

BOOK REVIEW

Detecting Deception – Current Challenges and Cognitive Approaches

Review by Mark Handler

Detecting Deception – Current Challenges and Cognitive Approaches Edited by Par Anders Granhag, Aldert Vrij and Bruno Verschuere. 368 pages January, 2015. Wiley Blackwell Publishing. ISBN: 978-1-118-50975-3

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I had the great fortune to receive a review copy of this book and would like to share my thoughts in hope of interesting readers in increasing their knowledge of the burgeoning field of cognitive approaches to credibility assessment. The text boasts a list of some of the leading and most respected contributors and researchers in their respective fields from multiple countries including the USA, describing recent findings in these areas. This book is a part of the Wiley Series in the Psychology of Crime, Policing and Law which is dedicated to consolidating and publishing on current trends and findings in the associated literature. The series is geared towards the practitioner as much as it is towards researchers. The stated goals of the series is to take findings from basic research and apply it to real world problems with a goal of providing guidance to those who practice in the field and make policies for the field.

Each chapter is written by a leading researcher in the field addressed. The authors lay out the issues to be addressed, review literature on the subject, attempt to describe overall findings, discuss known limitations and make recommendations for application and future studies. The book is thoughtfully divided into three sections: Section 1 is Deception Detection; Established Approaches, Section 2 is Current Challenges, and Section 3 is Improving Lie Detection: New Approaches. Within each section, chapter authors tackle aspects relating to the section. Each chapter is replete with a comprehensive reference list. I will list each chapter and the authors, provide an overview and my opinion of material covered as it relates to credibility assessment practice.

Section 1, Deception Detection: Established Approaches

Chapter 1 begins with Aldert Vrij writing on Verbal Lie Detection Tools. He comprehensively covers Statement Validity Analysis (SVA), Criteria Based Content Analysis (CBCA), Reality Monitoring (RM) and Scientific Content Analysis (SCAN). Anyone familiar with Professor Vrij knows he pulls no punches when it comes to factual analysis of findings and literature. His writings in the area of credibility assessment are some of the most important to date. In this chapter he describes each tool, including the history behind it, a good description, the supporting, non-supporting or lacking research findings and a summary. I especially appreciated his concise and thorough review of the SCAN tool, as it is taught here in the United States and reported to be applied often in criminal investigations. Professor Vrij points out the SCAN is not scientific, a-theoretical and has no theoretical justification for the underlying construct validity. In fact, a number of the criteria assessed by the SCAN method are completely opposite of those from the validated CBCA. He closes by stating: “Research has yet to demonstrate that SCAN actually works.” This closing comment raises the issue of questionable diagnosticity and should be food for thought for the investigator when comes the time of choosing a credibility assessment tool.

Chapter 2 “New Findings in Non-Verbal Lie Detection” is written by C. Bond, T. Levine and M. Hartwig. These authors focus on non-verbal cues to detecting deception which are possibly the most informative, yet least researched areas of credibility assessment.



They provide a review of theoretical history and empirical evidence for non-verbal cues. They then review contemporary research on deception judgements and detection accuracy. Anyone interested in our field should read this chapter as it can really help understand the difference between subjectively reported and objectively used cues. It also offers a prescriptive view on improving deception detection strategies and training.

Chapter 3 “The Polygraph: Current Practice and New Approaches” by E. Meijer and B. Verschuere is perhaps the only disappointing chapter in the book. Seven of the seventeen pages of Chapter 3 deal with the authors’ preferred technique, the Concealed Information Test (CIT). They provide a consolidated review of the literature on the CIT, including the poor performance reported in field testing. For a more comprehensive review of the CIT see the Verschuere, Ben-Shakhar & Meijer (2011) CIT treatise “Memory detection: theory and application of the Concealed Information Test.” Surprisingly, the other ten pages in the chapter are used to disparage the Comparison Question Test (CQT) with an unbridled uneducated bias. The chapter completely eludes recent research and peer-reviewed publications upon the CQT, including meta-analytic studies and even documented literature reviews such as that by Raskin in “Credibility Assessment” (Raskin, Honts & Kircher, 2014). In the end, this chapter may offer more to the epistemologist or sociologist of sciences interested in the study of human factors such as motivation and biases in science, than to the credibility assessment professional.

Chapter 4 was written by the well-known Professor William Iacono of the University of Minnesota. While Professor Iacono’s primary research interest is the study of mental disorders and addictions, he has researched and published extensively on credibility assessment tools, especially polygraph. His current chapter in this book is titled “Forensic application of Event-Related Brain Potentials to detect guilty knowledge.” The chapter brings the reader up to date on the state of the art of using ERP instead of autonomic responses in a CIT paradigm and gives case examples where ERP was shown to be successful. He provides a basic description of ERP, including the P300, and explains how it is used to monitor

the salience of the target questions. Perhaps the best part of the chapter is how Professor Iacono thoughtfully discusses the two laboratories currently leading the development and testing of ERP in a CIT paradigm. Those two labs are led by Dr. Lawrence Farwell and Professor J. Peter Rosenfield. The former has a more commercialized approach, while the latter has produced the vast majority of research on the technique. The author highlights the benefits and contributions of both, notes potential limitations, but reserves negative attacks. He closes with suggestions on making better use of the technology in field settings and reminds the reader a positive finding is like finding a suspect’s DNA or fingerprint at the crime scene. As with the autonomic CIT, field research cautions us that a negative finding is relatively uninformative. He reminds us that the CIT is not going to be amenable to all criminal investigations but careful response by first responders and detectives can broaden its applicability.

Chapter 5 “Deception Detection using Neuroimaging” was written by G. Ganis. Credibility assessment practitioners and experts are often asked about alternative technologies, and usually neuroimaging comes up. This chapter is one of the best I have read yet at synthesizing the fMRI research on the topic. It includes concerns about the practicality of field use, the testing paradigm limitations and susceptibility to countermeasures. It also provides the standard basic overview of the technologies for the reader. The author concludes that “the evidence suggests that current methods and paradigms are not even remotely suitable for field applications.”

Section 2, Current Challenges

The second section of the book deals with current challenges in the credibility assessment field, as its title suggests. It begins with chapter 6 “Exploring the nature and origin of beliefs about deception: implicit and explicit knowledge among lay people and presumed experts.” The authors, M. Hartwig and P. Granhag tackle the thorny issue of trying to get at just why current lie detection efforts fail. The credibility assessment field was treated to an epiphany in 2011 courtesy of a lens model meta-analysis of human lie judgement by M. Hartwig and C. Bond. These authors found



evidence that supported the weak objective cue hypothesis over the wrong subjective cue hypothesis. They also found that people do not explicitly state the cues they actually use to infer deception judgements. In other words, if you ask someone what it looks like when a person lies, they report cues they actually don't really rely most heavily upon to make deception judgements. This chapter takes the reader through that and other related research to help understand the difference between implicit and explicit cues used to make judgements about deception. They offer ideas on the origin of deception belief to help enable an understanding of why incorrect beliefs endure.

Chapter 7 deals with discriminating between true and false intentions. The authors, E. Giolla, P. Granhag and A. Vrij take a look at whether the techniques we use to try to assess lying in the past are applicable to lying in the future.

Chapter 8 written by P. Taylor, S. Larner, S. Conchie and S. van der Zee deals with cross-cultural deception detection. I found this chapter to be one from which I personally gleaned a great deal. I had not given the type of in-depth consideration to cultural differences in detecting deception. I have had trainings and read articles on cultural sensitivity, but had not truly considered the research and putative reasoning for the need to be culturally sensitive. The authors do a fine job of describing current research in cross-cultural behaviors and judgements relating to those behaviors. They discuss moderating factors like cultural acceptability of deception that translate into individual feelings and attitudes about lying. They include a review of the Global Deception Research Team 2006 study and relate it to behavioral norms of different cultures. An interesting moderator is the language the receiver is exposed to during the conversation and how that affects bias. Research suggests a lie bias for judging statements made in a second language. A very important finding is that cross-culture deception judgments are improved by exposing the receiver to people from other cultures. Cross cultural bias seems to be reduced simply by exposing a person to the target culture. The chapter explores deception judgment errors related to cultural roots and offers suggestions

for mitigating the effects.

Section 3, Improving Lie Detection: New Approaches

Chapter 9 begins the section most readers will find helpful - techniques to apply in the field to improve performance and reduce mistakes. Aldert Vrij is one of the world's leading authorities on the subject of "A cognitive approach to lie detection", the title of this chapter. He has conducted extensive lab, field and literature research in this area. This chapter is a consolidation of a number of his earlier writings advocating a "cognitive load" approach to deception detection. By increasing the cognitive load a liar's story may be less plausible, less detailed, have less of an overlap of details already known and a difference in the quantity and quality of detail between anticipated and unanticipated questions. These are some of the very cues lie-catchers implicitly rely upon when assessing statements. The author provides several suggested strategies to increase cognitive load and expected deception cues.

Chapter 11 is "The strategic use of evidence technique: a conceptual overview" by P. Granhag and M. Hartwig. This chapter not only summarizes the S.U.E. (one of the most successful, researched and promising questioning strategies) but describes the underlying reasons for how and why it works. The theoretical overview includes the suspect's perspective of the evidence, the suspect's counter-interrogation strategies, their verbal responses, and the interviewer's perspective-taking on these. The conceptual overview guides the reader through the causal relationship of the S.U.E. principles. There is a well-written description of how and when to apply the S.U.E. tactics written in phases that each build upon one another. The chapter closes with some suggested themes for future use of the S.U.E. and discusses limitations.

Chapter 11 by G. Ganis is titled "Investigating deception and deception detection with brain stimulation methods." It discusses using Transcranial Magnetic Stimulation (TMS) and Transcranial Direct Current Stimulation (TCDS) to stimulate parts of the brain could inform us on deception processes. The chapter describes the few (about ten) studies



to date and their mixed findings. It closes with discussion of the ethics surrounding adjusting natural feelings associated with lying.

Chapter 12 is a very interesting review on a promising technology, Reaction Time (RT). The authors, B. Verschuere, K. Suchotski, and E. Debey provide an introduction to the concept of RT, a description of some of the conditions under which RT may be used to infer deception and some of the RT-based paradigms for detecting deception. B. Verschuere is arguably one of the foremost experts in the field of RT as applied to deception detection. He and his colleagues have adapted the RT to be able to be used in a CIT paradigm. Some of the benefits of RT is it can be administered remotely and it takes about 10-15 minutes to conduct. The chapter also describes the Autobiographical Implicit Association Test (AIAT) which uses RT as an indirect attitude test. Some things people just don't want to talk about truthfully or openly (e.g. their position on sexual orientation attitude, politics, abortion, etc.). The AIAT is designed to test for these things implicitly by asking associative questions (Muslim/Christian) and offering choices like "good/bad" for each. This can be adapted to detecting deception by pairing "True/False" answers with crime related statements. Studies showed the AIAT could differentiate truthful from deceptive statements at greater than chance levels.

Chapter 13 is a very interesting chapter titled "Suspect's verbal counter-interrogation strategies: toward an integrative model." The authors P. Granhag, M. Hartwig, E. Gijolla and F. Clemens provide an introduction and background information on the concept of counter-interrogation strategies. This is a fascinating way to think about interrogations in terms of how truthful and deceptive people approach an interrogation. What are the different strategies with which they approach an interview and how do they each compare to one another? How do their plans and strategies effect how they disclose or manage information? The chapter reports on basic findings on counter-interrogation strategies from research and offers a causal model to consider. The causal model deals with suspect-related factors, such as their perception of the existing evidence (or to be developed evidence) and their experience with law-enforcement.

There are also interview-associated factors to consider such as the degree of suspicion felt by the suspect and the type and number of interview/interrogation approach being used. Finally there are crime-related factors that are unique to any particular crime. This chapter causes one to reflect on the fundamental differences with which liars and truth tellers would approach an interview and ways to exploit those differences.

Chapter 14 is titled "Covert detection of deception" and was written by E. Elaad. The author describes some of the generally accepted underlying theories of deception detection. He does a nice job of summarizing the micro-expression technologies. He points out that a recent article in *Nature* (Weinberger, 2010) suggests scientists do not embrace the micro-expression data by the developer P. Ekman. In fact, the chapter goes on to state that scientists were unable to replicate the Ekman data. I found this interesting as many times people inquire on micro-expressions. There is a small section discussing polygraph and the CQT and CIT and the author does yeoman's work of debunking the voice stress technology. He discusses eye-tracking technologies including; pupillary size and blink rates fixation durations. He only mentions the new technology developed at the University of Utah (EyeDetect) and omits discussing the research that supports this promising technology. He closes out with thermal imaging and a detailed discussion of covert breathing movement measurements.

Summary

Overall this book is an excellent review of the state of most credibility assessment tools or techniques. With the exception of the woefully poorly documented and unbalanced review of the CQT in chapter 3, this book is a "must read" for researchers, practitioners and end-users in this field. For a balanced and complete review of the CQT, see the Raskin, Honts and Kircher book *Credibility Assessment, Scientific Research & Application*.

Some of the most useful information comes in the form of interview strategies shown to improve deception detection, while protecting the suspect from false admissions, turned false confessions, turned wrongful



convictions. Moving toward a cognitive-based investigative interviewing versus a confession-focused strategy is at the heart of a number of these suggested improvements. Section 3 provides excellent suggestions that would further justice by helping to identify the culprit, while protecting the innocent.

All practitioners, researchers, and consumers could benefit from reading this book. It is an excellent reference for almost all items covered. As alternative technologies develop and improve, it behooves us to stay abreast and open-minded. One of the most promising technologies to date, EyeDetect, received only a brief mention in this book, possibly due to the author not having access to literature

on the subject. As pointed out, other technologies (e.g. P300 CIT, Reaction Time, and EyeDetect) hold promise and have been used in real-world settings. Shuttering our minds to technologies and methods other than polygraph and interrogation-focused interviewing are likely to leave us behind. This new publication is another marker indicative of the rich and intense research effort deployed toward developing theoretically and empirically well founded credibility assessment methods that have high diagnostic value. I highly recommend this book to all examiners interested in improving their knowledge on cognitive approaches to interviewing, ethical interrogative strategies and avoiding false confessions.

