source's reasoning (see Figure 1 in the introduction). It can be argued that an interviewer who fully grasps the relation between these basic principles can utilize perspective taking to anticipate the specific reactions of an individual source and will therefore be in a better position to conduct a successful interview (Granhag & Hartwig, 2015).

Placing the Scharff technique in the research field

Affecting the source's perception. One important aim of the Scharff technique is to affect the source's perception of what information the interviewer knows and what information the interviewer seeks to collect. To my knowledge there is only one other interview technique that systematically and explicitly exploits sources' perceptions in a similar fashion: the strategic use of evidence (SUE) technique (Granhag & Hartwig, 2015). Applied primarily for interviewing suspects, the SUE technique advocates the interviewer starting the interview with asking the suspect to provide a full account of what happened. After having exhausted the suspect's explanation for a piece of evidence, the interviewer can confront the suspect with that piece of evidence. The rationale for presenting evidence after listening to the suspect's account is that a guilty suspect who does not know what evidence exists against him/her will have a difficult time deciding what information to reveal and what information to withhold. In contrast, disclosing a piece of evidence before asking the suspect to address it allows the guilty suspect to adjust his/her responses to fit the evidence already held by the interviewer (Granhag & Hartwig, 2015; Granhag, Strömwall et al., 2013).

The goal of the SUE technique is to aid the interviewer in distinguishing between guilty and innocent suspects. To reach this goal, the interviewer attempts to influence the suspect's management of self-incriminating information. The goal of the Scharff technique is to gather information. To reach this goal, the interviewer attempts to influence the source's management of information in general. Consequently, both the Scharff technique and the SUE technique aim to affect the source's/suspect's perceptions. However, the two techniques have different interview objectives and utilize different strategies for reaching their desired objectives.

The first difference between the SUE and Scharff techniques pertains to the knowledge ascribed to the interviewer. The SUE interviewer aims to relate the suspect's initial statements to the already held evidence and then encourage the suspect to explain any inconsistencies. The Scharff technique interviewer aims to gather additional information that s/he wishes to acquire. This is accomplished by making it seem as if the interviewer already holds information about the critical event in question. Thus, the SUE interviewer wants to be perceived as less knowledgeable, while the Scharff interviewer wants to be perceived as more knowledgeable, than s/he actually is (for a new approach combining these two tactics, see Tekin et al., 2015). The second difference pertains to how information is requested. With the SUE technique, the interviewer encourages the source to provide complete statements before confronting him/her with evidence. With the Scharff technique, it is important to not show interest in particular pieces of information and refrain from posing questions that might reveal gaps in the interviewer's knowledge. Hence, the SUE interviewer can explicitly ask for specific information, whereas the Scharff interviewer should elicit information covertly rather than specifically ask for it.

Atmosphere of the interview. Another important feature of the Scharff technique is to create an environment that promotes a relaxed and comfortable interaction. Research on human intelligence gathering has recently emphasized the importance of creating and maintaining a positive atmosphere rather than relying on a specific recipe (quick fix) for establishing rapport (Alison et al., 2013; Walsh & Bull, 2012). By analyzing real terrorist interviews, Alison and his colleagues (2013) developed a promising framework for assessing interviewer behavior, observing rapport-based interpersonal techniques (ORBIT). Basically, ORBIT consists of three components: (a) creating a collaborative rather than confrontational environment, (b) evoking information rather than demanding it, and (c) honoring the source's autonomy rather than highlighting the interviewer's authority. There are clear links between the ORBIT framework and Scharff technique. First, the friendly approach is fully compatible with ORBIT's collaborative environment, as well as its component of honoring the source's autonomy. Second, not pressing for information and confirmation/disconfirmation tactics match well with ORBIT's component of evoking, rather than demanding, information. In essence, if ORBIT were to be viewed as a general framework for conducting successful and ethical intelligence interviews, the Scharff technique would fit neatly within this broader framework.

Presenting information. The most recognized feature of the Scharff technique is the interviewer presenting already known information up front (US Army, 2006). Another

well-known suspect interviewing technique also presents evidence up front, the REID technique (Inbau, Reid, Buckley & Jayne, 2013). The REID technique interview can be illustrated as follows. When the interviewer is convinced of a suspect's guilt, s/he starts to confront the suspect with evidence that clearly indicates guilt. This is followed by the interviewer downplaying the moral seriousness of the offence and providing contextual excuses for the suspect having committed the crime. If the suspect denies the charges, s/he is immediately interrupted. If the suspect objects to the charges by offering explanations, s/he is directly confronted with accusations of guilt. When the suspect perceives his/her objections to be ineffective, the interviewer holds the suspect's attention and continues to break down resistance by displaying sympathy. The interviewer then offers two alternatives of involvement with the crime. Both alternatives are highly incriminating, but one allows the suspect to save face more than the other. Finally, the interviewer aims to have the suspect confess verbally and then develops the verbal confession into a written confession (see Gudjonsson, 2003, for a critical evaluation of the REID technique).

Both the Scharff and REID techniques aim to convince the source that knowledge about the case is already possessed. However, the techniques have very different tactical aims with respect to demonstrating knowledge. That is, the REID technique aims to affect the source's perception of the cost-benefit ratio of confessing to the offence. This is done by maintaining the source's guilt throughout the interview and fabricating a "good deal" or "best way out" of the situation. In contrast, the Scharff technique aims to lead the source to provide new information and reveal new information unknowingly. Hence, the REID technique presents knowledge to make the source choose between given options, whereas the Scharff technique presents knowledge to influence the source to make incorrect inferences.

In sum, the REID technique aims to coerce the suspect into compliance by making him/her want to escape the situation. In contrast, Scharff gained his prisoners' cooperation by relieving external pressure. That is, he demonstrated, in a friendly manner, that information was already known on the topic under discussion (Toliver, 1997). Consequently, the conceptualization of the Scharff technique presented in this thesis speaks against any compatibility with the REID technique. To illustrate with an example, in an intelligence gathering scenario, it is unlikely the interviewer would convince the source that s/he knows everything if using a coercive questioning technique (i.e., disregarding the not pressing for information tactic). The argument here is that any single tactic of the Scharff technique is unlikely to be very effective if used as the sole tactic.

Categorizing the Scharff technique. In a recent review article, Kelly and his colleagues (2013) attempted to organize and categorize all law enforcement interview techniques (primarily suspect interviewing) that have been identified by researchers. The authors identified 824 techniques and grouped these into six broad categories: (1) emotional provocation, (2) rapport and relationship building, (3) confrontation and competition, (4) collaboration, (5) context manipulation and (6) presentation of evidence (Kelly et al., 2013). However, in order to fit the conceptualization of the Scharff technique presented in this thesis within this taxonomy, the technique would have to be divided into several parts.

First, the positive atmosphere of the Scharff technique (i.e., the friendly approach, not pressing for information) fits under category (2), rapport and relationship building. Second, some of the more tactical features of the Scharff technique (i.e., the knowing-it-all illusion, confirmation/disconfirmation) fit under category (6), presentation of evidence. However, one tactical component (i.e., ignoring new information) does not fit into any of the taxonomy's categories. In sum, the taxonomy is not constructed to embed a human intelligence gathering technique like the Scharff technique.

It is important to point out that the taxonomy above concerns interview dynamics (i.e., to navigate between different approaches) rather than information objectives (i.e., gathering information of specific interest). Explained via an example, the interviewer's information objectives can be illustrated as a dartboard (Figure 5). The first level (the outer circle of the dartboard) relates to facilitating communication. That is, this level revolves around, for example, the source's state of mind (e.g., appealing to identity, instrumental or relational concerns; Taylor, 2002) and cultural belonging (e.g., choosing an approach that saves face or provides rational arguments; Beune, Giebels & Sanders, 2009). The outer layer is arguably critical for facilitating information gathering. However, some sources might deliberately avoid providing critical information. Thus, to collect specific pieces of information, the interviewer must often utilize specific tactical tools. These types of tactics are captured in the small inner circle. The Scharff technique, with its tactics specifically aimed at information elicitation, can be placed in this inner circle.

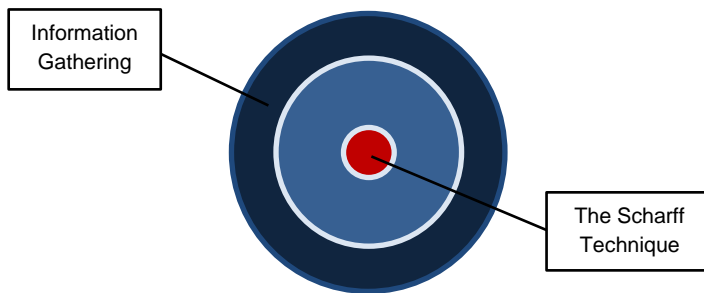


Figure 5. Illustration of the interviewer's information objectives as a dartboard ranging from general to specific objectives.

Future Directions

The experimental set-up

An experimental set-up for examining human intelligence gathering techniques should account for a large number of specific and general details. Thus, one strength of the introduced set-up was that it allowed participants to study a large amount of diverse

information. This allowed a rather representative interaction for which the researchers could allocate the knowledge held by both the source and interviewer. However, although the set-up was relatively representative in this respect, it came with a potential drawback; the information management dilemma holds no instructions for how to assess the value of each piece of information. That is, as the aim was to guide sources to adopt a rather uncooperative mindset whilst balancing an information management dilemma, direct instructions on how to deal with specific information would have rendered that dilemma more or less meaningless. Importantly, measures regarding the quality of information are better captured in other experimental set-ups such as that used by Evans and colleagues (2013) where the aim was to collect guilty knowledge. For future studies, it might be valuable to assess the Scharff technique drawing on the set-up introduced by Evans et al. (2013).

The dependent measures

A human intelligence gathering interaction can result in various types of outcomes. Hence, evaluating the overall outcome can be a rather complex task. Thus, mapping the comparative efficacy of different intelligence gathering techniques comes with a number of challenges. Consequently, for this thesis, contributions were not limited to evaluating objective and subjective aspects of the interaction. An additional contribution came from the idea of relating two measures to arrive at a critical measure of efficacy (i.e., the source's estimation of the amount of new information revealed). Below, four dependent measures that might profit from future refinements will be discussed.

First, when discussing the dependent measures in the introduction, it was argued that semi-cooperative sources can maintain control of their willingness to cooperate by adjusting the precision of their responses. When evaluating the specificity of the new information gathered in Study I, it was found that precision was highly correlated with quantity (Evans & Fisher, 2011). Hence, for this thesis, it was not overly meaningful to analyze the specificity measure. It is important to note that the degree of specificity is a valuable measure in real life situations as sources might choose to reveal a small amount of precise (or a large amount of imprecise) information. Future research is encouraged to develop a sound measure to capture the grain-size of revealed information.

Second, this thesis has demonstrated the Scharff technique to be relatively successful in masking the interviewer's information objectives. However, in order to properly interpret this result, it should be made clear that this outcome was tapped by collecting a single data point from each source, the sources' own evaluations of how difficult it was to understand what information the interviewer sought to collect. Hence, this result does not reveal the accuracy of the sources' assessments. Future studies might profit from matching (a) the interviewer's actual information objectives with (b) the source's perception of the interviewer's information objectives.

Third, all subjective measures were rated and assessed after the interview. Hence, this thesis could not trace if, and if so how, a source's perception changed during the interview.

Future studies might profit from taking on the challenge of obtaining scores prior to the interview, as well as during the interview, while avoiding major disturbances to the interactions.

Finally, the sources' perceptions of new information revealed was calculated rather than reported. That is, the sources were provided with two checklists after the interview. On the first checklist, they marked every information unit that corresponded with the pieces of information they believed to have been revealed during the interview. On the second checklist, they marked every information unit they believed to have been known by the interviewer prior to the interview. Thus, to arrive at the source's perception of new information, the interviewer's perceived knowledge was subtracted from the perceived revealed information checklist. Future studies might consider asking sources to mark the information units they believe to be new to the interviewer.

Areas for research

Below, some suggestions for examining various real-life aspects of the Scharff technique will be proposed. In total, three areas for future research are discussed. It should be noted that the areas described might best be examined via the studying of real cases handling, for example, interviews with detainees, informants and prisoners of war.

This thesis draws on the assumption that semi-cooperative sources strive to navigate an information management dilemma (Alison et al., 2015; Shumate & Borum, 2006). However, little is known about the underlying motivations sources have to talk to an intelligence officer. It is reasonable to assume that sources are driven by, for example, criminal career opportunities (e.g., wanting a key person arrested to claim that position), financial motives (e.g., exchange information for money) and/or safety concerns (e.g., be placed in protective custody). The willingness to talk could be labeled as positive motivation. The source can also have a variety of reasons for not wanting to talk to an intelligence officer. The source might be reluctant because of, for example, career disadvantages (e.g., the reputation of collaborating with authorities), business setbacks (e.g., increased difficulties for money laundering, trafficking) and/or simply a negative attitude towards authorities (e.g., due to real or perceived mistreatments). The reluctance to talk could be labeled as negative motivation. Future studies are encouraged to probe sources on their experiences and analyze relationships between positive and negative motivations.

Counter-interrogation strategies can be sorted under two broad categories, escape strategies and avoidance strategies (Granhag & Hartwig, 2008). Escape strategies serve to terminate direct threats. Thus, escape strategies are behaviors that can manifest as denials or silence. Arguably, research on counter-interrogation strategies is positioned rather closely to escape strategies (Alison et al., 2014b). Avoidance strategies refer to ways of evading aversive stimulus (e.g., avoiding a problem that has not come to the surface). Arguably, these strategies might result in verbal responses such as (i) being vague, (ii) revealing information that is already known and (iii) avoiding revealing information that

the interviewer seeks to obtain (Granhag, 2010; Toliver, 1997; see also Taylor, 2014). It would thus be valuable to investigate the counter-interrogation strategies adopted by sources in more detail.

Finally, the conceptualization of the Scharff technique presented in this thesis places perspective taking at the heart of the technique. The rationale being that the Scharff technique's tactics can be used to circumvent counter-interrogation strategies. In accordance with the theory of planned behavior (Ajzen, 1991; Armitage & Conner, 2001), future studies are encouraged to examine how counter-interrogation strategies can be (a) stimulated, (b) circumvented and (c) interrupted.

Ethical Considerations

Psychologist involvement in practice

In response to the debate concerning the “enhanced interrogation techniques” used under the George W. Bush administration, the American Psychological Association (APA) ordered an independent review to investigate psychologists’ involvement with respect to these techniques (Hoffman et al., 2015). The independent report concluded that APA officials had conspired with the US Department of Defense (DoD). Briefly explained, in order to continue the use of “enhanced” interrogations, the APA and DoD adjusted the ethics policies so as to not constrain the DoD’s interrogative options. The complicit collaboration between the APA and the DoD thus secured the continued practice of “enhanced interrogations” (Hoffman et al., 2015). It is important to note the APA has since acknowledged this wrongdoing and voted 157-1 to ban psychologist participation in national security interrogations (www.apa.org). Importantly, this should not discourage researchers from evaluating the efficacy of intelligence gathering techniques. In fact, it could be argued that it is the responsibility of researchers to inform and educate practitioners and policymakers about the latest scientific findings. Arguably, peer-reviewed research is one of few ways in which intelligence gathering techniques can be evaluated on a neutral and transparent basis.

Ethical aspects of real-life interviewing

While there exists a vast body of research describing and evaluating techniques aimed at interviewing suspects and gathering intelligence, the ethical discussion for conducting such research is rather meager. This is remarkable considering that law enforcement and intelligence contexts are filled with opportunities to misuse/abuse power and infringe on sources’ rights (Hartwig et al., in press). Hartwig and her colleagues argued that the source’s autonomy (i.e., the capacity to make decisions about self-chosen actions) lies at the heart of this ethical discussion. They further argue that the ethos of information gathering approaches should honor the source’s autonomy by, for example, promoting transparency in contrast to, for example, employing false evidence ploys (Hartwig et al., in press).

Within the field of information gathering, there are techniques that assume both the interviewer and source to employ strategies (Granhag & Hartwig, 2015; Vrij & Granhag, 2012). In this view, interviewing is considered competitive and thus involves a set of more in depth considerations about the strategic mindset of both the interviewer and source (Hartwig et al., in press; see also Thagard, 1992). For example, both the interviewer and source can choose to withhold information from each other or choose to share information. According to paradigmatic definitions of deception, concealing information is a form of lying (Vrij, 2008). However, presenting known information can come with a deceptive element as well. That is, although the act of sharing information can be considered ethical, the intent behind the sharing of information can be deceptive (e.g., to influence another to make incorrect inferences). Thus, as both withholding and presenting information can include deceptive elements, suspect interviewing and intelligence gathering inherently involve some degree of deception.

A complete ethical elaboration on investigative interviewing would demand a thesis of its own. However, it is appropriate to mention some ethical issues with respect to using psychological tools that might impact a person's behavior without their full consent. More specifically, if the source is influenced to reveal information that is not in his/her best interest to reveal. As pertains to the Scharff technique, this would mainly concern the illusion of knowing-it-all tactic. It is thus important to note that the conceptualization of the Scharff technique presented in this thesis honors the source's autonomy to provide information. Thus, although the Scharff technique influences the source to reveal new information unknowingly, the technique does not make the source to reveal information that s/he does not want to reveal. On a related note, for this thesis, sources' motivation to talk was based on receiving a reward in exchange for information. It should be noted that rewards might affect a source's perception of the extent to which it might be self-damaging to reveal certain information. It should also be noted that rewards might make the source more willing to fabricate information.

Receiving funds from a foreign criminal investigation entity

Two of the three studies constituting this thesis were funded by the High-Value Detainee Interrogation Group (HIG), a group founded by US President Barack Obama as part of an attempt to end the abusive methods used in the aftermath of 9/11 (Obama, 2009). The HIG has two important roles. The group brings together personnel from the U.S. intelligence community to conduct interviews consistent with the rule of law. In addition, the group serves as the U.S. Government's center for interviewing best practices, training and scientific research. Thus, researchers who work with the HIG have the opportunity to share their findings with policy-makers and intelligence professionals. All HIG-sponsored research is unclassified and the findings are published in scientific journals. It should be noted that the HIG presents the first possibility for psychologists to impact the policies and practices of American national security agencies since the 1960s (Brandon, 2011).

It should additionally be noted what the HIG is and what it is not. The HIG does not engage in or advocate any unlawful interview practices. Instead of using force, threats

and/or false promises, the HIG uses techniques designed to stimulate voluntary statements. Furthermore, the HIG does not select its own intelligence targets and is thus relieved from direct personal investment. Finally, the HIG is a multi-agency organization whose principal function is intelligence gathering, not law enforcement. Thus, the actions of the HIG are documented by, for example, the U.S. Congress and National Security Council.

Research ethics

The ethical concerns for receiving grants from a foreign criminal investigation agency do not necessarily have to be different from receiving grants from any other research funding agency. That is, the principal investigator (Professor Granhag) proposed the research, a research committee evaluated the proposal, the research was awarded the grant in open international competition, the studies had to be approved by the local ethical review board (in this case, also by the FBI's ethical review board) and all findings were intended to be published in scientific, peer-reviewed journals. Hence, for this particular case, there is no difference between receiving a grant from a foreign intelligence agency and a more traditional research council. Furthermore, many ethical safeguards were taken with respect to the studies' participants. For example, the participants in Studies II and III were required to read and sign very detailed informed consent forms before partaking in the studies. In comparison, the informed consent form in Study I (not sponsored by the HIG) was much less detailed. It is important to note that all participants who agreed to sign a consent form completed their participation.

Practical Implications

Most countries in the world have one or more active intelligence agencies. Some renowned European examples are the United Kingdom's Security Service (MI5) and Secret Intelligence Service (MI6) and Germany's Federal Intelligence Service (BND). Two Swedish examples are the Swedish Security Police (SÄPO) and the Swedish Military Intelligence and Security Service (MUST). All intelligence agencies share the common characteristic of being secretive, which may be justified for investigative purposes (Shumate & Borum, 2006). However, quite recently, the United States declassified the US military's operative Army Field Manual (US Army, 2006). Importantly, having access to an operative manual of this kind allows researchers to openly examine the methods used by intelligence practitioners. Thus, the discussion below will draw on the American standard, but the practical implications are believed to be of wider relevance.

This thesis has introduced a conceptualization of the Scharff technique that has proven to be more effective for gathering intelligence than commonly used protocols (e.g., the direct approach). Thus, as the thesis provides empirical support for the efficacy of a technique believed to be effective in the field (Toliver, 1997), the conceptualization of the Scharff technique presented in this thesis has clear operational relevance. In brief, the Scharff technique covers a wide range of applications and can be used for a number of different types of sources (e.g., detainees and informants). It is also believed that this thesis adds to

the technique's operational relevance by offering a much more detailed description of the technique than what is found in the US Army Field Manual (US Army, 2006).

Furthermore, it is argued that this thesis has relevance for policy making. The use of so-called "enhanced interrogation techniques" and extraordinary renditions (Senate Select Committee on Intelligence, 2014; The Constitution Project, 2013) is one of the most politically charged issues within American policy making since the 9/11 terrorist attacks. Several initiatives have been taken to end the use of these unethical methods. For example, President Obama has made it clear that American intelligence interviewers operating in support of an armed conflict should only use the methods described in the Army Field Manual (Obama, 2009) and this was recently signed into law (November 25th 2015). It should be noted, however, that, despite the fact the Army Field Manual has been established by executive order as the standard upon which interview operations should be conducted by representatives of the United States, the methods set forth in the manual are not evidence based (nor are they officially claimed to be). In fact, few of the listed interview methods have been subjected to scientific evaluation (Justice et al., 2010). Importantly, the methodology used for evaluating the efficacy of the Scharff technique shows the possibilities for similar examination of other approaches described in the Army Field Manual. That is, this thesis demonstrates that the approaches listed in interview manuals can be empirically tested to support, or question, their claimed efficacy.

Limitations

Limitations of the experimental set-up

The experimental set-up employed has a number of limitations. First, some aspects of the typical human intelligence interaction are very difficult, impossible even, to mirror in a laboratory setting (e.g., high stakes). A second limitation is that all three studies were based on student samples. However, the Scharff technique is tailored to counteract counter-interrogation strategies and these strategies are arguably more commonly evoked by real-life sources than participants in laboratory-based experimental studies (Alison et al., 2014b; Soufan, 2011; Toliver, 1997). Hence, the technique might, in fact, be more, not less, effective in real-life settings. Third, although this thesis provides a template for future experimental work, such research would profit from having access to a selection of different scenarios (information management dilemmas) from which proper samples could be drawn. Furthermore, the results should be replicated in other research labs, preferably examining sources with different cultural backgrounds. Fourth, in all three studies, the interviews were short and the interviewer followed semi-structured interview protocols. Future studies might profit from examining more realistic situations by, for example, allowing longer interview sessions and repeated interactions.

Limitations of the Scharff technique

There are a few limitations of the Scharff technique that should be acknowledged. First, there are situations in which the technique might be difficult to use. For example, to

properly establish the knowing-it-all illusion, the interviewer must possess a certain amount of relevant and accurate information. On the other hand, with the publicly available information of today (i.e., OSINT), it is arguably easier to build the reference system needed for a knowing-it-all illusion than it was during WWII. Furthermore, it should be noted that there are examples where Scharff (Toliver, 1997), as well as more modern interrogators such as Ali Soufan (2011), managed to build this illusion with only a single piece of critical information. A second related limitation is that, for some situations, it would be a clear tactical mistake to reveal how much and what intelligence the interviewer holds on a certain topic. For example, a source that is not in custody may go on to inform the individual(s) about which the intelligence pertains. Networks might also deploy false sources to discover what is known about them and their activities. Third, there are many different forms of human intelligence interactions and the Scharff technique is primarily aimed at settings where the source expects to be questioned. Such interactions might take place in a voluntary context (as mirrored in this thesis) or in a non-voluntary, custodial setting (similar to the context in which Hanns Scharff developed his technique). Other human intelligence interactions are characterized by a clandestine component and may occur as a seemingly causal conversation. It is not claimed that the results of the studies in this thesis can be generalized to such covert intelligence gathering.

Conclusions

In wake of recent terrorist attacks and the increased threat of worldwide terror, there is an acute need for effective techniques to gather human intelligence (Brandon, 2011). This thesis attempts to meet that call by offering an evaluation of the technique used by WWII interrogator Hanns Scharff. The results have shown the Scharff technique to outperform the direct approach as pertains to several important measures of efficacy. Specifically, it was demonstrated that an interviewer can affect a source's perception and, thus, steer the source towards revealing new information. Furthermore, the conceptualization of the Scharff technique presented in this thesis encouraged sources to reveal new information unknowingly. In sum, this thesis offers four contributions. First, it provides a conceptual framework explicating the psychological aspects of the tactics constituting the Scharff technique. Second, it introduces a new experimental paradigm to examine the efficacy of human intelligence gathering techniques. Third, it offers a new set of dependent measures to be used for mapping the efficacy of human intelligence gathering techniques. Finally, it demonstrates empirical support for the efficacy of the approach adopted by the renowned interrogator Hanns Scharff. In sum, this thesis provides support for the Scharff technique as an effective tool for eliciting information from human sources.

Did your plane carry bombs in it or didn't it? You cannot ask that direct question, he will never answer it. But in the course of a regular conversation he will probably drop somewhere an indication that he did or he didn't, without even knowing what he said.

Hanns Scharff

REFERENCES

- Aarts, H., Gollwitzer, P. M., & Hassin, R. R. (2004). Goal contagion: Perceiving is for pursuing. *Journal of Personality and Social Psychology*, *87*, 23-37. doi:10.1037/0022-3514.87.1.23
- Abbe, A., & Brandon, S. E. (2013). The role of rapport in investigative interviewing: A review. *Journal of Investigative Psychology and Offender Profiling*, *10*, 237-249. doi:10.1002/jip.1386
- Abbe, A., & Brandon, S. E. (2014). Building and maintaining rapport in investigative interviews. *Police Practice and Research*, *15*, 207-220. doi:10.1080/15614263.2013.827835
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*, 179-211. doi:10.1016/0749-5978(91)90020-T
- Alison, L., Alison, E., Noone, G., Elntib, S., & Christiansen, P. (2013). Why tough tactics fail and rapport gets results: Observing rapport-based interpersonal techniques (ORBIT) to generate useful information from terrorists. *Psychology, Public Policy, and Law*, *19*, 411-431. doi:10.1037/a0034564
- Alison, L., Alison, E., Noone, G., Elntib, S., Waring, S., & Christiansen, P. (2014a). The efficacy of rapport-based techniques for minimizing counter-interrogation tactics amongst a field sample of terrorists. *Psychology, Public Policy, and Law*, *20*, 421-430. doi:10.1037/law0000021
- Alison, L., Alison, E., Noone, G., Elntib, S., Waring, S., & Christiansen, P. (2014b). Whatever you say, say nothing: Individual differences in counter interrogation tactics amongst a field sample of right wing, AQ inspired and paramilitary terrorists. *Personality and Individual Differences*, *68*, 170-175. doi:10.1016/j.paid.2014.04.031
- Alison, L., Giles, S., & McGuire, G. (2015). Blood from a stone: Why rapport works and torture doesn't in 'enhanced' interrogations. *Investigative Interviewing: Research and Practice, Special Issue* (Advanced online publication), 5-23.
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, *40*, 471-499.
- Balliet, D., & Van Lange, P. A. (2013). Trust, conflict, and cooperation: A meta-analysis. *Psychological Bulletin*, *139*, 1090-1112. doi:10.1037/a0030939
- Beune, K., Giebels, E., & Sanders, K. (2009). Are you talking to me? Influencing behaviour and culture in police interviews. *Psychology, Crime & Law*, *15*, 597-617. doi:10.1080/10683160802442835
- Birch, S. A., & Bloom, P. (2007). The curse of knowledge in reasoning about false beliefs. *Psychological Science*, *18*, 382-386. doi:10.1111/j.1467-9280.2007.01909.x
- Bond, C. F., & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review*, *10*, 214-234. doi:10.1207/s15327957pspr1003_2
- Bowman, M. N. (2010). Truth or consequences: Self-incriminating statements and informant veracity. *New Mexico Law Review*, *40*, 10-19.
- Brandon, S. E. (2011). Impacts of psychological science on national security agencies post-9/11. *American Psychologist*, *66*, 495-506. doi:10.1037/a0024818

- Brandon, S. E. (2014). Towards a science of interrogation. *Applied Cognitive Psychology*, 28, 945-946. doi:10.1002/acp.3090
- Bull, R. (2014). *Investigative interviewing*. New York: Springer.
- Burgoon, J. K., Buller, D. B., Floyd, K., & Grandpre, J. (1996). Deceptive realities sender, receiver, and observer perspectives in deceptive conversations. *Communication Research*, 23, 724-748.
- Camerer, C., Loewenstein, G., & Weber, M. (1989). The curse of knowledge in economic settings: An experimental analysis. *The Journal of Political Economy*, 97, 1232-1254.
- Carver, C. S., & Scheier, M. F. (2012). *Attention and self-regulation: A control-theory approach to human behavior*. New York: Springer Science & Business Media.
- Clemens, F. (2013). *Detecting lies about past and future actions: The strategic use of evidence (SUE) technique and suspects' strategies*. Doctoral Dissertation, Department of Psychology, University of Gothenburg.
- Clemens, F., Granhag, P. A., & Strömwall, L. A. (2011). Eliciting cues to false intent: A new application of strategic interviewing. *Law and Human Behavior*, 35, 512-522. doi:10.1007/s10979-010-9258-9
- Davis, M. H., Conklin, L., Smith, A., & Luce, C. (1996). Effect of perspective taking on the cognitive representation of persons: A merging of self and other. *Journal of Personality and Social Psychology*, 70, 713-726. doi:10.1037/0022-3514.70.4.713
- DePaulo, B. M., Kashy, D. A., Kirkendol, S. E., Wyer, M. M., & Epstein, J. A. (1996). Lying in everyday life. *Journal of Personality and Social Psychology*, 70, 979-995. doi:10.1037/0022-3514.70.5.979
- Evans, J. R., & Fisher, R. P. (2011). Eyewitness memory: Balancing the accuracy, precision and quantity of information through metacognitive monitoring and control. *Applied Cognitive Psychology*, 25, 501-508. doi:10.1002/acp.1722
- Evans, J. R., Houston, K. A., Meissner, C. A., Ross, A. B., LaBianca, J. R., Woestehoff, S. A., & Kleinman, S. M. (2014). An empirical evaluation of intelligence-gathering interrogation techniques from the United States army field manual. *Applied Cognitive Psychology*, 28, 867-875. doi:10.1002/acp.3065
- Evans, J. R., Meissner, C. A., Brandon, S. E., Russano, M. B., & Kleinman, S. M. (2010). Criminal versus HUMINT interrogations: The importance of psychological science to improving interrogative practice. *The Journal of Psychiatry & Law*, 38, 215-249. doi:10.1177/009318531003800110
- Evans, J. R., Meissner, C. A., Ross, A. B., Houston, K. A., Russano, M. B., & Horgan, A. J. (2013). Obtaining guilty knowledge in human intelligence interrogations: Comparing accusatorial and information-gathering approaches with a novel experimental paradigm. *Journal of Applied Research in Memory and Cognition*, 2, 83-88. doi:10.1016/j.jarmac.2013.03.002
- Fallon, M. (2014). Collaboration between practice and science will enhance interrogations. *Applied Cognitive Psychology*, 28, 949-950. doi:10.1002/acp.3091
- Fein, R. A., Lehner, P., & Vossekuil, B. (2006). *Educing information, Interrogation: Science and art, foundations for the future*. Washington DC: National Military Intelligence College Press.

- Fisher, R. P., & Geiselman, R. E. (1992). *Memory-enhancing techniques for investigative interviewing: The cognitive interview*. Springfield: Charles C Thomas, Publisher.
- Fisher, R. P., & Geiselman, R. E. (2010). The cognitive interview method of conducting police interviews: Eliciting extensive information and promoting therapeutic jurisprudence. *International Journal of Law and Psychiatry*, *33*, 321-328. doi:10.1016/j.ijlp.2010.09.004
- Fiske, S. T., & Taylor, S. E. (2013). *Social cognition: From brains to culture*. New Delhi: Sage.
- Galinsky, A. D., Maddux, W. W., Gilin, D., & White, J. B. (2008). Why it pays to get inside the head of your opponent the differential effects of perspective taking and empathy in negotiations. *Psychological Science*, *19*, 378-384. doi:10.1111/j.1467-9280.2008.02096.x
- Galinsky, A. D., & Mussweiler, T. (2001). First offers as anchors: The role of perspective-taking and negotiator focus. *Journal of personality and social psychology*, *81*, 657-669. doi:10.1037/0022-3514.81.4.657
- Geiselman, R. E. (2012). The cognitive interview for suspects (CIS). *American College of Forensic Psychology*, *30*, 1-16.
- Global Terrorism Index. (2014). Measuring and understanding the impact of terrorism. Retrieved from <http://www.visionofhumanity.org/sites/default/files/Global%20Terrorism>
- Goldsmith, M., Koriati, A., & Weinberg-Eliezer, A. (2002). Strategic regulation of grain size memory reporting. *Journal of Experimental Psychology: General*, *131*, 73-95. doi:10.1037/0096-3445.131.1.73
- Goodman-Delahunty, J., Martschuk, N., & Dhimi, M. K. (2014). Interviewing high value detainees: Securing cooperation and disclosures. *Applied Cognitive Psychology*, *28*, 883-897. doi:10.1002/acp.3087
- Granhag, P. A. (2010). *The Scharff-technique: Background and first scientific testing*. Paper presented at the Professional Development Seminar, High-value Detainee Interrogation Group (HIG, FBI). Washington, DC.
- Granhag, P. A., Cancinos Montecinos, S., & Oleszkiewicz, S. (2015). Eliciting intelligence from sources: The first scientific test of the Scharff technique. *Legal and Criminological Psychology*, *20*, 96-113. doi:0.1111/lcrp.12015
- Granhag, P. A., & Hartwig, M. (2008). A new theoretical perspective on deception detection: On the psychology of instrumental mind-reading. *Psychology, Crime & Law*, *14*, 189-200. doi:10.1080/10683160701645181
- Granhag, P. A., & Hartwig, M. (2015). The strategic use of evidence (SUE) technique: A conceptual overview. In P. A. Granhag, A. Vrij, & B. Verschuere (Eds.), *Deception detection: Current challenges and new approaches* (pp. 231-251). Hoboken, NJ: Wiley.
- Granhag, P. A., Hartwig, M., Mac Giolla, E., & Clemens, F. (2015). Suspects' verbal counter-interrogation strategies. In P. A. Granhag, A. Vrij, & B. Verschuere (Eds.), *Detecting Deception: Current Challenges and Cognitive Approaches* (pp. 293-313). Hoboken, NJ: Wiley.

- Granhag, P. A., Mac Giolla, E., Strömwall, L. A., & Rangmar, J. (2013). Counter-interrogation strategies among small cells of suspects. *Psychiatry, Psychology and Law*, *20*, 705-712. doi:10.1080/13218719.2012.729021
- Granhag, P. A., & Strömwall, L. A. (2004). *The detection of deception in forensic contexts*. Cambridge: Cambridge University Press.
- Granhag, P. A., Strömwall, L. A., Willén, R. M., & Hartwig, M. (2013). Eliciting cues to deception by tactical disclosure of evidence: The first test of the evidence framing matrix. *Legal and Criminological Psychology*, *18*, 341-355. doi:10.1111/j.2044-8333.2012.02047.x
- Granhag, P. A., Vrij, A., & Meissner, C. A. (2014). Information gathering in law enforcement and intelligence settings: Advancing theory and practice. *Applied Cognitive Psychology*, *28*, 815-816. doi:10.1002/acp.3093
- Grice, H. P. (1970). *Logic and conversation*: Elsevier.
- Gudjonsson, G. H. (2003). *The psychology of interrogations and confessions: A handbook*. Chichester, England: John Wiley & Sons.
- Hartwig, M., & Bond Jr, C. F. (2011). Why do lie-catchers fail? A lens model meta-analysis of human lie judgments. *Psychological bulletin*, *137*, 643-659. doi:10.1037/a0023589
- Hartwig, M., Granhag, P. A., Strömwall, L. A., & Kronkvist, O. (2006). Strategic use of evidence during police interviews: When training to detect deception works. *Law and Human Behavior*, *30*, 603-619. doi:10.1007/s10979-006-9053-9
- Hartwig, M., Luke, T. J., & Skerker, M. (in press). Ethical perspectives on interrogation: An analysis of contemporary techniques. J. Jacobs & J. Jackson (Eds.), *Handbook of Criminal Justice Ethics*.
- Hartwig, M., Meissner, C. A., & Semel, M. D. (2014). Human intelligence interviewing and interrogation: Assessing the challenges of developing an ethical, evidence-based approach. In R. Bull (Ed.), *Investigative Interviewing* (pp. 209-228). New York: Springer.
- Herbig, K. L. (2008). *Changes in espionage by Americans: 1947-2007*. Monterey, CA: Defence Personnel Security Research Center.
- Hoffman, D. H., Carter, D. J., Lopez, C. R. V., Benzmilller, H. L., Guo, A. X., Latifi, S. Y., & Craig, D. C. (2015). Report to the Special Committee of the Board of Directors of the American Psychological Association: Independent Review Relating to APA Ethics Guidelines, National Security Interrogations, and Torture. *Chicago: Sidley Austin LLP*.
- Idson, L. C., Chugh, D., Bereby Meyer, Y., Moran, S., Grosskopf, B., & Bazerman, M. (2004). Overcoming focusing failures in competitive environments. *Journal of Behavioral Decision Making*, *17*, 159-172. doi:10.1002/bdm.467
- Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2013). *Essentials of the Reid technique*. Burlington, MA: Jones & Bartlett Publishers.
- Johnson, N. D., & Mislin, A. A. (2011). Trust games: A meta-analysis. *Journal of Economic Psychology*, *32*, 865-889. doi:10.1016/j.joep.2011.05.007
- Justice, B., P, Bhatt, S., Brandon, S., E, & Kleinman, S., M. (2010). *Army Field Manual 2-22.3 interrogation methods: A science-based review*. Washington, D.C. (Draft, September).

- Kassin, S. M., & Kiechel, K. L. (1996). The social psychology of false confessions: Compliance, internalization, and confabulation. *Psychological Science, 7*, 125-128. doi:10.1111/j.1467-9280.1996.tb00344.x
- Kelly, C. E., Miller, J. C., Redlich, A. D., & Kleinman, S. M. (2013). A taxonomy of interrogation methods. *Psychology, Public Policy, and Law, 19*, 165-178. doi:10.1037/a0030310
- Kleinman, S. M. (2006). KUBARK counterintelligence interrogation review: Observations of an interrogator. In R. A. Fein, P. Lehner, & B. Vossekuil (Eds.), *Educating information, Interrogation: Science and art, foundations for the future* (pp. 95-140). Washington DC: National Military Intelligence College Press.
- Kramer, L. A., & Heuer, R. J. (2007). America's increased vulnerability to insider espionage. *International Journal of Intelligence and CounterIntelligence, 20*, 50-64. doi:10.1080/08850600600888698
- Lassiter, G., & Meissner, C. A. (2010). *Police interrogations and false confessions: Current research, practice, and policy recommendations*. Washington, D.C.: American Psychological Association.
- Loftus, E. F. (2011). Intelligence gathering post-9/11. *American Psychologist, 66*, 532-541. doi:10.1037/a0024614
- Luke, T. J., Dawson, E., Hartwig, M., & Granhag, P. A. (2014). How awareness of possible evidence induces forthcoming counter-interrogation strategies. *Applied Cognitive Psychology, 28*, 876-882. doi:10.1002/acp.3019
- May, L., Granhag, P. A., & Oleszkiewicz, S. (2014). Eliciting intelligence using the Scharff technique: Closing in on the confirmation/disconfirmation tactic. *Journal of Investigative Psychology and Offender Profiling, 11*, 136-150. doi:10.1002/jip.1412
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review, 20*, 709-734. doi:10.5465/AMR.1995.9508080335
- Meissner, C. A., Hartwig, M., & Russano, M. B. (2010). The need for a positive psychological approach and collaborative effort for improving practice in the interrogation room. *Law and Human Behavior, 34*, 43-45. doi:10.1007/s10979-009-9205-9
- Meissner, C. A., Redlich, A. D., Bhatt, S., & Brandon, S. (2012). Interview and interrogation methods and their effects on true and false confessions. *Campbell Systematic Reviews, 13*, 325-352. doi:10.4073/csr.2012.13
- Memon, A., Meissner, C. A., & Fraser, J. (2010). The cognitive interview: A meta-analytic review and study space analysis of the past 25 years. *Psychology, Public Policy, and Law, 16*, 340. doi:10.1037/a0020518
- Obama, B. (2009). Executive Order 13491—Ensuring Lawful Interrogations. *American Presidency Project*.
- Redlich, A. D. (2007). Military versus police interrogations: Similarities and differences. *Peace and Conflict: Journal of Peace Psychology, 13*, 423-428. doi:10.1080/10781910701665741

- Redlich, A. D., Kelly, C. E., & Miller, J. C. (2011). *Systematic survey of the interview and intelligence community*. Federal Bureau of Investigation/High-Value Detainee Interrogation Group: Washington, DC.
- Rivard, J. R., Fisher, R. P., Robertson, B., & Hirn Mueller, D. (2014). Testing the cognitive interview with professional interviewers: Enhancing recall of specific details of recurring events. *Applied Cognitive Psychology, 28*, 917-925. doi:10.1002/acp.3026
- Russano, M. B., Meissner, C. A., Narchet, F. M., & Kassin, S. M. (2005). Investigating true and false confessions within a novel experimental paradigm. *Psychological Science, 16*, 481-486. doi:10.1111/j.0956-7976.2005.01560.x
- Russano, M. B., Narchet, F. M., Kleinman, S. M., & Meissner, C. A. (2014). Structured interviews of experienced HUMINT interrogators. *Applied Cognitive Psychology, 28*, 847-859. doi:10.1002/acp.3069
- Scharff, H. J. (1950). Without torture. *Argosy, 39*, 87-91.
- Senate Select Committee on Intelligence. (2014). *The United States senate report on CIA detention interrogation program*. Retrieved from <http://www.amnestyusa.org/pdfs/sscistudy1.pdf>
- Shawyer, A., Milne, B., & Bull, R. (2013). Investigative interviewing in the UK. In T. Williamson, B. Milne, & S. Savage (Eds.), *International developments in investigative interviewing* (pp. 24-38). New York: Routledge.
- Shumate, S., & Borum, R. (2006). Psychological support to defense counterintelligence operations. *Military Psychology, 18*, 283-296. doi:10.1207/s15327876mp1804_3
- Soufan, A. H. (2011). *The black banners: The inside story of 9/11 and the war against al-Qaeda*. New York: Norton.
- Stone, J. A., Shoemaker, D. P., & Dotti, N. R. (2010). *Interrogation: World War II, Vietnam, and Iraq* (W. Spracher Ed.). Washington DC: National Defence Intelligence College.
- Taylor, P. J. (2002). A cylindrical model of communication behavior in crisis negotiations. *Human Communication Research, 28*, 7-48. doi:10.1111/j.1468-2958.2002.tb00797.x
- Taylor, P. J. (2014). The role of language in conflict and conflict resolution. In T. Holtgraves (Ed.), *Handbook of Language and Social Psychology* (pp. 459-470). New York: Oxford University Press.
- Tekin, S., Granhag, P. A., Strömwall, L., Mac Giolla, E., Vrij, A., & Hartwig, M. (2015). Interviewing strategically to elicit admissions from guilty suspects. *Law and Human Behavior, 39*, 244-252. doi:10.1037/lhb0000131
- Thagard, P. (1992). Adversarial problem solving: Modeling an opponent using explanatory coherence. *Cognitive Science, 16*, 123-149. doi:10.1016/0364-0213(92)90019-Q
- The Constitution Project. (2013). *Report of The Constitution Project's Task Force on Detainee Treatment*. Retrieved from <http://detaineetaskforce.org/report/download/>:
- Toliver, R. (1997). *The interrogator: The story of Hanns Joachim Scharff master interrogator of the Luftwaffe*. Atglen, PA: Schiffer Publishing Ltd.

- US Army. (2006). *United States army field manual 2-22.3: Human intelligence collector operations*. Washington DC: Headquarters: Department of the Army.
- Vallano, J. P., & Schreiber Compo, N. (2015). Rapport-building with cooperative witnesses and criminal suspects: A theoretical and empirical review. *Psychology, Public Policy, and Law*, *21*, 85-99. doi:10.1037/law0000035
- Walsh, D., & Bull, R. (2012). Examining rapport in investigative interviews with suspects: Does its building and maintenance work? *Journal of Police and Criminal Psychology*, *27*, 73-84. doi:10.1007/s11896-011-9087-x
- Vrij, A. (2008). *Detecting lies and deceit: Pitfalls and opportunities* (2 ed.). Chichester, England: Wiley.
- Vrij, A., & Granhag, P. A. (2012). Eliciting cues to deception and truth: What matters are the questions asked. *Journal of Applied Research in Memory and Cognition*, *1*, 110-117. doi:10.1016/j.jarmac.2012.02.004
- Vrij, A., Mann, S., Kristen, S., & Fisher, R. P. (2007). Cues to deception and ability to detect lies as a function of police interview styles. *Law and Human Behavior*, *31*, 499-518. doi:10.1007/s10979-006-9066-4

APPENDIX

Table 2

Effect sizes (Cohen's d) for the difference between the Scharff technique and direct approach interviews for each aspect in each study and meta-analytic weighted effect size as well as its confidence interval

Aspect	Study I	Study II	Study III	Mean Weighted d^a [95% CI]
1) New information revealed	1.14	0.68	0.82	0.82 [0.60, 1.03]
2) Ascribed interviewer knowledge	1.91	1.42	2.32	1.93 [1.68, 2.18]
3) Incorrectly ascribed interviewer knowledge	0.17	0.31	1.08	0.68 [0.47, 0.89]
4) Information collected with claims/questions	0.70	0.03	*	0.27 [-0.04, 0.57]
5) Perceived new information revealed	-0.24	-0.28	-0.12	-0.18 [-0.39, 0.02]
6) Difficulty assessing interviewer's objectives	-0.08	-0.57	-0.57	-0.48 [-0.69, -0.27]

Note. ^aWeighted effect sizes computed under a fixed-effect model. *Not examined.