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Developing an Evidence-Based Perspective on Interrogation: A Review of the U.S. Government's High-Value Detainee Interrogation Group Research Program

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Interrogation practices in the United States have been roundly criticized both for their accusatorial ethos, at times leading to false confessions by the innocent, and for a history of applying physical and psychological coercion in law enforcement, military, and intelligence contexts. Despite decades of psychological research demonstrating the failures of such approaches and despite recent positive advances in countries such as the United Kingdom moving to an information-gathering framework, little change has occurred in the training or practice of U.S. interrogation professionals over the past 50 years. This article describes recent historical events that have led to the development of the first unclassified, government-funded research program on the science of interviewing and interrogation. Since 2010, the High-Value Detainee Interrogation Group (HIG) research program has identified effective approaches for developing cooperation and rapport, eliciting information, challenging inconsistencies by presenting evidence or information strategically, and assessing credibility using cognitive cues and strategic questioning tactics. The program has also examined the influence of culture and language, and has facilitated the translation of research from the laboratory to the field. In this context, we review the significant contributions of psychologists to understanding and developing ethical, legal, and effective interrogation practices, and we describe important future directions for research on investigative interviewing and interrogation.

Keywords: interviewing, interrogation, credibility, assessment, confessions

The interrogation practices adopted by law enforcement, military, and intelligence professionals in the United States have been criticized both for their accusatorial ethos leading to false confessions and wrongful conviction of the innocent (Kassin et al., 2010; Lassiter & Meissner, 2010), as well as a dark history of applying torture in the interrogation booth (Costanzo & Redlich, 2010; Vrij et al., in press). Despite decades of research demonstrating the problems with such approaches and despite recent advances in countries such as the United Kingdom moving toward an information-gathering framework (Bull & Milne, 2004), little change has occurred in the training or practice of U.S. interrogation professionals over the past 50 years. This article describes recent historical events that have led to the development of the first unclassified, government-funded research program on the science of interviewing and interrogation, and details its significant contributions to understanding and developing best practices. Notably, the High-Value Detainee Interrogation Group (HIG) research program has been shaped, almost exclusively, by an international cadre of research psychologists conducting studies in the laboratory, in training academies, and in the field. As detailed below, the HIG research program was built upon an important foundation of psychological research and is now beginning to offer positive, evidence-based alternatives to an accusatorial model that has pervaded U.S. training doctrine, leading to significant changes in practice at both the federal and local levels. While much has been learned about "what works" in the science of interviewing and interrogation, we close by considering a host of important future research questions.

Customary Versus Scientific Knowledge in the Interrogation Booth

The terrorist attacks of September 11, 2001, represented a pivotal moment in U.S. history. Faced with the deaths of nearly 3,000 individuals and an uncertain threat of further terrorist attacks, the Bush Administration and the U.S. Congress sought to enhance the nation's capabilities for collecting and assessing in-

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telligence related to future threats. Within 45 days of 9/11, Congress passed the U.S.A. PATRIOT Act (Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001)—a piece of legislation that offered national security and intelligence officials more expansive powers to monitor and collect information on U.S. citizens and foreign nationals (cf. Wong, 2006). Behind the scenes and out of public view, it also took less than a week for President Bush to sign a classified directive (September 17, 2001) that authorized the Central Intelligence Agency (CIA) to capture, detain, and interrogate terrorism suspects (Johnston, 2006). This "memorandum of notification" ultimately led to the use of secret detention centers and so-called "enhanced interrogation methods"—physical and psychological coercion—in an effort to elicit valuable human intelligence (HUMINT) that might prevent future terrorist attacks.

Two psychologists, James Mitchell and Bruce Jessen, were contracted by the CIA in the months following 9/11 to develop and deploy an interrogation program. The CIAs approach was based upon the military's Survival, Evasion, Resistance, and Escape (SERE) training program, in which service members are exposed to the potential realities of capture and abuse by enemy forces. The abusive interrogation techniques used in SERE training were drawn from methods historically deployed on U.S. military personnel captured by the Chinese, North Vietnamese, and Japanese, among others. Some of the methods ultimately identified by Mitchell and Jessen for the CIA program would later be used by U.S. Department of Defense interrogators at such facilities as Guantanamo Bay, Cuba and Abu Ghraib, Iraq. Despite the apparent modern application of such tactics, the use of physical and psychological coercion in the interrogation of subjects has a long history both by the United States and countries around the world. Civilizations, since at least the ancient Greeks and Romans, have used torture as a method to enact social control, to secure confessions and therein administer justice, and to gather intelligence information in support of national security (Rejali, 2009). U.S. soldiers had previously engaged in waterboarding (and other forms of torture) during the Philippine American War, World War II, and the Vietnam War (Wahlquist et al., 2008).

In general, such interrogation methods have been historically drawn from *customary knowledge*: practices developed over time through experience, handed-down through observational learning and storytelling, and ultimately codified in manuals, policies, and regulations (see Hartwig et al., 2014). Rejali (2009) has systematically traced the history of physical and psychological coercion in interrogation, describing its use as "a family of tortures that descended from old West European military and police punishments . . . to pre-World War II practices of French colonialism . . . to native American policing practices from the nineteenth century" and ultimately to Abu Ghraib (p. 258). The customary origins of interrogation practices also extend to modern day "accusatorial" tactics that are legally authorized for use today by U.S. law enforcement (and others around the world). While harsh interrogation tactics also have a history within the U.S. criminal justice system—referred to as "third degree" approaches—reforms in the 1930s and 1940s diminished their use and led to the development of approaches that emphasized psychological manipulation (Costanzo & Redlich, 2010; Leo, 2009). The accusatorial approach is most popularly embodied in the Reid Technique of interrogation, first formalized by Inbau and Reid (1963) and now encompassed in many popular interrogation models (cf. Inbau, Reid, Buckley, & Jayne, 2013; Zulawski, Wicklander, Sturman, & Hoover, 2001).[1] As discussed below, accusatorial methods lack a scientific or evidence-base to support the elicitation of diagnostic confession evidence (Meissner et al., 2014, 2015; Swanner et al., 2016) and have been shown to sometimes elicit false confessions (Kassin et al., 2010).

In the wake of 9/11 and the U.S. government's return to the use of physical and psychological abuse in the interrogation booth, psychologists have argued both against the effectiveness of physically and psychologically abusive interrogation methods (see Alison & Alison, 2017; O'Mara, 2015; Vrij et al., in press) and for the development of interrogation practices based upon *scientific knowledge*: a perspective drawn from independent observation, theory driven and empirically derived, and founded upon the principles of replication and peer review (Evans et al., 2010; Hartwig et al., 2014; Meissner et al., 2010).

In 2006, the U.S. Intelligence Science Board conducted a landmark review, led by Dr. Robert Fein, that evaluated the U.S. government's use of legally permissible, accusatorial interrogation tactics, as well as the introduction of so-called "enhanced interrogation techniques" in its counterterrorism campaigns. The resulting report, *Educing Information* (Fein et al., 2006), concluded that U.S. practices and training elements were devoid of any scientific evaluation or validity, and the report ultimately recommended that the U.S. government initiate a program of research to develop effective, evidence-based approaches that meet both ethical and legal standards. The findings of the *Educing Information* report proved pivotal for prompting the U.S. government to move toward an ethical and evidence-based understanding of interrogation practices.

An Important Shift in U.S. Interrogation Policy, Practice, and Research: The High-Value Detainee Interrogation Group

In 2009, the Obama Administration embraced many of the suggestions offered in the *Educing Information* report. On his second day in office, President Obama signed Executive Order 13491 that created the Special Task Force on Interrogations and Transfer Policies to "establish a specialized interrogation group to bring together officials from law enforcement, the U.S. Intelligence Community and the Department of Defense to conduct interrogations in a manner that will strengthen national security consistent with the rule of law." The Task Force would subsequently recommend an end to the use of so-called "enhanced interrogation techniques," arguing that "the practices and techniques identified by the Army Field Manual or currently used by law enforcement provide [an] adequate and effective means of conducting interrogations." The Task Force further recommended that a new interagency entity be formed—the High-Value Detainee Interrogation Group (HIG; U.S. Department of Justice, Task Force on Interrogations and Transfer Policies, 2009). President Obama

[1] While Wicklander-Zulawski and Associates have recently (as of March, 2017) ceased their instruction of Reid-based, confrontational approaches to interrogation (see https://www.w-z.com/portfolio/press-release/), such methods remain widely taught to U.S. federal, state, and local law enforcement (see Kelly & Meissner, 2015).

officially authorized creation of the HIG in August of 2009, and the interagency group was officially chartered in January of 2010 (White House Press Briefing, August 24, 2009). The HIG comprises personnel from the Federal Bureau of Investigation, the Defense Intelligence Agency, and the Central Intelligence Agency, and is staffed by other U.S. Intelligence Community agencies, as necessary. The HIG brings together experienced interrogators, subject matter experts, intelligence analysts, and interpreters to conduct interrogations for purposes of intelligence collection on high-value targets both in the United States and abroad. In addition to this operational mission, the HIG was also tasked with developing the first unclassified scientific research program to evaluate the effectiveness of current interrogation practices and to develop novel, evidence-based approaches. Further, the HIG is authorized to "develop a set of best practices and disseminate these for training purposes among agencies that conduct interrogations" (see https://www.fbi.gov/about/leadership-and-structure/national-security-branch/high-value-detainee-interrogation-group).

The HIG research program was initiated in March of 2010, and has been led by Dr. Susan Brandon since its inception. The program is unclassified, commissions basic, and applied research on interviewing and interrogation, encourages researchers to publicly disseminate their findings, and complies with international laws and U.S. federal code (45 CFR 46) with regard to the protection of human subjects. The aim of the program has been to develop a robust, evidence-based perspective on effective methods of interrogation that are both legally and ethically sound (Federal Bureau of Investigation, 2016). Now in its seventh year, the program has invested more than $15 million USD across more than 100 individual research projects.[2] Renowned psychologists both in the United States and around the world (including the United Kingdom, Sweden, Australia, South Africa, and parts of the Middle East) have contributed to the program, producing more than 120 peer-reviewed articles in academic journals and other edited volumes. As described below, these studies have facilitated the development of training programs both in the United States and abroad.

While the operational mandate of the HIG has been to collect human intelligence (HUMINT) in the counterterrorism context, the research program has been charged with developing a broader understanding of effective interviewing and interrogation methods—including those that occur in criminal, military, and intelligence settings. Scholars have previously discussed the distinctions between criminal and HUMINT interrogations (see Evans et al., 2010; Redlich, 2007). The two contexts most notably diverge with respect to their purpose (to obtain a confession statement as evidence for prosecution vs. to collect information about the past, present, or future related to a national security investigation); however, the fundamental processes that facilitate cooperation and elicitation are shared by both contexts, including the interrogation approaches that are applied by professionals (Redlich et al., 2014; Russano et al., 2014). As such, HIG research studies have included observations and surveys/interviews of both criminal and HUMINT interrogators, as well as research paradigms that include elements of both contexts. In doing so, researchers have begun to focus not only on the elicitation of confessions or admissions, but also the collection of information from uncooperative subjects (cf. Evans, Meissner, et al., 2013).

As depicted in Figure 1, the HIG research program has pursued a translational approach to developing a scientific understanding of interrogation. Early studies attempted to document what happens in an interrogation room (via direct observation or systematic questioning of interrogators) and to understand what approaches interrogators, analysts, and interpreters believe to represent "best practice" (via surveys and structured interviews). The HIG also recognized the important role of experimental laboratory research in determining the causal influence of certain interrogation methods or contextual factors, as well as the development of theoretical models of interrogation that are empirically grounded. As existing techniques were better understood and potentially amended, or as new techniques were developed by scientists, the HIG facilitated collaborative relationships with existing U.S. training facilities (including the U.S. Department of Defense Human Intelligence Training Joint Center of Excellence and the U.S. Department of Homeland Security's Federal Law Enforcement Training Center) and coordinated studies that assessed the effectiveness of these methods when compared with current training and practice. Training studies were then conducted to evaluate whether the science-based methods could be effectively translated and disseminated to practitioners, and field validations are now closing this translational loop by assessing the use of these methods and their effectiveness in real-world interrogations.

The HIG research program was developed based upon a conceptual framework that identifies several key stages or processes believed to be important to any interrogation (including criminal, military, and intelligence operations). As displayed in Figure 2, we offer a substantive conceptual review of the contributions of the HIG research program that addresses four primary processes related to interrogation: (a) the development of ***cooperation*** via a systematic understanding of rapport, including the role of persuasion tactics and contextual priming; (b) the ***elicitation of information*** from subjects via effective interviewing skills that facilitate the retrieval of memory; (c) the ***strategic use of information or evidence*** to address inconsistencies in the narrative and facilitate disclosure; and (d) the ***assessment of credibility*** via strategic questioning and a cognitive approach to deception. In addition, we describe studies that examine the moderating influence of ***culture and language***, including the impact of interpreters. Finally, we describe the HIGs efforts to move from "***research to practice***," including studies conducted to assess training effectiveness and field validation. Before detailing the HIG research program and its many contributions to research and practice, we offer a brief review of psychological research on the interrogation of subjects—research that has served as a critical foundation for the program. We then conclude our review by considering important avenues for future research.

Psychological Contributions to Investigative Interviewing and Interrogation

Psychologists have a rich history of contributing to a theoretical and practical understanding of investigative interviewing and interrogation. Cogent reviews of this research, including the rather

[2] The amount of research funding allocated by the HIG program is estimated based upon the authors' own contracts and their knowledge of the number of contracts publicly administered by the research program.

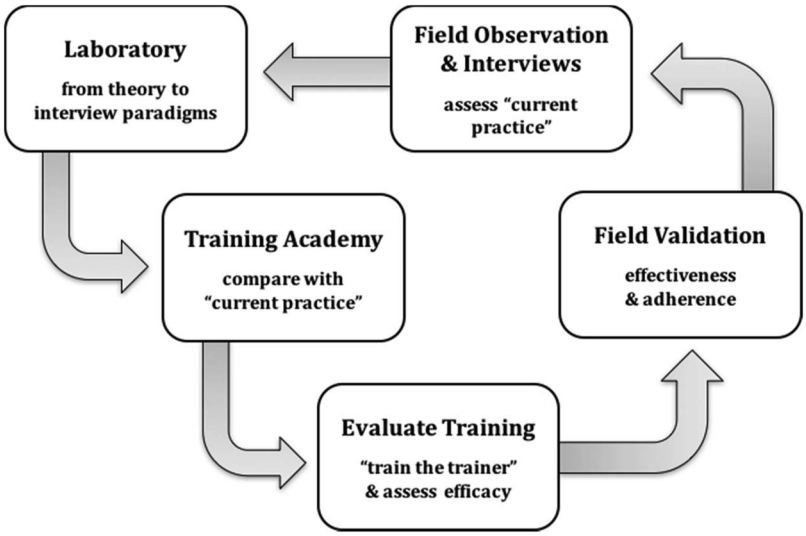

Figure 1. Translational approach taken by High-Value Detainee Interrogation Group research program to developing a scientific understanding of interrogation.

substantive contributions from scholars since the 1980s, are available to readers with respect to the psychology of interrogation (see Gudjonsson, 2003; Kassin & Gudjonsson, 2004; Lassiter & Meissner, 2010; Milne & Bull, 1999), best practices in interviewing cooperative subjects (see Memon & Bull, 1999; Poole & Lamb, 1998), and assessments of credibility (see Granhag & Strömwall, 2004; Vrij, 2008). Psychologists also have a long history of contributing to national security and intelligence interviewing (Brandon, 2011), and the findings from basic and applied research on interviewing and interrogation have been made relevant to these contexts as well (see Evans et al., 2010; Loftus, 2011; Redlich, 2007).

Below, we offer a brief (and admittedly selective) review of the variety of contributions and findings from this research that serve as the empirical foundation upon which the HIG research program was established. In particular, we discuss research offering: (a) a rather detailed understanding of the false confession phenomenon and evaluations of an important shift toward a rapport-based, information-gathering approach in the United Kingdom and other countries; (b) the development of good questioning tactics and memory-enhancing interview techniques; and (c) a scientific understanding of the diagnostic value of nonverbal, paraverbal, and verbal cues to credibility and people's ability to assess deception. We note that, given space limitations, it was simply not possible to provide a comprehensive review of these areas; as such, this overview is not intended to demean by exclusion the many important contributions by psychologists to a complete understanding of interviewing, interrogation, and credibility assessment (including such areas as individual differences, Miranda/caution issues, forensic clinical evaluations, videotaping of confessions, etc.).

The Psychology of Interrogations and Confessions

More than three decades of systematic research has evaluated the efficacy of accusatorial interrogation approaches as originally formalized by Inbau and Reid (1963) and now encompassed in many popular interrogation training programs (see Kassin & Gudjonsson, 2004; Leo, 2009). Accusatorial approaches are generally characterized as both guilt presumptive and confession-focused. Interrogators typically seek to establish control over the suspect, use questions that confirm what they believe to be true, and assess credibility based upon nonverbal indicators and the suspect's level of anxiety in response to questioning. In this context, interrogators will generally attempt (a) to isolate the subject and create a reliance upon the interrogator, (b) to confront the subject with accusations of guilt and exaggerate the consequences associated with the alleged act ("maximization"), and then (c) to downplay the consequences associated with confession and to offer face-saving excuses for the act ("minimization"; see Kelly & Meissner, 2015; Kassin & Gudjonsson, 2004; Kassin et al., 2007, 2010).

A variety of research methods have been used to understand the influence of such tactics in eliciting both true and false confessions. These studies suggest that accusatorial tactics are more likely to be applied under guilt presumptive conditions in which investigators seek confirmation of their beliefs (Kassin, Goldstein, & Savitsky, 2003; Leo & Drizin, 2010; Narchet, Meissner, & Russano, 2011). Field studies suggest that accusatorial tactics yield a powerful influence in eliciting a confession (Meissner et al., 2014)—hence their popularity among interrogation professionals. Archival studies, however, suggest that accusatorial tactics may produce confession statements that are of dubious diagnostic value (Brandon, 2011; Drizin & Leo, 2004). Using a variety of experimental paradigms (Kassin & Kiechel, 1996; Russano et al., 2005; see Meissner et al., 2010), psychologists have also demonstrated that minimization, maximization, and false evidence ploys can *increase* both true and false confessions (Kassin et al., 2010; Meissner et al., 2014).

Psychologists have also noted the importance of individual difference characteristics that can increase a subject's proclivity to provide a false confession (Gudjonsson, 2010). For example, some individuals are more suggestible, leading them to be more likely to

Figure 2. Primary interrogation processes explored by psychological researchers, including the moderating influence of culture and language.

acquiesce to leading questions or change their responses if pressured by an interviewer (Gudjonsson, 2013). Certain populations also appear to be particularly vulnerable to interrogation, such as juveniles (Malloy, Shulman, & Cauffman, 2014; Redlich, 2009), individuals with intellectual disabilities (Gudjonsson & Henry, 2003), and individuals suffering from mental illness, including depression or anxiety disorders (Gudjonsson, 2003; Redlich, Kulish, & Steadman, 2011; Redlich, Summers, & Hoover, 2010).

Given the prevalence of the false confession phenomenon resulting from accusatorial police interrogation tactics and certain individual difference risk factors, countries such as England and Wales began to move away from these practices in the 1980s and 1990s, and to implement a noncoercive, rapport-based, information-gathering approach. Reviews of this important transformation are available for interested readers (see Bull & Soukara, 2010; Clarke, Milne, & Bull, 2011; Milne & Bull, 1999). Psychologists in the United Kingdom played a key role in the ultimate development of the PEACE model (Planning and preparation, Engage and explain, obtain an Account, Closure, Evaluation) that is now widely implemented (with some variation) in countries such as the United Kingdom, Australia, New Zealand, and Norway.

In general, an information-gathering approach focuses on developing rapport with the subject, explaining the allegation and the seriousness of the offense, and emphasizing the importance of honesty and truth gathering. Subjects are given the opportunity to offer their account without interruption, and investigators are encouraged to actively listen. Thereafter, subjects are questioned with regard to inconsistencies and contradictions in their narrative. This interview method has the goal of "fact finding" rather than obtaining a confession, and investigators are prohibited from deceiving suspects. While substantive empirical assessment of the information-gathering approach has been limited, field studies have suggested that such methods can significantly increase the likelihood of obtaining a confession (Walsh & Bull, 2010a), and experimental data has suggested that information-gathering approaches can lead to more diagnostic confessions (see Meissner et al., 2014). As described below, the HIG research program offered the United States an important opportunity to follow in the footsteps of other countries that have implemented the PEACE model and to further develop an evidence-based alternative to current training and practice.

The Psychology of Interviewing Cooperative Subjects

Accusatorial approaches and related training programs rarely consider the importance of effective interviewing and elicitation skills. Rather, the focus of such programs is oriented toward assessing credibility and educing a confession statement that supports the available facts of the case (Fisher & Perez, 2007). In contrast, information-gathering approaches encourage the use of open-ended, non-suggestive questioning tactics (Clarke, Milne, & Bull, 2011; Walsh & Bull, 2010b), as well as memory-enhancing interviewing techniques (Fisher & Geiselman, 1992; Memon, Meissner, & Fraser, 2010), to elicit a complete narrative from the subject. Psychologists have contributed significantly to our understanding of human memory and, most relevant to the investigative interviewing process, its retrieval (see Perfect & Lindsay, 2013). The translation of this research to effective interviewing strategies relate to the potential malleability of memory in an interview

context, and to the development of approaches that facilitate accurate and complete recall.

Decades of research has demonstrated the fragility of memory and the extent to which individuals are susceptible to confabulation and misinformation (see Brainerd & Reyna, 2005; Loftus, 2005; Newman & Garry, 2013). With respect to investigative interviewing, studies have shown that information suggested by an interviewer can distort a subject's memory for aspects of the original event (Loftus, 1975; Loftus & Zanni, 1975), and even create false memories for an entirely novel event (Loftus & Pickrell, 1995). False memories have also been created in a manner that lead subjects to offer false criminal accusations against another individual (Loney & Cutler, 2016) and to generate false memories of a crime they had never committed (Shaw & Porter, 2015). The substantive role of the presentation of false or misleading evidence in this process has also been demonstrated (Nash & Wade, 2009; Wade, Green, & Nash, 2010).

This conceptual understanding of the fragility of memory and the influence of certain types of questions prompted psychologists to identify best practices for the interviewing of both adults (cf. Fisher & Geiselman, 1992; Milne & Bull, 1999) and children (cf. Sternberg, Lamb, Esplin, Orbach, & Hershkowitz, 2002). As nicely summarized by Powell, Fisher, and Wright (2005), this psychological research suggests that the common elements of a good investigative interviewing protocol include: (a) the development of rapport to achieve cooperation, (b) a clear description of the rules and expectations for the interview process, (c) the predominant use of an open-ended questioning style (leading to a funnel approach), and (d) a willingness on the part of the investigator to explore alternative hypotheses (and therein avoid confirmation biases).

A final significant research line has involved the development of interview approaches that enhance a subject's recall (quantity and accuracy) of an event from memory. The most noteworthy protocol developed in this context is the Cognitive Interview (CI; Fisher & Geiselman, 1992). The CI was designed to include the core elements of "best practice" in interviewing, as noted above, but also to apply a cognitive psychological perspective on factors that support or enhance retrieval—including the use of mental context reinstatement, the use of witness compatible questions (such as sketching; cf. Leins, Fisher, & Vrij, 2012), the provision of multiple retrieval opportunities, and the use of mnemonic approaches (such as recalling from a different perspective or reversing temporal order). The CI is likely the most studied interview protocol to date. It has consistently demonstrated efficacy in increasing the recall of correct information from cooperative subjects, with little impact on the accuracy of information provided (see Memon et al., 2010).

The Psychology of Detecting Deception

Interrogators are often faced with the difficult task of assessing the credibility of a statement offered by the subject. Research suggests that individuals hold a number of stereotypical beliefs regarding the behaviors that liars display (e.g., gaze aversion, nervousness; see The Global Deception Research Team, 2006); however, individuals often fail to consider behaviors that might, alternatively, validate a person's honesty (Hartwig & Bond, 2014). Decades of research has, in fact, compared the behaviors of liars with that of truth-tellers to identify diagnostic cues to deception. A meta-analytic review of this research shows that truth tellers talk more and provide more details than liars, that stories told by truth-tellers are more logical and plausible, and that truth-tellers are verbally more immediate than liars (DePaulo et al., 2003). In contrast, few paraverbal cues (e.g., aspects accompanying speech, such as voice pitch or pauses) or nonverbal behaviors (e.g., hand or arm movements) have been empirically linked to deception (Sporer & Schwandt, 2006, 2007).

In light of the consistent challenge of identifying reliable behavioral cues to deception, it is not surprising that people perform only slightly better than chance when attempting to distinguish deceptive and truthful accounts (i.e., 54%), even when the stakes for the sender are high (Bond & DePaulo, 2006; Hartwig & Bond, 2011, 2014). Professional investigators, too, demonstrate chance performance in veracity judgments (Bond & DePaulo, 2006), though they are more likely to display high confidence in their deception detection skills and are more likely to ascribe people as lying even when they are truthful (Bond & DePaulo, 2006; Kassin et al., 2003; Meissner & Kassin, 2002).

To improve detection skills, researchers have investigated the value of indirect measures of deception (e.g., rating how comfortable or suspicious a target is), finding that such approaches can better predict deception (DePaulo & Morris, 2004). Others have demonstrated the advantages of unconscious or intuitive lie-detection (Albrechtsen, Meissner, & Susa, 2009; ten Brinke, Stimson, & Carney, 2014), though the potential value of this approach has been questioned (Levine & Bond, 2014; Street & Vadillo, 2016). Training studies also suggest that deception detection can be improved by directing subjects to verbal content cues, whereas training on nonverbal and paraverbal cues yield only small or nonsignificant benefits on performance (Hauch, Sporer, Michael, & Meissner, 2016; see also Driskell, 2012). Finally, given the significant challenges of identifying diagnostic cues in the context of passive observation (Hartwig & Bond, 2011), researchers have begun to develop interview techniques that elicit and enhance the cognitive, content-based cues that appear most promising (Vrij & Granhag, 2012; Vrij, Taylor, & Picornell, 2016).

The HIG Research Program: 2010 to Present

Upon this foundation of psychological research, the U.S. government established the HIG research program in 2010. We now turn to a substantive review of psychological research that has been supported by this program, having coded each of the more than 120 publications into one or more of the interrogation processes identified in Figure 2. We also describe research on the role of culture and language, as well as efforts to translate this research to training and practice.

Developing Cooperation via Rapport, Persuasion, and Conceptual Priming

A variety of techniques have been used by interrogation professionals to develop cooperation with a resistant subject. HIG researchers have sought to document and organize these various approaches, and to further evaluate the effectiveness of accusatorial and information-gathering approaches—the most prominent models of interrogation. Scholars have also at-

tempted to better define the concept of "rapport" and to identify both the tactics and conditions that facilitate its development. Finally, researchers have worked to translate the basic literature on social persuasion to the interrogative context, and have explored the influence of conceptual priming to develop an open and cooperative environment.

A taxonomy of interrogation techniques and their application. A variety of tactics have been described in the extant literature and documented in observational, survey, and archival studies of interrogation (cf. Kassin et al., 2007). HIG researchers have systematically coded more than 70 tactics identified in a review of both empirical studies and training manuals (Kelly, Miller, Redlich, & Kleinman, 2013), producing a conceptual taxonomy that includes six domains:

- *Rapport and Relationship Building* was defined as a "working relationship between operator and source based on a mutually shared understanding of each other's goals and needs" (Kelly et al., 2013, p. 169). This category included tactics such as being patient, showing kindness and respect, and developing common ground (e.g., by identifying overlapping interests).
- *Context Manipulation* was defined as an interrogators' attempts to alter the physical space surrounding the interrogation, for example by using isolation or facilitating social engagement, utilizing a small room or conducting the interview in a more expansive or outdoor setting, or considering the cultural relevance of furniture within the room.
- *Emotion Provocation* involved an interrogator's attempts to psychologically manipulate the emotions experienced by the subject. Interviewers may address the conscience or religious ideology of the subject, induce anxiety or stress, or attempt to assuage fears or concerns.
- *Confrontation/Competition* was related to the assertion of control and authority by the interrogator. Interrogators may attempt to challenge a subject's beliefs regarding their responsibility for the alleged act, or repeatedly question and demonstrate impatience.
- *Collaboration*, in contrast, involved developing a context in which the interrogator and subject are equal partners working toward a common goal. A primary tactic involves offering incentives for cooperation (such as comfort items or a phone call to a family member), and more generally displaying respect, concern, and patience with the subject.
- Finally, the *Presentation of Evidence* domain involved the use of investigative evidence or intelligence information. This could include both confronting a subject with actual information, bluffing about the nature/strength of the evidence available, or the use of a polygraph to bolster claims regarding veracity and culpability.

Surveys and interviews conducted by HIG researchers have leveraged this taxonomy in documenting the use of various techniques by interrogators, as well as assessing their perceptions of the most effective tactics supporting "best practice." For example, a survey of U.S. federal agents, military interrogators, and state/local police investigators found that Rapport and Relationship Building was the most frequently endorsed approach to interrogation regardless of context, while Confrontation/Competition was perceived as least effective (and least utilized; Redlich, Kelly, & Miller, 2014). Rapport and Relationship Building was also found to be critical among samples of highly experienced military and intelligence interrogators (including those who conduct "high-value target" interrogations; Narchet, Russano, Kleinman, & Meissner, 2016; Russano, Narchet, Kleinman, & Meissner, 2014), and in cross-national samples of interrogation professionals from Australia and southeast Asia (Goodman-Delahunty, Martschuk, & Dhami, 2014).

Recent observational studies of criminal interrogations have also applied this taxonomy to examine both the frequency with which certain tactics are used and to assess their effectiveness in predicting key interrogation outcomes. Consistent with self-report methodologies, Rapport and Relationship Building was most frequently used by interrogation professionals, while Context Manipulation and Collaboration were least often used (Kelly, Miller, & Redlich, 2016; Kelly, Redlich, & Miller, 2015). Both Emotion Provocation and Evidence Presentation were also readily used by investigators in a manner consistent with an accusatorial framework. Suspect *denials* were statistically associated with the use of Emotion Provocation, Evidence Presentation, and Confrontation/Competition (Kelly et al., 2015), while suspect *cooperation* was elicited by the use of Rapport and Relationship Building (Kelly et al., 2016). Thus, it appears that while professionals frequently report the use of Rapport and Relationship Building and that such approaches are associated with positive outcomes, accusatorial approaches continue to pervade interrogations and appear associated with a greater likelihood of suspect denial and diminished cooperation.

Accusatorial versus information-gathering approaches. As described previously, psychologists have distinguished between accusatorial and information-gathering approaches to interrogation. HIG studies have continued to explore the effectiveness of these two approaches (for a review, see Meissner, Kelly, & Woestehoff, 2015) primarily using experimental laboratory methods. For example, scholars have observed that techniques designed to influence a suspect's perception of the *consequences* of confessing, either by implying leniency (minimization) or inducing a fear of harsher punishment (maximization), lead to less diagnostic confessions by increasing the likelihood of false confessions (Horgan, Russano, Meissner, & Evans, 2012). Using a modified version of the 'cheating paradigm' (Russano et al., 2005) to model a HUMINT interrogation context, researchers have also directly compared accusatorial and information-gathering tactics, finding that an information-gathering approach can significantly increase the elicitation of critical intelligence, as well as admissions from the guilty (Evans, Meissner, et al., 2013). A recent meta-analysis of this literature directly compared the effectiveness of accusatorial and information-gathering approaches (Meissner et al., 2014)—while field studies demonstrated that both approaches are effective in producing confessions (when compared with a "direct" approach), experimental studies suggested that information-gathering approaches produced more diagnostic outcomes by *increasing* the likelihood of a true confession and *reducing* the likelihood of a false confession.

The information-gathering approach appears to have improved diagnosticity (at least in part) because it reduces both nervousness

and social pressure experienced by innocent (but not guilty) subjects (Evans, Meissner, et al., 2013). Researchers have continued to explore the psychological factors that predict true versus false confessions. Using a meta-analytic approach (Houston, Meissner, & Evans, 2014; see also Redlich et al., 2011), it was observed that true confessions were best predicted by a subject's feelings of guilt, responsibility, or remorse, as well as perceptions of proof/evidence and affective experiences of stress, worry, and anxiety. In contrast, false confessions were related to perceived social pressure (on the part of the interrogator) to confess. Perceptions of the consequences associated with confession, on the other hand, were related to both true and false confessions. From this psychological lens and related research (see Meissner et al., 2010), accusatorial approaches appear to produce false confessions by increasing a subject's perception of social pressure and manipulating their beliefs regarding the likely benefits (consequences) associated with confession. Information-gathering approaches, in contrast, appear to reduce perceptions of pressure on the innocent, and promote rapport and enhance internal feelings of guilt, responsibility, or remorse to facilitate true confessions.

What is rapport and is it effective? As discussed above, Rapport and Relationship Building is frequently described by interrogation professionals as a fundamental approach (Kelly et al., 2015; Redlich et al., 2014; Russano et al., 2014), and interview, survey, and observational data support the significant influence of rapport in facilitating cooperation and disclosure (Goodman-Delahunty et al., 2014; Kelly et al., 2015; Kelly et al., 2016). Despite interrogators' often enthusiastic support of rapport-based methods, challenges have remained both with defining the construct and measuring its occurrence. In fact, interviews with experienced interrogators often reveal a lack of consensus with respect to a definition of rapport or the tactics that bring about it (Russano et al., 2014).

HIG researchers have begun to develop a psychological understanding of rapport and design approaches both for measuring its occurrence and identifying the tactics that give rise to it. Often cited in the literature is a model of rapport based upon physician-patient interactions offered by Tickle-Degnen and Rosenthal (1990). This model identifies three components of rapport: *mutual attention* (amount of involvement between the interactants), *positivity* (the emotional aspect involving mutual respect or liking), and *coordination* (a pattern of reciprocal responses or synchronicity between the interactants). Based upon this theoretical framework and research in the clinical and social psychological literatures, several tactics were identified for developing rapport in the interview and interrogation context, including: (a) immediacy behaviors (e.g., leaning forward, eye contact); (b) active listening; (c) mimicry; (d) contrasting emotions; (e) disclosing personal information; (f) establishing common ground; and (g) frequency of contact (Abbe & Brandon, 2013, 2014).

Researchers have also conducted extensive analysis on the impact of interpersonal skills and rapport-based methods using unique samples of field interrogations. Based upon an examination of what skills increase and/or decrease the amount of evidentially useful information produced in interviews with terrorism suspects, HIG researchers have developed the Observing Rapport Based Interpersonal Techniques (ORBIT) framework (Alison, Alison, Elntib, & Noone, 2010). This framework has been applied to the observational coding of more than 1,200 hr of interviews with extreme right wing, al Qaeda, ISIS and paramilitary detainees in the United Kingdom (Alison & Alison, 2017). Perhaps unusually, this model of rapport is not predicated on liking, similarity, or even mutual respect, but is focused on more practical, goal directed aims. ORBIT combines two previously diverse elements—elicitation methods associated with Motivational Interviewing (MI; Miller & Rollnick, 1992) and aspects of interpersonal behavior theories (Leary, 1955) to examine adaptive and maladaptive investigator-suspect interactions (Alison, Alison, Noone, Elntib, & Christiansen, 2013). The latter, interpersonal elements of ORBIT are directed at managing the potentially difficult behaviors exhibited by subjects (that may at times be aggressive, passive and disengaged, or manipulative), while the rapport-based elements are directed at extracting thoughts, values, beliefs and, ultimately, relevant information, intelligence and evidence. The approach suggests that rapport is established by creating a collaborative rather than confrontational environment, by drawing on information from the client rather than demanding it, and by maintaining the client's autonomy instead of highlighting the interviewer's authority. Five specific strategies adapted from the MI literature (*autonomy*, *acceptance*, *adaptation*, *empathy*, and *evocation*) were shown to be key in building and maintaining rapport in interrogations, while the interpersonal competence and versatility of the interviewer was positively associated with promoting adaptive suspect behavior. Having a positive impact on the suspect's behavior ultimately led to increased disclosure of relevant information (Alison et al., 2013). Subsequent analyses also found that these skills significantly reduced a suspect's use of counter-interrogation tactics (Alison et al., 2014).

Researchers have also investigated a variety of tactics and conditions that are believed to influence rapport. For example, mimicry appears to represent both a predictor and a potential tactic for developing rapport (Abbe & Brandon, 2013, 2014). Across a sample of 64 law enforcement interrogations, verbal mimicry demonstrated on the part of the interrogator (as measured by a sequential analysis of Language Style Matching) served as a key predictor of the likelihood of confession (Richardson, Taylor, Snook, Conchie, & Bennell, 2014). Laboratory studies have also shown that deliberate mimicry on the part of an interviewer can facilitate the disclosure of accurate details from truthful (but not deceptive) subjects (Shaw, Vrij, et al., 2015). As such, mimicry may be useful for both promoting elicitation and facilitating assessments of credibility.

Finally, researchers have also examined the role of emotional approaches (derived from the U.S. Army Field Manual 2–22.3, United States Army, 2006) in facilitating (or damaging) the development of rapport. Using an experimental laboratory paradigm, subjects were exposed to either a *negative* (designed to increase fear, diminish self-worth, and create a perception of futility) or *positive* (designed to lessen fear, facilitate rapport, and offer empathy) emotional approach (vs. a direct approach; Evans et al., 2014). While both emotional approaches proved more effective than direct questioning in eliciting details, a mediation analysis demonstrated that positive emotional approaches both reduced anxiety and increased perceived rapport, while negative emotional approaches increased anxiety.

Using persuasion to achieve cooperation. In reviewing the literature on rapport, Abbe and Brandon (2013, 2014) noted that many rapport-based interviewing tactics relate to principles of

social influence (Cialdini, 2006; Cialdini & Goldstein, 2004) that operate via interest, identity, or relational motivations (Kelman, 2006). For example, an interviewer's use of personal disclosure (i.e., information about oneself) can both facilitate liking and instantiate reciprocity that is likely to facilitate disclosures by the subject. Across a series of in-depth interviews involving experienced intelligence and criminal interrogators, researchers have found that both liking and reciprocity are most closely associated with efforts at Rapport and Relationship Building (Goodman-Delahunty et al., 2014; Goodman-Delahunty & Howes, 2014). Interrogators frequently identified similarities, used humor, and leveraged informality to facilitate liking, while acts of hospitality, sympathy, addressing a subject's needs, and offers of incentives were used to facilitate reciprocal cooperation. The use of reciprocity and liking tactics were also found to significantly increase information disclosure.

Conceptual priming to facilitate cooperative environments. Finally, researchers have begun to evaluate the role of conceptual priming as a method to facilitate cooperation. Conceptual priming involves exposing an individual to a concept via imagery, word, or bodily states in a manner that increases the cognitive accessibility of the concept. Activation of a concept is then believed to facilitate certain behavioral responses (see Higgins & King, 1981). HIG studies have assessed whether the activation of certain concepts (via contextual manipulations or verbal instructions to the subject that activate certain concepts) might facilitate cooperation or the disclosure of information.

Priming self-affirmation and attachment has been explored to assess whether it might facilitate disclosure of sensitive or embarrassing information from individuals. Researchers have found that priming a person's self-worth (via self-affirmation that highlights positive values, personal attributes, and life experiences related to the self; see McQueen & Klein, 2006; Sherman & Cohen, 2006) can significantly *increase* disclosure of embarrassing information, while priming instances that undermined a person's self-worth (via disaffirmation that highlights failures and negative life experiences related to the self) can significantly *inhibit* disclosure (Davis, Soref, Villalobos, & Mikulincer, 2016). Priming attachment security in subjects has also been examined by, for example, asking people to recall memories of a close, trusted other (see Mikulincer & Shaver, 2007). Using a variety of experimental laboratory paradigms, priming attachment has been found to significantly *increase* disclosure when compared with an insecure attachment or neutral priming condition (Davis et al., 2016), and to facilitate self-reports of being more honest and increase the amount of information provided to an interviewer (Dawson, Hartwig, & Brimbal, 2015).

Finally, researchers have also explored the concept of "openness" as a metaphor for increasing the extent to which an individual was forthcoming and willing to disclose information. Openness was primed in these studies by manipulating aspects of the environment or room to be perceived as open and expansive (e.g., open window, photographs that signal openness, an open book, and a drawer that was open) versus a more closed, custodial setting (e.g., no window, bare walls, rigid chairs, and small table). Overall, primes that signal openness significantly *increased* subjects' disclosure of information, including critical details (Dawson et al., in press).

Eliciting Information via Conversational Rapport and Facilitating Memory Retrieval

As described previously, a strong foundation of research has been established with respect to interviewing cooperative subjects (see Powell et al., 2005); however, much of this research has focused on skills related to interviewing witnesses or victims. While interrogation training programs primarily focus on gaining cooperation (and ultimately a state of compliance that produces a confession; see Kelly & Meissner, 2015), researchers have begun to assess the importance of basic elicitation skills in promoting conversational rapport in less cooperative contexts—including the use of effective questioning skills drawn from a Motivational Interviewing framework (discussed previously; Alison et al., 2013, 2014). We focus here on research that has extended the CI to subject interviews for eliciting criminal and intelligence information.

Further developing the CI. For more than three decades, researchers have studied the CI as a method for enhancing the recall and reporting of witnesses and victims (Fisher & Geiselman, 1992; Fisher, Milne, & Bull, 2011). Meta-analyses have documented the effectiveness of the CI for increasing correct recall of information absent a significant cost to accuracy (see Memon et al., 2010). HIG studies have begun to explore the utility of the CI for use in both criminal and intelligence interrogations. For example, the CI has been incorporated into an information-gathering approach and demonstrated, via an experimental laboratory paradigm, to significantly enhance recall of critical information when compared with an accusatorial approach (Evans, Meissner, et al., 2013). Researchers have also explored the development of mnemonics that facilitate memory recall for information from intelligence interviews of sources (such as meetings and social networks), finding that such mnemonics can double the amount of information recalled when compared with a control interview (Leins, Fisher, Pludwinsky, Rivard, & Robertson, 2014). Finally, the introduction of "model statement" (a detailed narrative that offers the subject an example of the level detail requested) has been shown to significantly increase the amount of detail reported by subjects (Ewens et al., 2016; Leal et al., 2015). As discussed below, the introduction of CI elements also offer important implications for assessments of statement credibility (Morgan et al., 2013; see Vrij, 2015).

Challenging Inconsistencies and Facilitating Disclosure via Strategic Use of Evidence

Presenting evidence to a subject can be of great use to an interviewer. Studies have demonstrated that evidence can be disclosed to elicit inconsistencies between a subject's account and the existing evidence (e.g., Granhag et al., 2013), and to facilitate admissions from a subject (e.g., Tekin et al., 2015). Reports from professional interviewers, however, paint a less consistent picture, suggesting that while presenting evidence can be effective for obtaining confessions and strategic information (Kelly et al., 2015; Redlich et al., 2014), the manner of evidence presentation may, at times, decrease a subject's cooperation (Goodman-Delahunty et al., 2014; Kelly et al., 2016) and may be less effective for gathering intelligence information (Redlich et al., 2014). Such discrepancies could be a product of the variety of ways that professionals

are trained to present evidence (Hartwig, Granhag, Strömwall, & Kronkvist, 2006; Luke et al., 2016). Research, however, has demonstrated positive effects following *appropriate* evidence disclosure, suggesting that a subject's underlying motivation is key to understanding their information management strategy (see Granhag & Hartwig, 2015; Oleszkiewicz, 2016). Below we describe HIG researchers' attempts to develop several effective information disclosure approaches, including the Strategic Use of Evidence (Granhag & Hartwig, 2008) and the Scharff technique (Granhag, Kleinman, & Oleszkiewicz, 2016).

The strategic use of evidence technique. Research shows that there are a variety of ways to disclose evidence to a subject, and that evidence disclosure can influence what information the subject is willing to reveal and what information the subject is likely to withhold. The rationale is based on two premises. First, if a subject initiates the interview with a cooperative behavior, research suggests that they will seek to maintain an appearance of credibility throughout the interview. Second, if critical information must be protected, the subject is likely to engage in avoidance strategies and/or denials until such behavior is deemed futile (Hartwig et al., 2014). Hence, the Strategic Use of Evidence (SUE) technique seeks to initially gain the cooperation from the subject and elicit an open-ended narrative. After the subject has committed to an account, evidence disclosure strategies can be used to challenge the individual's narrative (see Granhag & Hartwig, 2015). As an example, to elicit information for assessing whether a subject has committed a crime or not, the interviewer may find an advantage with initially withholding evidence that points to the subject's guilt. Then, by consulting an evidence framing matrix (Granhag, Strömwall, Willén, & Hartwig, 2013), each piece of evidence can be framed with different degrees of precision (i.e., from general to specific). By gradually narrowing the precision frame, the subject will be forced to attune his or her story to better account for the more precise details. Such strategic evidence framing has been shown to increase the number of statements that are inconsistent with the evidence (Luke et al., 2013). Studies have also examined the effects of different countermeasures to the SUE technique, finding that subjects who are alerted to possible evidence against them can increase their willingness to offer critical information (Luke et al., 2014), and that being informed of specific SUE tactics can induce a subject to be more forthcoming (Luke et al., 2015).

The Scharff technique. While laboratory studies agree on the positive effects of withholding evidence until having established the subject's account, there are instances when presenting known information up-front can encourage disclosure and provide strategic benefits. For example, when gathering intelligence information to advance an investigation, the interviewer may find an advantage in demonstrating knowledge of the case and then subtly eliciting additional information without the interviewee realizing that this is the interviewer's aim. To investigate such subtle elicitation tactics, researchers have drawn from the biographical literature on Hanns Scharff, a highly successful World War II interrogator, and conceptualized the "Scharff technique" as a set of five interrelated tactics: (a) a friendly approach, (b) not pressing for information, (c) creating an "illusion of knowing it all," (d) using confirmations/disconfirmations, and (e) ignoring new information that is brought up (Granhag, Kleinman, & Oleszkiewicz, 2016). The effectiveness of the Scharff technique has been examined by comparing it with a Direct Approach using an experimental laboratory paradigm that mirrors features of a typical intelligence interview (e.g., the interviewee is motivated to share information, but is also motivated to withhold information from the interviewer; see Granhag, Cancino Montecinos, & Oleszkiewicz, 2015). Findings from these studies have consistently demonstrated: that the Scharff technique elicits more information that advances the interviewer's knowledge on the case (i.e., new information) than the Direct Approach (e.g., May & Granhag, 2015; Oleszkiewicz, Granhag, & Kleinman, 2014; Oleszkiewicz, Granhag, & Cancino Montecinos, 2014); that those interviewed using the Scharff technique underestimate the amount of new information they had revealed (e.g., May, Granhag, & Oleszkiewicz, 2014; Oleszkiewicz, Granhag, & Kleinman, 2014); and that the Scharff technique can better mask the interviewer's information objectives (e.g., May et al., 2014; Oleszkiewicz, Granhag, & Kleinman, 2014). The technique was also found to be effective for interviewing sources with different levels of capability and cooperation (Granhag, Oleszkiewicz, Strömwall, & Kleinman, 2015), members of small cells (Granhag, Oleszkiewicz, & Kleinman, 2016), and individual sources across multiple interviews (Oleszkiewicz, Granhag, & Kleinman, 2017a). Overall, this research suggests that the Scharff technique is a promising tool for gathering information in subtle elicitation settings.

Assessing Credibility via a Cognitive Model of Deception and Strategic Questioning

Research has repeatedly demonstrated that the variety of recommendations for assessing credibility offered by popular interview and interrogation manuals fail to provide a legitimate standard from which to detect deceit (Vrij, 2014). This can largely be explained by the fact that liars adopt strategies that allow them to remain close to truth-telling (Leins, Fisher, & Ross, 2013), rendering the cues to deceit so faint and unreliable (DePaulo et al., 2003; Hartwig & Bond, 2011) that it is almost impossible to discriminate between truth-tellers and liars (Bond & DePaulo, 2006). Recent research has, instead, suggested that a novel "cognitive approach" to assessing credibility may prove more effective. In particular, lying appears to involve certain distinctive features such as making up a story, avoiding checkable facts, and remaining consistent with earlier statements, while truthful messages draw on memory (Vrij, 2014, 2015). Hence, researchers have begun developing techniques that elicit more diagnostic cues to deception within a cognitive framework (Vrij & Granhag, 2012; Vrij, Taylor, & Picornell, 2016).

A cognitive lie detection approach. Studies have demonstrated that a cognitive approach can improve deception detection accuracy in general (Vrij, Fisher, & Blank, 2017) and can be used during a variety of different interview conditions (see Vrij & Granhag, 2014), including when there is no evidence at hand (Vrij, Fisher, Blank, Leal, & Mann, 2015). The cognitive approach to lie detection can be divided into three broader techniques. The first technique relies on imposing cognitive load. This technique allows truth-tellers to draw from their memory when providing an account, while leaving liars with fewer cognitive resources with which to conceal their deception (Vrij, 2015). Tactics for imposing cognitive load include asking the subject to repeat their narrative in reverse order (Ewens, Vrij, Mann, & Leal, 2016), instructing them to maintain eye-contact with the interviewer (Vrij, Mann, Leal, &

Fisher, 2010), and using forced turn-taking when multiple suspects are interviewed together (Vernham, Vrij, Mann, Leal, & Hillman, 2014). Each of these techniques have been shown to improve deception detection.

A second technique relies on the finding that liars generally report fewer details than truth tellers (Ewens, Vrij, Mann, Leal, Jo, & Houston, 2017). This difference can be exploited by having the subject listen to a "model statement" that requires them to increase the number of details reported (Ewens et al., 2016; Leal, Vrij, Warmelink, Vernham, & Fisher, 2015), or by asking a subject to argue in favor of a personal opinion and then to argue against it (Leal, Vrij, Mann, & Fisher, 2010). Other approaches have included introducing a supportive second interviewer (Mann et al., 2013; Shaw et al., 2013), changing interviewers (Mann et al., 2013; Shaw, Vrij, Mann, Leal, & Hillman, 2014), and having the interviewee close their eyes during recall (Vrij, Mann, Jundi, Hillman, & Hope, 2014). In addition, the Symptom Validity Test has been shown to successfully identify liars who strategically avoid acknowledging crime-relevant information (Shaw, Vrij, Mann, Leal, & Hillman, 2014).

Finally, a third technique draws on the finding that liars may only prepare answers to questions they expect to be asked (Vrij et al., 2017; Vrij & Granhag, 2014). This technique has been examined for distinguishing between true and false statements about future intentions (Granhag & Mac Giolla, 2014; Vrij, Leal, Mann, & Granhag, 2011). Here the interviewer asks a combination of questions that are likely to be anticipated and unanticipated by the interviewee. Unanticipated questions allow truth-tellers to provide answers based on their memory, whereas liars are induced to generate something plausible on the spot (Shaw et al., 2013; Sooniste, Granhag, Strömwall, & Vrij, 2016). Asking unanticipated questions has been shown to elicit more diagnostic cues from individuals (Sooniste, Granhag, & Strömwall, 2016; Sooniste, Granhag, Strömwall, & Vrij, 2015) and small cells of suspects (Sooniste et al., 2016), but has proven less effective when repeatedly interviewing the same suspect (Granhag, Mac Giolla, Sooniste, Strömwall, & Liu-Jonsson, 2016).

Evaluating the Influence of Culture and Language

Interrogation professionals, particularly those in military and intelligence contexts, often request support in identifying tactics that will be effective across cultures and in the context of an interpreter. HIG studies have investigated the influence of cultural variation in communication (particularly in negotiated contexts that are relevant to interrogation), the extent to which cues to credibility vary across cultures, and the influence of interpreters in an interrogation context.

Cultural variation in effective approaches to negotiation and interrogation. HIG studies have examined how cultures that vary along certain dimensions (e.g., collectivism-individualism, high vs. low status, and equality) perceive one another via the stereotype content model—a model that posits stereotypes relate to individuals' perceptions of warmth and competence (Fiske, Xu, Cuddy, & Glick, 1999). Such stereotype models can inform the social perception of subjects and interrogators in cross-cultural contexts and therein facilitate the impression formation process (Fiske & Durante, 2016). With respect to effective communication and negotiation across cultures, research suggests that approaches reflecting a "relational" honor model (i.e., highlighting moral integrity and the protection of one's image or strength) are more likely to lead to successful negotiation outcomes in countries such as Egypt compared with a more traditional (Western) "rational" cognitive model (Gelfand et al., 2015). Successful negotiations with subjects high in uncertainty avoidance (i.e., an intolerance for unknown situations) appears to involve the use of more formal language that includes reference to policies, procedures, and laws—and the use of such formal language by a negotiator, regardless of cultural similarity, has been shown to facilitate alignment in communication and therein predict successful negotiation outcomes (Giebels, Oostinga, Taylor, & Curtis, 2016).

Studies have also examined interrogators' perceptions of the effectiveness of various interrogation approaches across cultures. For example, interviews with experienced police and military practitioners in Australia and southeast Asia suggest that while practitioners across these cultures generally endorsed the importance of demonstrating respect, developing trust, and ensuring procedural justice, certain cultures were more likely to endorse these strategies—particularly those that are more individualistic, low in power-distance, and less uncertainty avoidant (Goodman-Delahunty, 2015; Goodman-Delahunty, O'Brien, & Gumbert-Jourjon, 2013). A survey of interrogators across 10 different countries indicated that professionals believed certain methods (particularly Rapport and Relationship Building, Collaboration, and Confrontation/Competition domains) are more effective within (rather than across) cultures, though this in-group bias was not demonstrated for those who reported greater experience with other cultures (Kelly et al., 2015).

Assessing credibility across culture and language. Researchers have been interested in assessing the influence of culture on assessments of credibility (see Taylor, Larner, Conchie, & van der Zee, 2014). Varying both sender and receiver culture, HIG studies have found very few differences in deception detection performance as a function of in-group/out-group (Hwang & Matsumoto, 2014). Further, studies have found that both culture and language generally fail to moderate the predictive validity of certain cognitive and linguistic cues (Hwang, Matsumoto, & Sandoval, 2016; Matsumoto & Hwang, 2015; Matsumoto, Hwang, & Sandoval, 2015a, 2015b). Finally, studies have also examined the influence of primary versus secondary language use on both judgments of deception and cues to deception suggesting both that secondary language use can induce cognitive load in the sender and that perceivers may demonstrate a bias towards perceiving deception in non-native speakers (Evans & Michael, 2014; Evans, Michael, et al., 2013).

The challenges of using of interpreters. In military and intelligence contexts, interrogators often use interpreters to facilitate communication across languages. Surveys and interviews involving both interpreters and interrogation professionals who frequently conduct interpreter-mediated interviews have offered important insights. Interpreters overwhelmingly supported the efficacy of Rapport and Relationship Building tactics, and viewed themselves as a valuable member of the team for both facilitating communication and offering important cultural perspectives (Russano, Narchet, & Kleinman, 2014). Practitioners, on the other hand, held a number of misconceptions regarding an interpreter's professional practice code of "neutrality," and expressed concerns regarding a loss of accuracy in information elicited and the ex-

tended duration of such interviews (Goodman-Delahunty & Howes, 2017; Goodman-Delahunty & Martschuk, 2016).

Researchers have also conducted a number of experimental laboratory studies evaluating the influence of interpreters on developing rapport, eliciting information, and assessing credibility. While interpreters appear to both diminish the amount of information elicited and, at times, lessen the prevalence of cognitive cues to deception, their presence has little or no influence on the development of rapport (Ewens, Vrij, Leal, et al., 2016) and the use of rapport tactics by an interpreter can positively transfer to an interviewee's perceptions of the interviewer (Houston, Russano, & Ricks, 2017; see also Dhami, Goodman-Delahunty, & Desai, 2017). Studies have examined the introduction of a model statement (Ewens et al., 2016) and the use of reverse order recall (Ewens, Vrij, Mann, & Leal, 2016) in interpreter-mediated interviews, demonstrating increased information yield and the diagnostic utility of several cognitive cues to deception, respectively. The influence of seating position has also been assessed, with studies finding both no effects (Ewens, Vrij, et al., 2017) and potential negative effects when the interpreter is seated behind the interviewee (Houston et al., 2017).

Finally, differences between lay (or ad hoc) interpreters and trained professional interpreters have also proven important to document. While trained interpreters were perceived as more confident, likable, trustworthy, and knowledgeable, untrained interpreters often failed to establish ground rules, violated some ethical guidelines with respect to impartiality, and did not successfully interpret all statements (Hale, Goodman-Delahunty, & Martschuk, 2017). Taken together, these findings argue for the importance of using skilled interpreters and for recognizing the challenges of potential information loss and fatigue in interpreter-mediated interviews.

Moving From "Research to Practice"—Training and Field Evaluations

Finally, a priority for the HIG has been the transition of research from the laboratory to the field. To this end, several training studies have evaluated whether newly developed methods can be effectively translated and trained to practitioners. In addition, collaborations between researchers, experienced practitioners, and several federal training facilities have permitted an assessment of the relative benefits of science-based methods when compared with existing practice.

Training studies. Researchers have conducted a number of training studies to assess the methods described above. For example, the CI was found to produce nearly 80% more information when compared with a standard, five-step interview method traditionally trained at the U.S. Federal Law Enforcement Training Center (Rivard, Fisher, Robertson, & Mueller, 2014). The ORBIT model was similarly evaluated when it was introduced to the United Kingdom's national advanced counterterrorism interviewing course. Trained interviewers demonstrated fewer maladaptive interpersonal errors, used significantly more of the rapport-based components of the ORBIT model, and extracted more information from detainees (Alison, Alison, & Christiansen, 2017). With respect to presenting evidence in both strategic and subtle ways that facilitate disclosure, a training evaluation of the Strategic Use of Evidence with a sample of U.S. law enforcement professionals showed that those trained in the method were successful in questioning a suspect systematically and strategically disclosing their evidence, leading to better detection rates with respect to statement-evidence consistency (Luke et al., 2016). Similarly, a sample of Norwegian police professionals trained in the Scharff technique demonstrated successful use of the approach by establishing an illusion of "knowing it all" and asking fewer direct questions, ultimately leading to the collection of more information when compared with untrained counterparts (Oleszkiewicz, Granhag, & Kleinman, 2017b). Finally, several training studies have evaluated the use of cognitive lie detection methods. Across multiple studies, experienced police detectives trained in cognitive-based methods demonstrated both an increased ability to detect deception and the effective and appropriate use of cognitive-based questioning techniques (Vrij et al., 2015; Vrij, Mann, et al., 2016).

Field validation and research-to-practice training modules. Given the robust science developed by HIG researchers over the past 7 years, together with a foundation of existing research on best practices in investigative interviewing, the HIG has developed a 1-week training course that establishes a science-based model of interrogation. This course has been offered to more than 30 different U.S. law enforcement and intelligence agencies, with the HIG administering training sessions about 15 times each year. A recent training and field evaluation was conducted on this training program in collaboration with the U.S. Air Force Office of Special Investigations (Meissner, Russano et al., 2017). The findings offer strong support for a science-based model, demonstrating that trained practitioners utilized the new techniques in suspect interrogations and that the use of these techniques significantly increased both cooperation and information elicitation. In addition to this 1-week course, the HIG has supported the development of "research-to-practice" modules that involve 2- or 3-day trainings on specific techniques. These modules are taught by researcher-practitioner teams, and have included such topics as the CI, the Strategic Use of Evidence, the Scharff technique, ORBIT, and Motivational Interviewing Tactics, the use of rapport and persuasion tactics, and cognitive approaches to credibility assessment.

Conclusions and Future Directions

Taken together, the HIG research program has clearly advanced our understanding of effective interviewing and interrogation practices. Psychological science has substantiated the value of rapport-based methods for developing cooperation with a subject, including the effectiveness of Motivational Interviewing principles for facilitating conversational rapport and the use of both social influence tactics and conceptual priming to reduce resistance. Research has also further substantiated the importance of good questioning skills and the effectiveness of the CI for eliciting more information from subjects. Studies have highlighted the most successful methods for strategically presenting evidence to a subject to both assess credibility and facilitate disclosure, including the use of subtle elicitation methods such as the Scharff technique. Finally, a new cognitive approach to credibility assessment has been developed that both leverages a theoretical understanding of the cognitive challenges of lying and offers a set of strategic interviewing approaches that improve discrimination between liars and truth tellers. The effectiveness of these methods has been shown across a range of methodologies, including recent training and field

validation studies that support their feasibility and effectiveness with professional interrogators in real-world settings. In short, a science-based model of interrogation is beginning to replace outdated, ineffective, and problematic methods that have traditionally pervaded interrogation training schools.

While much has been gained through the diverse research portfolio developed by the HIG, we are only at the beginning of a renaissance in understanding effective interview and interrogation approaches. We conclude our review by considering several avenues for future research that will continue to advance both science and practice. In doing so, we contextualize these important avenues of further inquiry with respect to key interrogation processes identified in Figure 2, and consider factors that relate to the translation of research to practice, as well as other contextual variables that have been largely neglected by the literature.

Cooperation

Although the HIG research program has demonstrated that rapport-based approaches to interrogation are more effective than guilt-presumptive, accusatorial methods, there remains a need to better understand the concept of rapport by disentangling it from related constructs such as persuasion and trust. By theoretically distinguishing rapport and its related concepts, researchers can develop more nuanced approaches to measuring and facilitating cooperation across a variety of settings. It will also be critical to develop scales that allow for the reliable and systematic measurement of rapport in the interview and interrogation context. Finally, researchers should also consider conceptualizing psychological resistance in the interview and interrogation context (cf. Fransen, Smit, & Verlegh, 2015; Knowles & Riner, 2007), and relating such a taxonomy to effective approaches for developing rapport, trust, and ultimately cooperation.

Elicitation

Further research is needed with respect to eliciting information, particularly with regard to subtle elicitation. While we know much about how to facilitate memory recall and explicitly encourage subjects to provide a complete and accurate account, we know less about how to collect information when a subject's aim is to mask the depth of their knowledge and to intentionally avoid revealing critical information (i.e., an information management strategy). This could include how to effectively "counter" a subject's counter-interrogation strategies or to steer conversations without explicitly introducing a topic of interest.

Evidence Presentation

More than two decades of systematic research into the SUE technique has resulted in a blueprint for strategically disclosing evidence to identify inconsistencies. Less is known, however, with respect to the versatility and application of the Scharff technique. For example, we know little about the threshold for establishing a knowing-it-all story, or how different settings (e.g., regulated, mundane) or situations (e.g., the interviewer cannot share information or the subject holds details the interviewer could not possibly know) might affect the technique's "illusionary" effects. In addition, there are few studies investigating the combined effects of establishing oneself as knowledgeable while strategically withholding key pieces of evidence. Given the various contexts and situations in which human intelligence gathering occurs, this particular line of research may offer substantial benefits to effective elicitation models.

Credibility Assessment

While recent research has offered reliable cognitive methods for eliciting cues to deceit, challenges remain with respect to developing effective interview and interrogation approaches that facilitate credibility judgments. For example, little research exists comparing statements of lies and truth told by the same individual (see Vrij, 2016), or involving subjects who attempt to embed their lie in well-known frameworks (e.g., lying about people they know). In addition, it will be important to evaluate the impact of scrutinizing the credibility of a subject during an interrogation and understand how this might influence cooperation and disclosure. On a related note, researchers have only recently begun to experimentally investigate the elicitation of information from people who threaten to commit harm (Geurts, Granhag, Ask, & Vrij, 2016), including distinctions in the strategies adopted by those who bluff and those who intend to actualize their threat (Geurts, Ask, Granhag, & Vrij, 2016). Given the increasing importance of threat assessment to modern policing, the development of evidence-based interview and interrogation protocols in this area is critical (van der Meer & Diekhuis, 2014).

Training and Field Validation

Researchers have begun to conduct systematic training and field validations that demonstrate how evidence-based methods can improve practice. Future efforts in this area should include evaluating the potential effectiveness of independent learning or Web based delivery of training, as well as the longevity of training effects and the potential importance of "top-up training" over time. This research also relates to increasing our understanding of advancing expert performance (Hoffman et al., 2013), which will ultimately assist trainers in transfering skills without a concurrent decay in performance over time. Further research on the use of scenario-based learning and "red team" exercises is also critical given the potential benefits of simulating the context within which law enforcement, national security, and military personnel operate.

Culture and Language

Practitioners have expressed interest in understanding the influence of cultural variation on approaches that facilitate cooperation and disclosure; however, researchers have only recently begun to address this topic. Much of the relevant cross-cultural literature is situated within the negotiation setting—as such, future research must consider the extent to which such findings will translate to the interview and interrogation context. Additional research is also needed to understand the role of interpreters and their potential for positive versus negative influence in the interrogative context, including how they might facilitate cooperation with the subject via cultural and linguistic similarity or the use of rapport-based tactics.

Additional Factors

As a final note, we would like to propose several additional factors that have received less attention but may prove rather important. First, the majority of studies on interrogation have investigated single interviews contexts, thus excluding an understanding of interviews conducted over time that may require promoting continued relationships (see, Granhag, Kleinman, & Oleszkiewicz, 2016; Oleszkiewicz, Granhag, & Kleinman, 2017b). Second, both criminal and intelligence interrogations often center on exposing information related to human social networks; however, little research has focused on tactics or approaches that promote the elicitation of information that may be distributed across persons. Third, to our knowledge there are no studies that have empirically examined time critical interviews. Such interviews, often referred to as "safety," "imminent threat," or "urgent" interviews, are intense interactions that could include the elicitation of life saving intelligence. Tactics related to the speedy development of rapport and elicitation of such important information is vital to countering advocates of torture who regularly reference the "ticking time bomb" scenario. Finally, effective critical thinking and decision skills are necessary for any interviewer; however, few studies have examined interviewers' naturalistic decision making in the midst of an interrogation.

In closing, we believe that the HIG research program has offered an unprecedented opportunity for scholars in this area to develop a "science of interviewing and interrogation" that is now beginning to influence training and practice both in the United States and around the world. Built upon a foundation of psychological research that identified many of the challenges of forensic interviewing, this program has facilitated the development of effective practices for developing cooperation and rapport, eliciting information, challenging inconsistencies by presenting evidence or information, and assessing credibility using cognitive cues and strategic questioning tactics. The program has also begun to offer a nuanced understanding of the influence of culture and language, and it has both challenged and facilitated scholars' ability to move this research from the laboratory to the field. Researcher-practitioner partnerships have served as a cornerstone of the HIG research program, including important relationships that have been developed with federal training facilities and training personnel. Additional research that addresses the issues identified above is vital to sustaining the positive momentum that has developed and to offering a coherent and effective model of interrogation that is legal, ethical, and evidence-based.

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Call for Nominations

The Publications and Communications (P&C) Board of the American Psychological Association has opened nominations for the editorships of the *Journal of Experimental Psychology: Animal Learning and Cognition, Neuropsychology,* and *Psychological Methods* for the years 2020 to 2025. Ralph R. Miller, PhD, Gregory G. Brown, PhD, and Lisa L. Harlow, PhD, respectively, are the incumbent editors.

Candidates should be members of APA and should be available to start receiving manuscripts in early 2019 to prepare for issues published in 2020. Please note that the P&C Board encourages participation by members of underrepresented groups in the publication process and would particularly welcome such nominees. Self-nominations are also encouraged.

Search chairs have been appointed as follows:

- *Journal of Experimental Psychology: Animal Learning and Cognition*, Chair: Stevan E. Hobfoll, PhD
- *Neuropsychology,* Chair: Stephen M. Rao, PhD
- *Psychological Methods,* Chair: Mark B. Sobell, PhD

Candidates should be nominated by accessing APA's EditorQuest site on the Web. Using your browser, go to https://editorquest.apa.org. On the Home menu on the left, find "Guests/Supporters." Next, click on the link "Submit a Nomination," enter your nominee's information, and click "Submit."

Prepared statements of one page or less in support of a nominee can also be submitted by e-mail to Sarah Wiederkehr, P&C Board Editor Search Liaison, at swiederkehr@apa.org.

Deadline for accepting nominations is Monday, January 8, 2018, after which phase one vetting will begin.