Wiley Series in the Psychology of Crime, Policing and Law

Detecting Deception

Current Challenges and Cognitive Approaches

Edited by Pär Anders Granhag, Aldert Vrij and Bruno Verschuere

WILEY Blackwell

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Detecting Deception

Wiley Series in

the Psychology of Crime, Policing and Law

Series Editors

Graham M. Davies and Ray Bull

University of Leicester, UK

The Wiley Series in the Psychology of Crime, Policing and Law publishes concise and integrative reviews on important emerging areas of contemporary research. The purpose of the series is not merely to present research findings in a clear and readable form, but also to bring out their implications for both practice and policy. In this way, it is hoped the series will not only be useful to psychologists but also to all those concerned with crime detection and prevention, policing, and the judicial process.

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Series Preface

The Wiley Series on the Psychology of Crime, Policing and the Law publishes reviews of important areas of contemporary research. Books in the series not only present research findings in a clear and readable form, they also bring out their implications for both practice and policy. Thus, books in the series are not only of use to psychologists but also to all those concerned with policing, crime investigation and prevention, and judicial processes.

The current volume has a focus on the detection of deception and of truthfulness. Each chapter commendably commences with a clear statement of the main issues to be addressed. Chapter 1 overviews three techniques for assessing the veracity of verbal accounts and importantly it then compares these with United States Supreme Court guidelines regarding the admittance of expert evidence. Chapter 2 has a complementary focus on the possible use of non-verbal techniques and innovatively contends that those cues which might be the most useful are those that have relatively rarely been researched. It also mentions some crucial research on the effects of people having the appearance of being honest/deceptive. Chapter 3 interestingly highlights the promises and pitfalls of the use of polygraph procedures for the detection of truthfulness/deception, and it also presents new research on trying to extract/determine information not yet known to the investigator. Although this chapter does not review 'countermeasures', this is done in Chapter 4 on the use of event-related brain potentials. That chapter also importantly mentions procedures that should prevent participants trying not to attend to the stimuli being presented, though more work is needed on how best to try to detect those who have 'guilty knowledge' because they are falsely 'confessing' on behalf of someone else who has passed on that 'knowledge' to them.

Chapter 5 is on the possible role of brain imaging (i.e. functional magnetic resonance imaging, fMRI) which focuses on the 'mental states' that may be associated with lying/truth-telling, rather than on other detection phenomena (such as contradictions in what a person says). It offers some optimism that when further research has been conducted, such a procedure may turn out to be of some use in certain situations (e.g. when the person being tested agrees to have their brain activity monitored). Chapter 6 examines the beliefs that most people have about the behaviours associated with lying, which seem to be rather similar across the cultures studied to date. A limited number of such beliefs are supported from research on actual cues, such as plausibility/coherence/inconsistency and amount of details. Interestingly, prison inmates' views seem to be more valid than other people's. Lying about intentions is the focus of the following, innovative chapter, Chapter 7, which addresses the crucial question of whether what we know concerning lying about the past can fully generalize to lying about the future. However, lying about intentions may sometimes involve lying about past thoughts (of not yet conducted actions).

Chapter 8 importantly demonstrates that the accuracy of truth/deception detection can be poorer when made cross culturally and reminds us that cultural differences exist in the acceptability of deception. Chapter 9 adopts a 'cognitive load' approach, looking at interventions rather recently developed to try to enhance the difference in such load between truth-tellers and liars that may result in less plausible accounts/answers or fewer details being produced by liars (if people are interviewed/interrogated in ways that allow them to provide as much information as possible). The strategic use of evidence is the focus of Chapter 10 which meaningfully presents detailed explanations and examples of ways in which interviewers can reveal information to suspects not only in terms of the timing of such disclosures but also in the 'framing' of the information.

Chapter 11 examines the relatively new topic of what stimulating certain parts of the brain could tell us about deception processes. The few studies available to date have not produced consistent results. Whether it takes deceivers longer to react to certain items is covered in Chapter 12, which suggests that it might – though research on real life conditions is needed. Chapter 13 addresses the crucial topic of suspects' counter-interrogation/interview strategies on which little research has to date been published. Such strategies include those who are being deceptive saying as little as possible, thus it is important to interview these in ways that encourage them to speak/converse (as advocated for over 20 years now by the British PEACE approach). The final chapter, Chapter 14, focuses on 'covert' methods such as micro expressions,

voice stress, eye tracking, and facial thermal imaging, noting that these raise issues of ethics/consent/privacy. In addition, research on these topics has not produced consistent findings on possible efficacy.

One of the many strengths of this book is that its chapter authors appropriately mention the limitations of the available research, including their own work. Thus, the contents of this excellent book are believable.

Ray Bull, April 2014

Introduction

Deception, a deliberate attempt to convince someone of something the liar believes is untrue, is a fact of everyday life. DePaulo and her colleagues (1996) asked participants to keep a diary for a week of all their social interactions that lasted more than 10 min and to note how often they lied during these interactions. Almost all participants admitted that they had lied during the week they kept a diary. They lied in one out of every four social interactions and to more than 30% of all the people they interacted with.

The overwhelming majority of lies people tell are not serious, and many lies told in daily life are social lies (e.g. 'I like your hair cut'). Conversations could become awkward and unnecessarily rude, and social interactions, including friendships and romantic relationships, could easily turn sour if people were to tell each other the truth all the time. In order to maintain a good working relationship with colleagues, it is better to pretend to be busy when invited for lunch than to admit that you find their company boring and would rather avoid them. Similarly, it may be kinder to respond with enthusiasm when receiving an expensive present from a friend even when you don't like the gift. Social relationships benefit from people making each other compliments now and again because people like to be liked and like to receive compliments (Aron, Dutton, Aron, & Iverson, 1989).

However, sometimes the situation is different. Sometimes the lies that are told are serious, and we would like to detect them. Who would not have liked to know earlier that Mohammad Atta and 18 others came to the United States with the intention to carry out four coordinated suicide attacks on the New York Twin Towers, the Pentagon and the White House? In a similar vein, the police detective wants to know whether the suspect's alibi is reliable, the customs officer wants to

know whether the traveler really has nothing to declare, the immigration officer wants to know whether the asylum seeker's life in his native country is indeed in danger as he claims, and the employer wants to know whether the candidate is indeed as capable as the candidate says. Being able to detect these sorts of lies would benefit individuals or the society as a whole.

In order to detect serious lies, researchers have been examining how liars respond and how they could be detected. There are four general approaches to detect lies. Investigators could measure someone's (i) physiological responses, (ii) observe their behaviour, (iii) analyse their speech, or (iv) measure their brain activity.

Throughout history, it has been assumed that lying is accompanied by physiological activity within the liar's body. The underlying assumption was that the fear of being detected was an essential element of deception (Trovillo, 1939). Early lie detection attempts were based on the idea that fear is associated with a dry mouth. Therefore, the Chinese in 1000 B.C., but also people in India and Western Africa, used to force suspected liars to chew rice powder and then to spit it out. If the resultant powder was dry then the person was judged to have been lying (Kleinmuntz & Szucko, 1984; Trovillo, 1939). Based on the same dry mouth assumption, the accused in north Bengal was told to prove his innocence by applying his tongue to a red-hot iron nine times. The full extent of this ordeal becomes clear when one realizes that the accused was also instructed to carry the red-hot iron in their hands (Trovillo, 1939).

Analyses of non-verbal behaviour also have a long history, and it also assumes fear underlies deception. A Hindu writing from 900 B.C. mentioned that liars rub the great toe along the ground and shiver and they rub the roots of their hair with their fingers (Trovillo, 1939), and Münsterberg (1908) described the utility of observing posture, eye movements, and knee jerks for lie detection purposes.

Lie detection through analysing speech also became apparent throughout history. In around 900 B.C., a papyrus of the Vedas described how to identify a poisoner. In addition to some physiological and behavioural cues, it says that a poisoner 'does not answer questions, or they give evasive answers; he speaks nonsense' (Trovillo, 1939, p. 849). Tardieu, a French forensic expert, already acknowledged in the 1850s that in children's alleged sexual abuse cases, certain characteristics in the story needs to be considered, such as 'quantity of detail' (Lamers-Winkelman, 1999). Walker (1886), an American forensic medical doctor, claimed that mere reliance upon the physical examination in alleged child sexual abuse cases is unreliable. Rather, according to Walker, children should be encouraged to tell their stories in their own words, and

the way in which children tell their stories and the expressions they use are amongst the best guides to distinguish truth from deception in children (see Lamers-Winkelman, 1999).

Since the 1950s, the search for (non)verbal cues and physiological cues to deceit has accelerated. The development of methods to monitor neural activity non-invasively in humans, such as electroencephalography (EEG) and functional magnetic resonance imaging (fMRI), has enabled researchers to examine brain activity during deceit, the fourth way of detecting lies nowadays used to detect deceit. The use of EEG to detect deceit dates back to the late 1980s (Rosenfeld et al., 1988), whereas the first fMRI article on deception was published in 2001 (Spence et al., 2001).

THE PRESENT VOLUME

The field of 'deception detection' is one of the most expansive sub-fields of legal psychology. All major scientific journals in the field regularly publish papers on lie detection, and to date more than 150 articles about deception are published each year. Furthermore, most conferences on 'psychology and law' contain special seminars on how to detect deceit. Hence, it makes sense to now and then take stock of the field.

The present state-of-the-art volume differs from previous volumes in several ways. First, in addition to reviewing the most established approaches for detecting deceit, it also acknowledges a number of new challenges (e.g., how to discriminate between true and false intentions and how to covertly detect deceit). Second, the present volume takes a strong cognitive approach to deception detection. This in contrast to the more traditional anxiety-based approaches (basically, fear and/or anxiety is assumed to be stronger in liars than in truth tellers). The cognitive approach is visible by paying particular attention to the mental processes at play when lying and telling the truth. For example, the volume makes clear that concepts such as 'memory', 'cognitive load', 'reality monitoring', 'planning', 'episodic future thought', 'strategizing' and 'perspective-taking' are highly relevant for deception detection. Third, many of the chapters in the volume reflect a new wave in deception research – 'interviewing to detect deception'. For this new direction, the interviewer plays a vital role and the aim is to elicit and enhance cues to deceit by interviewing strategically (Vrij & Granhag, 2012). This new strand of research contrasts the traditional way of conducting deception detection research, in which observers assess short video clips in which there are few (if any) cues to deceit and truth.

The volume contains 14 chapters, organized into three main sections. The first section, 'Established Approaches', contains five chapters and offer comprehensive and up-to-date reviews of the most basic approaches to deception detection. The second section, 'Current Challenges', contains three chapters and draws attention to some current and future challenges in the field. The third and final section is 'Improving lie detection' and it contains six chapters. In this section, new and constructive approaches for detecting deceit are described and developed. All in all, we believe that the volume will be perceived as instructive for practitioners in the field and inspiring for academics.

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