

Chapter Seventeen

Evaluating Truthfulness: Detecting Truths and Lies in Forensic Contexts

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Introduction

I As Nietzsche (1967) asserted, lying is a fact of life. Indeed, on average, we all lie about three times a day and to about one third of the people with whom we interact (Ekman, 1992; DePaulo, Kashy, Kirkendol, Wyer & Epstein, 1996; Ford, 2006). Most lies are well intended, such as an omission (a type of lie) to spare someone's feelings or a fabrication (another type of lie) to make someone feel good (Ekman, 1992; Ford, 2006). Such lies could be viewed as altruistic in nature and as having evolved to facilitate socialization (Nietzsche, 1967). Less commonly, lies are markedly more self-serving (e.g., for self-protection), if not downright manipulative and/or malevolent (e.g., to avoid punishment and/or gain an undeserved reward; Cooper & Yuille, 2006). Although less common in the general population, selfish lies, which could be viewed as a product of natural selection, are relatively prominent in forensic

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contexts (Spidel, Hervé, Greaves, Cooper & Hare, 2003), where their impact can have disastrous effects (e.g., lead to the guilty being freed or the innocent jailed). Not surprisingly, lying in general and lying for selfish reasons in particular have received a great deal of scholarly attention throughout history.

The goal of the present chapter is to provide an overview of the research on skill-based, as opposed to technology-driven, methods for evaluating truthfulness (i.e., differentiating truths from lies via verbal and nonverbal channels) and to introduce an evidenced-based approach that promotes the state of the art in this area. First, the complex nature of distinguishing truths from lies is discussed, followed by a brief review of the extant approaches in this area. Next is an overview of the research on the topic, including its limitations. The focus then turns to a review of the research on individuals' abilities to distinguish truths from lies and a discussion of barriers that often prevent people from being able to reliably evaluate truthfulness. Following, evidenced-based components involved in improving individuals' capacity to distinguish truths from lies are presented. Finally, an approach to evaluating truthfulness is introduced, including its strengths and limitations. It is hoped that the chapter will provide a foundation from which to improve the capacity to reliably distinguish truths from lies.

The complex nature of evaluating truthfulness

Lying and its evaluation are an inherently complex topic. For example, what constitutes a lie depends largely on one's motivation, which itself reflects, at least in part, the triggering event and the context in which the lie occurs. Clearly, lying about not liking your partner's new hairstyle is emotionally less intense and cognitively taxing than lying to the police about your involvement in a murder (i.e., different triggering events). Similarly, a criminal lying to peers in a bar about some misdeed is likely to feel very different about the same lie committed in a court of law (i.e., different contexts). In other words, one's motivation not only defines the interaction (truth or lie), but also dictates how it will reveal itself, both qualitatively and quantitatively.

For the purpose of the present chapter, a lie is defined as the deliberate intention to deceive another person without prior notification (Ekman, 1992). For example, a financial adviser who provides poor investment advice is viewed as lying if she or he knows their advice is poor yet represents it as good, but is not seen as lying if the advice is well intended and proves to be poor. As another example, a woman with a *bona fide* paranoid delusion, who states that she is Mary Magdalene, is not lying, while a woman deliberately feigning a delusion during a psychological examination is lying.

In order to detect lies, one needs to understand the nature of truth-telling, which adds to the complexity of evaluation. That is, one needs to gain knowledge and skills in two distinct but related areas: how to identify truths when they are present and how to detect lies when they are present. Expertise in only one of these areas will undoubtedly lead to many errors, with the *expert*

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truth-seeker missing many lies (i.e., false negatives) and the *expert* lie-catcher missing many truths (i.e., false positives). For this reason, we have moved away from the popular nomenclature of ‘lie detection’ or ‘credibility assessment’, choosing instead to describe the differentiation of truths and lies as ‘evaluating truthfulness’.

The practice of evaluating truthfulness is inherently complex as it never occurs in a vacuum, in contrast to the vast majority of laboratory research on the topic. The focus of most research and practice in assessing truthfulness is usually in the context of some formal or quasi-formal assessment. This can be a police interview of a witness or suspect, a customs agent interviewing an incoming passenger, a salesperson talking to a potential client, a lawyer conducting a discovery or a mental health professional doing a forensic examination. Evaluating truthfulness in the context of an assessment involves multi-tasking as, in addition to evaluating truthfulness, the assessor is always involved in other tasks (e.g., forming the next question, listening to the interviewee, monitoring professional tasks). Multi-tasking inevitably makes the evaluation of truthfulness more difficult. Indeed, evaluating truthfulness is a difficult task by itself, something that is exacerbated whenever there are any distracters. Adding to its difficulty is the reality that evaluating truthfulness is dynamic in nature. That is, the task will change during a single interview, as well as across interviews: an interviewee may lie about a particular topic at one point but not at another, or may display a lie about a particular topic differently at different times (e.g., verbally at first but non-verbally subsequently). As is emphasized below, research indicates that there is no lie response and, therefore, truthfulness must always be inferred. Sometimes, what appears to be an indication of a lie may turn out to be an indication of something else; therefore, the accurate evaluation of truthfulness requires repeated reassessment of one’s hypotheses and conclusions (see below).

The complexity of evaluating truthfulness is enhanced by the presence of both individual and cultural differences. For example, individuals differ in their motivations for lying and telling the truth (Ekman, 1992; Cooper & Yuille, 2006; Spidel et al., 2003), as well as their ability to deceive and/or detect deception (Ekman & O’Sullivan, 1991; Porter, Woodworth & Birt, 2000). In addition, although some of the clues to deception that are reviewed below are cross-cultural, others are culturally specific. For example, the facial expression of anger appears to be universal (Ekman, 2003), however, the triggers that cause anger are thought to be, at least in part, culturally determined. To complicate matters further, individual difference variables must always be interpreted in terms of context and a host of other factors. For example, just because a forensic assessor knows that she or he is dealing with an interpersonally gifted psychopath with a penchant for lying does not mean that everything that the psychopath says during the interview(s) is deceptive.

Clearly, the complex nature of conducting evaluations of truthfulness poses considerable challenges for both practice and research. That said, it is important to note that these challenges are not insurmountable obstacles but rather roadblocks to be carefully navigated. Before turning our attention to the

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impact of these obstacles, as well as ways around them, we briefly review a number of contemporary methods available for evaluating truthfulness.

Approaches to evaluating truthfulness

There is a long history associated with discriminating truth from lies. For example, Ancient Egyptian papyri, as well as records of classical Chinese courts, included hints or recommendations on how to discriminate a truth-teller from a liar (Ford, 2006). However, the twentieth century witnessed an explosion of both theory and technology related to evaluating truthfulness. The approaches that have developed can be classified into two basic types: those that are technology-based and those that are skill-based. Technology-based techniques for discriminating truth from lies can be classified as either psychophysiological or neuropsychological in nature. The best known of the psychophysiological techniques is the polygraph, which measures heart rate, skin conductance and respiration while a person is answering a number of questions. The polygraph is often mislabeled a lie detector test. The polygraph does not detect lies; it detects stress. Perhaps the most effective aspects of the use of the polygraph are the polygraphers, who are often excellent interviewers, and the fact that the polygraph detects change, a core aspect to our proposed approach to evaluating truthfulness (see below). The polygraph is a useful tool, but it has a focused use (e.g., criminal suspect investigations and national security) and can produce both false-positive and false-negative errors (National Research Council, 1996).

In terms of more recent technological advances, a number of companies have been promoting and selling voice stress analysers as lie detectors (for a review, see Vrij & Granhag, 2007). Such devices detect changes in the pitch and tension of the voice and there is no question that detecting change is an important aspect in evaluating truthfulness. However, although changes in the voice can be a clue to deception, voice characteristics are unreliable as a single basis for evaluating truthfulness (Vrij & Granhag, 2007), largely due to the fact that vocal changes can occur for a variety of reasons (see below). A more promising approach relies on thermal imaging, which measures temperature changes in the body. Not only has the technology evolved to allow for measures to be taken covertly at a distance, recent research suggests that there may be reliable thermal changes (e.g., on the face, particularly around the eyes) when a person is being deceptive (Vrij & Granhag, 2007). Research is also currently being conducted on the value of a functional magnetic resonance imaging (fMRI) and other techniques for assessing brain activity as a method for discriminating truth from lies (for a review, see Spence *et al.*, 2004). Although promising, it is important to note that these technological advances are in their infancy and require equipment that is intrusive, non-mobile and expensive. Accordingly, it would be premature to draw firm conclusions regarding the applied utility of such techniques.

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Although technology-based approaches to evaluating truthfulness have their merits, there are a number of advantages of skill-based techniques. The main advantage of skill-based techniques is that they are extremely portable and unobtrusive. Skill-based assessment techniques typically fall into two general categories: those that rely on the assessment of verbal behaviour and those that focus on non-verbal aspects of behaviour. Verbal clues to truth and deception include the content of speech, the style of speech and voice characteristics (Horowitz, 1991; Porter & Yuille, 1996). Nonverbal clues are generally separated into those related to the face and those related to the rest of the body (Ekman, 1992; Ekman, O'Sullivan, Friesen & Scherer, 1991). The approach to skill-based assessment of truthfulness introduced in this chapter involves the integration of all of these channels of information, both verbal and nonverbal (see below).

As with technology-based approaches, there is no single verbal or nonverbal channel that clearly communicates deception. Rather, research and clinical-forensic experience suggest that it is the change in a particular channel and/or inconsistencies across channels that are particularly revealing (for a review, see Griesel & Yuille, 2007). Viewed in this context, research is beginning to demonstrate that skill-based approaches parallel technology-based approaches in terms of reliability and validity, without, however, the pitfalls associated with reliance on technology. Even proponents of technology-based approaches (e.g., polygraphers) understand the merit of skill-based methods.

Research on evaluating truthfulness

As noted above, the approach to evaluating truthfulness introduced in this chapter is research-based. Before this approach is outlined, it is important to discuss certain conceptual and methodological limitations inherent in this line of research. The basic difficulty in conducting research on evaluating truthfulness stems from the complexity of the topic itself (as defined above). In fact, we argue that current research methodology and associated statistical procedures cannot do the topic justice in terms of identifying and assessing clues to lies/truths and identifying how people evaluate truthfulness in the real world.

As with other areas in psychology, such as the field of eyewitness memory, most of the research that has been done on evaluating truthfulness is laboratory-based (for reviews, see DePaulo, Lindsay, Malone, Muhlenbruck, Charlton & Cooper, 2003; Griesel & Yuille, 2007). In a typical study, undergraduate volunteers are asked either to tell the truth or lie in highly controlled conditions. Often the motive for lying is weak (e.g., course credit, small monetary reward, praise) and the controls so stringent as to render the context psychologically sterile; thus, the generalizability of the findings to other contexts is limited. Indeed, one characteristic that discriminates relatively useful laboratory research from less useful research is the effort the researcher has put into developing effective or strong motivation for the participants in the laboratory

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study. Another factor is the multifaceted level attained by the mock design: the addition of variables often renders studies relatively more realistic. To approximate real-world scenarios more closely, we believe that research in this area should also attempt to vary the level of the participants' motivation according to the presence or absence of certain influencing variables. Evaluating truthfulness is both complex and dynamic; thus the research to support its techniques should be similarly complex and dynamic.

Field research (e.g., studies using tapes from criminal investigations; tapes from offenders discussing their crimes; tapes of people being interviewed at immigration entry points) generally does not have the motivational limitations of laboratory-based research (e.g., Cooper, Ternes, Griesel, Viljoen & Yuille 2007; Ternes, Cooper & Yuille, 2007). However, unlike laboratory studies, field research, although high in external validity, often lacks ground truth. Moreover, there is considerable variability in field research in terms of the manner in which ground truth is examined and measured. In other words, the nature and quality of the information determining ground truth is a major factor discriminating the scientific contribution of field research.

Irrespective of whether the research on evaluating truthfulness is laboratory- or field-based, research in this area has suffered from poor adherence to assessment training protocols. For example, one technique that is described in more detail below involves the assessment of the content of statements, i.e., Criteria Based Content Analysis (CBCA; Steller, 1989; Steller & Koehnken, 1989). It turns out that the response to training in this method is quite variable. In our experience, some trainees can learn this method and apply it reliably after two days of training, but others require weeks of training and practice before they are able to obtain the same degree of reliability. Some trainees, however, seem unable to acquire the methodology at all and research studies on this method of statement analysis have rarely taken this variability into account. Thus, researchers often end up with a mixed group of assessors rendering the study ineffective for evaluating the usefulness of the technique.

This area of enquiry is further limited by researchers' bias for quantitative research paradigms, often to the exclusion of qualitative approaches. To continue with the example of the CBCA, this approach to statement analysis is of a qualitative nature (Griesel & Yuille, 2007); however, researchers have shown a clear preference for statistical cut-off scores. Consequently, they often impose a quantitative structure on this qualitative assessment procedure, resulting in a distortion that often misrepresents research outcomes. As an aside, the same appears to be the case with structured clinical guidelines for the assessment of risk for recidivism. That is, even though it is the assessor's decision of the offender's risk level based on an overall evaluation of the risk factors examined that matters (Cooper, Griesel & Yuille, 2007), researchers have a preference to use numbers and cut-off scores to indicate low-, medium- and high-risk levels, which distorts the spirit of structured clinical judgement.

In addition to the methodological limitations reviewed above, this area of study is constrained by the limits of available statistical procedures. One of the main problems with applying traditional statistics to research on evaluating truthfulness is that statistics impose limits on the quality of the questions being answered. Indeed, while the practice of evaluating truthfulness is unique to the individual being assessed, it is often the case that researchers use group-based statistics that dilute these all-important individual differences. For example, some research suggests that examining body language has no or little valid role in helping evaluate truthfulness (DePaulo *et al.*, 2003; Vrij, Mann & Fisher, 2006). However, such research fails to consider the role of different types of body language (e.g., illustrators vs. manipulators vs. emblems), each having been found to relate to truthfulness differently (Ekman, Friesen & Scherer, 1978; Ekman, O'Sullivan, Friesen & Scherer, 1991). In fact, most research does not take into consideration the reality that, while certain types of body movements may increase in one person when he or she is lying, the same type of movement may decrease in another person when he or she is lying. Moreover, researchers build methodologies and thereafter rely on statistical procedures that assume that evaluating truthfulness is static in nature (i.e., is revealed at one point and/or consistently across lies/time) when in fact it is dynamic, changing within and across people and time. This raises another important point: although statistics appear to provide the context of objectivity and scientific integrity, the fact remains that the quality of the data that go into the analysis determines the quality of the results. No matter how sophisticated the statistical procedure employed, the above noted methodological issue will undoubtedly yield results of relatively limited practical utility. Accordingly, in reviewing the existing research, individuals are urged to do so cautiously and critically.

One potential solution to these problems is to employ a different method from that traditionally used in research on evaluating truthfulness: a series of case studies in which verbal and nonverbal behaviour are examined and determinations of truthfulness are made on an individual basis via an empirically-grounded and experience-informed approach (see below). With such an approach, quantitative and qualitative statistics could be utilized. While individual cases should be evaluated qualitatively, individual cases can thereafter be aggregated and analysed quantitatively. Not only would this approach serve to overcome the limitations discussed above, it would also help focus researchers on developing better-informed approaches to evaluating truthfulness as opposed to searching for the all-elusive 'signs' of deception. As expanded on below, such diagnostic signs have yet to reveal themselves and, moreover, are likely not to exist. Of course, single-case research designs come with their own complexities. That is, they are labour-intensive and costly, which may explain why this approach has never gained favour in such a competitive, publication-driven arena. Nevertheless, we argue that case studies will prove very useful in understanding how to evaluate truthfulness in applied contexts.

Pre-training accuracy in evaluating truthfulness

One of the major findings in the research on evaluating truthfulness is that it has been repeatedly demonstrated that most individuals, irrespective of professional background, are poor at distinguishing truths from lies. Ekman & O'Sullivan (1991) examined the ability of a large group of professionals and non-professionals, including police officers, secret service agents, polygraphers, psychiatrists, college students, to evaluate truthfulness by showing them a series of videos of individuals lying or telling the truth. Some video clips depicted individuals lying or telling the truth about their opinions on sensitive subjects, such as the death penalty, while others depicted individuals lying or telling the truth about their participation or non-participation in a mock crime. The researchers showed that there was no relationship between gender and the ability of the participants to tell who was lying and who was telling the truth. There was no relationship between years as an investigator/professional and the ability to evaluate truthfulness. There was also no relationship between confidence in one's ability to evaluate truthfulness and one's actual ability. Men have been found to be more confident in their wrong decisions (e.g., Porter, Woodworth & Birt, 2000), once again highlighting the importance of considering individual differences. The major finding from Ekman & O'Sullivan's (1991) study was that, as a group, participants were shown to be able to differentiate truth from lies only at chance levels. Only one subgroup, the secret service agents, was demonstrated to evaluate truthfulness at a level higher than chance (64%), although only marginally so and not to levels necessary for effective job performance. The flavour of Ekman & O'Sullivan's results has been replicated with different stimuli and participants, suggesting that most people, irrespective of profession and experience, cannot accurately evaluate truthfulness (Porter *et al.*, 2000).

Roadblocks to the accurate evaluation of truthfulness

Research has demonstrated that there are a number of roadblocks that prevent individuals from accurately evaluating truthfulness (Ekman, 1992; Hervé, Cooper & Yuille, 2008; Vrij, 2000). Heading the list is a lack of evidence-based knowledge and skills specific to evaluating truthfulness, which results in individuals relying on their 'experience' and/or popular myths (see below). More generally, another roadblock reflects a lack of critical thought. Critical thinking is a necessary, but not sufficient, component in conducting evaluations and to evaluating truthfulness within such evaluations. Each roadblock is discussed in turn.

In terms of lack of knowledge, research indicates that most individuals do not know what lies and truths look like (Akehurst, Kohnken, Vrij & Bull, 1996; Ekman & O'Sullivan, 1991; Porter *et al.*, 2000; Vrij, 2004). It is clear

that people rely on certain clues related to what they think lies and truths look like; however, research indicates that, more often than not, such heavily relied upon clues (e.g., all liars will experience anxiety/fear and, therefore, avoid eye contact; Ekman, 1992) are wrong. Such clues are simply myths, often perpetuated in the media and in professional manuals, but lacking empirical support.

With regards to skills, if the skills required for the job are lacking in breadth and depth, the job cannot be performed adequately. For instance, if evidence-based approaches are not used for the assessment of risk for recidivism, there will be substantial false-positive and false-negative errors made (Monahan, 1981). The same is true with respect to evaluating truthfulness: if the right 'tools for the job' are absent, it is impossible to do that job. This is especially notable in this context given that the vast individual differences in how people reveal their lies dictates a need for a vast arsenal for detecting lies. Nevertheless, it is sometimes the case that, even if people have the right tools for the job, they are using them in the wrong way. For example, individuals could be trained in proven approaches for investigative interviewing and in evaluating verbal clues to credibility (i.e., two approaches integral to evaluating truthfulness), but such skills could still be poorly applied (i.e., rigidly rather than fluidly and flexibly). It is likely that this especially occurs over time; that is, too often individuals fall prey to drift, thus illustrating the need for practice and quality control. Finally, sometimes individuals fail to use the tools at all. The consequences of the first generation of risk assessments studies are a case in point. In this generation, clinicians relied on their clinical opinion as opposed to empirically validated risk inventories, and errors were made more often than not (Steadman & Cocozza, 1974; Thornberry & Jacoby, 1979; for a review, see Monahan *et al.*, 2001). A similar lesson has been learned in the area of evaluating truthfulness: empirically validated tools are needed for the job!

Another roadblock relates to failing to consider how knowledge and skills change over time. Within any area in psychology – and most other disciplines for that matter – knowledge and skills change, as the evidence to support them changes. Consistent with most assessment practices, the accurate evaluation of truthfulness requires individuals to stay up to date with the literature. Moreover, professionals have an ethical obligation to stay current in the literature related to their areas of practice. Keeping up to date with the literature and implementing suggestions into clinical practice will prevent drift and related problems.

Although proper knowledge and skills are clearly important, a lack of critical thought is arguably the major roadblock to accurately evaluating truthfulness. Unfortunately, it is not uncommon for individuals to fail to evaluate each case on its own merits and to adopt a 'cookie cutter' approach to the task at hand. Such lack of objectivity can frequently be traced to internal or external factors. In terms of the former, poor psychological and/or physical health and/or egos too often impact on evaluators' decision-making. With regard to external factors, individuals may be pressed for time because of an onerous workload or unreasonable deadlines. Moreover, lack of objectivity

may relate to being biased *a priori* against the person being assessed. Lack of critical thinking also leads to a failure to consider alternative hypotheses. Just because a given question appears to be a ‘no-brainer’ does not mean that it should be treated as such. Indeed, the decisions that are made in the forensic arena affect the lives and well-being of many individuals and, therefore, alternative hypotheses must be considered before a conclusion is made. Finally, lack of critical thinking may lead to a failure to check and double-check conclusions drawn. The approach to evaluating truthfulness that is introduced in this chapter requires individuals to frequently re-evaluate their conclusions in light of the evidence that formed their conclusions. In fact, the business of evaluating truthfulness is so complex that it requires a conscientious, quasi-perfectionist approach.

The bottom line is that roadblocks to evaluating truthfulness need to be overcome. That is, individuals need to know about evidence-based practice in evaluating truthfulness. To this end, the following section outlines empirically-based training components for the accurate evaluation of truthfulness. These training components form the basis of the approach introduced in the following section.

Evidenced-based training components for the evaluation of truthfulness

A review of research on clinical decision-making in general and evaluating truthfulness in particular suggests that training in evaluating truthfulness involves four major areas: (i) bad habits need to be unlearned; (ii) evidence-based knowledge about evaluating truthfulness needs to be acquired; (iii) empirically-validated tools need to be learned and practiced; and (iv) a method that emphasizes critical thinking in evaluating truthfulness needs to be used; the latter of which is perhaps the most difficult area to train. Each component is discussed in turn below.

Unlearning bad habits

Unlearning bad habits requires knowledge. Without basic, empirically-based knowledge about evaluating truthfulness, individuals tend to make common errors. As some researchers have suggested that the state of the research in evaluating truthfulness is not yet adequate to support its use in practice (e.g., Vrij, Mann & Fisher, 2006), it is argued that, at the very least, individuals should be informed of the errors, or myths, that riddle their work, as well as methods to avoid committing such errors. Although many myths exist (see Ekman, 1992; Vrij, 2000), they can be broadly categorized as being either experiential or societal in nature, although these are not necessarily mutually exclusive categories.

Experientially-driven myths stem from individuals' personal experiences. For example, some people rely on what has been termed the 'me' theory of behavioural assessment (Ekman, 1992). That is, they assume people will behave as they do when telling the truth or lying. For example, when using the 'me' theory, if someone avoids eye contact when lying, this person will view others as lying when they avert their gaze. Unfortunately, this approach more often than not results in what has been termed the 'idiosyncratic error' – not taking into account the various unique behaviours of individuals (*ibid.*). Not only may individuals differ within a culture (e.g., some people often rub their noses; others manipulate the hair on their face routinely), research has begun to identify important cross-cultural differences as well (e.g., eye gaze has been found to vary across cultures; McCarthy, Lee, Itakura & Muir, 2006).

Some individuals, particularly those with experience in evaluating truthfulness, often rely on 'gut instincts' or on 'intuitions' about whether or not someone is telling the truth or lying. It is not suggested that individuals should ignore their instincts or intuitions; indeed, a recent review of research on intuition has demonstrated that, at least occasionally, intuition can point people in the right direction (Hodgkinson, Langan-Fox & Sadler-Smith, 2008). However, we suggest that instincts/intuitions should not be viewed as answers in and of themselves. Rather, they should be viewed as hypotheses to be tested against the available evidence. If the data do not support the person's intuition/instinct, there should be no reason for a conclusion to be made simply on intuition/instinct.

Another experientially-driven myth concerns the relationship between experience and accuracy in evaluating truthfulness. Regarding the findings on experience, the research has been mixed. Some (e.g., Ekman & O'Sullivan, 1991) report no benefit from experience, but others (e.g., Mann, Vrij & Bull, 2004) have shown a positive benefit from experience on detection of lies. Experience can also produce overconfidence, which unfortunately too often leads evaluators to become myopic and, therefore, to seek the same false clues time and time again. The research is clear: if people rely solely on their own idiosyncrasies and/or experiences as the basis for their judgements for evaluating truthfulness, they are likely to be wrong most of the time (see Ekman, 1992; The Global Deception Team, 2006).

Societal-driven myths reflect shared beliefs about 'the sign or signs' of deception or of truth-telling (Ekman, 1992; Ford, 2006). In terms of truth-telling, there are the common myths that maintaining eye contact and lack of observable anxiety are reliable signs of honesty. Conversely, there are the opposite myths that sweating, anxiety and/or fear are signs indicative of deception. This type of myth unfortunately results in what Ekman (1991) has termed the 'Othello error' (after Shakespeare's tragedy, *Othello*). Othello wrongfully believed that his wife, Desdemona, had been unfaithful to him. When he confronted her about her suspected infidelities, she presented as fearful. Desdemona had considerable reason to be fearful, as Othello had already

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murdered her suspected lover. Othello's error occurred when he misattributed Desdemona's fear of being disbelieved as evidence of her guilt. It is important to understand that fear of being disbelieved looks the same as fear of being caught in a lie. That is, spotting an emotion only informs us about its kind, not its source or cause (Ekman, 2003). Consequently, it is important to be mindful of the reasons why someone may be experiencing an emotion in a given circumstance.

Proponents of neuro-linguistic programming (NLP) suggest that looking up and to the left is associated with lying. However, there is no research to support this proposition. Not only does the research indicate that the direction of the eye gaze has no meaning, averting eye gaze could be a clue to concentration, could reflect one's attempt not to be influenced by the facial expression of interviewees/peers, and/or could be associated with lying. Again, the research is clear: there is no Pinocchio response indicative of deception (Ekman, 1992). That is, there is no particular physiological, physical or psychological response that individuals demonstrate when they lie that they do not also demonstrate when they are under stress and/or concentrating.

An error that reflects experiential influences but tends to be common within society, at least in Western culture, concerns the tendency to focus uncritically on verbal information to the detriment of nonverbal information, which appears to reflect the overemphasis on language development. Indeed, while children are known to be relatively proficient in nonverbal communication, adults – through socialization – have learned to focus more on the spoken word. As a result, facial expressions of emotions are, for example, usually ignored due to verbal overrides, particularly if the emotion displayed is at odds with what is being said. This speaks to the importance of active listening and actively observing simultaneously, another important aspect in the accurate evaluation of truthfulness.

Bad habits can also reflect ignorance about why truths and lies succeed, as well as why they fail. For example, although lies sometimes succeed in light of factors beyond evaluators' control, such as the liar's skill and preparation, lies too often succeed because of a lack of knowledge or skill in the recipient of the lie. Moreover, lies too often succeed because the recipient of the lie wants to believe the liar (i.e., collusion), has no baseline information about the liar or has failed to seek collateral information. It is extremely important to seek collateral information in order to confirm or disconfirm the information provided, particularly in forensic contexts. Understanding one's context is also important, as base rates of truth-telling/lying can also have a negative impact on one's decision-making, with environments characterized by high incident rates of lying (e.g., prisons) resulting in an over-sceptical viewpoint and relatively honest contexts (e.g., churches) creating an overly trusting attitude.

Clearly, the more one knows about his/her biases, bad habits and environmental influences, the better able one will be at avoiding bad practices when it comes to evaluating truthfulness. However, the best way to counteract these

errors is to treat each case on its own merit by looking for behavioural change, that is, changes from how a person typically behaves when telling the truth (their baseline behaviour). Indeed, viewing changes from baseline is essential to the accurate evaluation of truthfulness and is a fundamental aspect to the approach introduced in the present chapter.

Acquiring evidence-based knowledge

Research suggests that a basic training component for evaluating truthfulness consists of the acquisition of empirically-derived knowledge. At the very least, individuals should learn about what causes people to lie or tell the truth and the typography of truths and lies. Research indicates that there are many motivations for lying – to avoid punishment, to obtain an undeserved reward, to protect a loved one, for amusement or to reduce shame (Ekman, 1992) – and that personality may impact on one's penchant for particular motivations (e.g., Spidel *et al.*, 2003). Research also indicates that lies can vary in terms of their content. That is, people can misrepresent their emotional state, their opinion on a particular subject, factual information or their future intents. Knowing about the different content of lies will assist in the accurate evaluation of truthfulness.

In addition, research has identified different types of lies, including, but not limited to, concealment and/or falsification or fabrication, as well as telling the truth falsely and the incorrect-inference dodge (Ekman, 1992). Concealment lies are the simplest form but the most difficult to detect because the liar is not actively engaging in lying. The outcome is less data to evaluate truthfulness than would result from, for example, spinning an elaborate web of deceit. Falsification reflects a deliberate misrepresentation of information. It is harder for the falsification lie to succeed in comparison with the concealment lie, as the liar has – at the very least – to remember the false statement if asked again.

No less important, but often forgotten, is the need to learn about what the truth looks like. As suggested above, if individuals only know what lies look like, they are likely to become susceptible to not believing the truth when they see it. As the truth reflects the end-result of generic emotional and cognitive processes, evaluators must acquire this basic knowledge. For example, if investigating some past event, individuals should understand how memory works, as well as how stress and emotions can disrupt cognitive processes in general and memory functioning in particular (see Hervé, Cooper & Yuille, 2007). In short, it is important to know about the motivations, nature and types of truths/lies because they have different emotional and/or cognitive consequences for the individual and, therefore, will reveal important clues during evaluations of truthfulness.

To understand and appreciate the differential impact of emotions and cognitions on lying and truth-telling, one should gain knowledge about 'the psychology of lying and truth telling' (see Figure 17.1). As implied above, in

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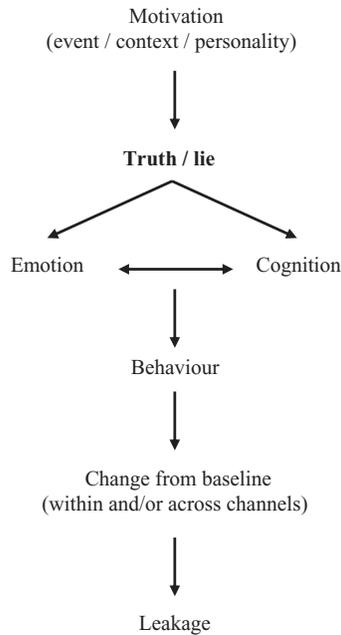


Figure 17.1: The psychology of truthfulness

order to understand the psychology of lying and truth-telling, background knowledge on how emotional and cognitive processes typically operate and how they impact on certain behavioural channels are required. As Figure 17.1 depicts, a person's motivation to lie or tell the truth must be taken into account, as well as the context of the assessment and knowledge about the personality of the person being evaluated (if available). These factors interact to delineate the particular psychological state of the individual being assessed.

When an individual lies or tells the truth, there will be emotional and cognitive consequences, which will, in some way, impact on their behaviour (Yuille, 1989; Ekman, 1992). The impact on their behaviour will be viewed as a change from baseline – that is, a change in how the individual typically behaves (e.g., in their facial expression, eye gaze, body language) and/or contradictory behaviours that occur simultaneously or in close succession (e.g., head shake indicating 'no' but answering 'yes'). When someone demonstrates a change from baseline via a behavioural (i.e., observable) channel, the result is leakage. That is, in effect, the change from baseline leaks out (Ekman, 2003; Hervé, Cooper & Yuille, 2008). Identifying leakage via active listening and observing is crucial to the process of evaluating truthfulness. That is, behavioural change is not random; it occurs for a reason (see below for further details).

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Skill acquisition

In addition to empirically-based knowledge, the literature indicates that training in evaluating truthfulness should involve the development of specific,

evidenced-based skills. The knowledge base discussed above would form the foundation for the development of certain skills and, more importantly, for the appropriate application of these skills. One skill involves identifying leakage (i.e., emotional or cognitive leakage), that is, how lies leak out through non-verbal channels (e.g., facial expressions and body language) and verbal channels (e.g., verbal style and content). In order to identify leakage, attention should focus on what people do and say and how they do it and say it. In other words, for leakage to be identified, 'active listening' and 'active observing' must occur simultaneously. Through active listening and observing, emotional and cognitive leakage can be observed through a number of observable behavioral channels.

Emotional leakage can be viewed through a number of observable channels, such as the face or voice and via body language. The face, however, is the primary and clearest channel through which to observe emotional reactions, and it is also the most researched (for a review, see Ekman, 2003). Ekman has demonstrated that there are seven universal facial expressions of emotion that can be observed – fear, sadness, disgust, happiness, surprise, contempt, anger) – research suggests that they appear in all cultures regardless of language. It has been shown that, by developing the skill of observing the facial representations of these seven basic emotions, one's ability to identify different emotional states accurately can be increased (Frank & Ekman, 1997).

Most of the time, when a facial expression of emotion is observed, it is a macro-expression, that is, it is full and relatively long-lasting (>1 second) (Ekman, 2003). However, macro-expressions of emotions are usually ignored due to verbal overrides (see above) and, more importantly, are relatively easily faked. In addition to facial macro-expressions of emotion, subtle micro-expressions have been identified (Ekman, 2003). In general, subtle or micro-expressions of emotion reflect attempts to conceal the emotion to one's self or to others (Ekman, 2003). A subtle expression is a partial facial expression of emotion resulting from one's inability to fully control emotional expression. A subtle expression may also occur when an emotion is just beginning to develop. Micro-expressions are full expressions of emotion that occur fleetingly, typically between 0.04 and 0.2 of a second (Ekman, 2003). Most people miss micro-expressions in their day-to-day interactions, however, training in their detection in the context of active observing can improve individuals' ability to detect them (Frank & Ekman, 1997). Training can also improve an individual's ability to detect subtle expressions. Although identifying micro- and subtle expressions can inform individuals as to the emotional state of others, on their own, they cannot inform individuals of why that emotional state is being felt (see below).

Another channel that has been heavily researched is verbal content (Yuille, 1988), a domain in which cognitive leakage could be observed. Although cognitive reactions to lying and truth-telling can be observed across a number of behavioural channels, verbal content is, however, the primary and clearest channel with which to observe such cognitive reactions. The analysis of verbal content stems, in part, from the assumption that, in general, it takes more

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mental effort to lie than it does to tell the truth. That is, lying causes more cognitive load than does truth-telling (Yuille, 1989; Vrij & Granhag, 2007). Indeed, as a liar does not have a memory of a false account of an event, it takes more cognitive capacity for him or her to keep the story consistent. In contrast, a truth-teller can rely on his or her memory when relating an event. Thus, an increased cognitive load is one of the factors that may betray a liar. Based on factors associated with memory and cognition, such as cognitive load, Undeutsch (1989) formulated a hypothesis, which essentially posits that memories of experienced events differ in quantity and quality from memories of invented experiences. The Undeutsch hypothesis formed the basis of Statement Validity Analysis (SVA), which has received empirical support (Horowitz, 1991). The core of SVA is CBCA, criteria that research has demonstrated to be more likely to be found in credible accounts as opposed to non-credible accounts of events (e.g., Lamb *et al.*, 1997; Colwell, Hiscock & Memon, 2002). Research indicates that CBCA is a complex qualitative assessment procedure and should be combined with the other skill-based components to evaluating truthfulness (Cooper *et al.*, 2007; Cooper, Hervé & Yuille, 2007). Unlike many other skills associated with the evaluation of truthfulness (e.g., the ability to detect micro-expressions), CBCA focuses on factors associated with truth-telling and, therefore, nicely complements other approaches or skills that focus on detecting clues associated with lying.

Although there is extensive research support for facial expressions and verbal content in evaluating truthfulness, other important evolving areas include reading the face together with body language and detecting changes in the voice and verbal style (Ekman *et al.*, 1991). In terms of the former, changes in body language are complex and can betray both the emotional and cognitive aspects of lies. For example, research indicates that knowing the baseline of use of different types of gestures (e.g., emblems, illustrators and manipulators) is important to detect change in these gestures (Ekman *et al.*, 1978; Ekman *et al.*, 1991). For example, one person may show a decrease in illustrators (i.e., hand movements used to illustrate speech) when he or she has an increase in cognitive load, yet another person may show an increase in illustrators when their cognitive load has been taxed. Detecting change within a given individual is crucial to the evaluation of truthfulness.

In terms of detecting changes in the voice, this can betray emotional and, to a lesser extent, cognitive aspects of lying (Ekman *et al.*, 1978; DePaulo, 1992; 1994). For example, the voice may get softer when someone is lying, however, a softer/lower voice can also reflect sadness, which highlights the importance of always considering alternative hypotheses before making a decision about the significance of what has been heard and/or observed (i.e., using a hypothesis-testing approach). As indicated above, some companies advertise voice-based lie detectors but, as these devices measure changes in voice pitch, they are not lie detectors but change detectors. Change can be due to lying but can also be due to many other factors, which once again highlights the need to utilize a hypothesis-testing approach.

Finally, it has been demonstrated that verbal style can leak both emotional and cognitive aspects of lying. Such would include increased duration of pauses or greater use of filled pauses, changes in pronoun use or responding without answering the question. For example, if a suspect in a robbery, during the recounting of his or her version of events in the first person pronoun, pauses at the point of entering the location of the robbery and then drops the use of the first person pronoun ('I'), the change may reflect a lie of omission – more may have transpired than what was being revealed. It should be noted, however, that the change does not imply that the person committed the robbery. Rather, it highlights a point in the account that should be reviewed again, as a significant change in verbal style has been observed (i.e., a significant change from baseline verbal style).

Although implied throughout this chapter, it is nevertheless important to highlight the reality that none of the aforementioned channels are in and of themselves clues to deception; they are clues of importance. As noted above, changes in these channels simply reflect a change in emotional and/or cognitive load. At times, the channels may be revealing different messages, thereby suggesting internal conflict. These changes and inconsistencies are important in conducting evaluations of truthfulness, not because they necessarily reveal lies but because they reveal topics that need further exploration; hence the need for a method by which to conduct such evaluations.

Method

Research and practice suggest that an evidence-based method that helps evaluators organize the information collected and, thereafter, make an informed decision is a vital component of clinical decision-making in general (see Monahan *et al.*, 2001) and evaluating truthfulness in particular (see Hervé, Cooper & Yuille, 2008). At the very least, this method should promote critical thinking – the objective evaluation of data in the context of multiple hypothesis-testing. We believe that using a 'single case design' can help evaluators achieve this goal. With this design, each case can be evaluated on its own merits. This design not only advocates collecting data rich in quantity and quality (as detailed above), it also emphasizes the importance of considering multiple hypotheses; that is, using a hypothesis-testing approach, both when considering the meaning of particular data points and when making overall decisions. The evaluator is encouraged to check and double-check his or her hypotheses against the available evidence – changing/updating hypotheses as the evidence to support the hypotheses changes. Even when the issue at hand appears to be quite simplistic, multiple hypotheses should be considered. As noted above, instincts or intuitions should not be viewed as answers in and of themselves but as hypotheses to be tested via critical thinking. Once all the data have been collected and alternative hypotheses considered, decisions could be drawn based on the balance of probabilities (Hervé, Cooper & Yuille,

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2008). That is, a conclusion of whether someone is telling the truth or lying in a given situation should be based on the balance of probabilities. Of course, the particular threshold for decision-making will largely be dictated by contextual factors, with lower cut-offs being used for screening purposes (e.g., individuals being screened for further evaluations, such as employees in airport security) and higher cut-offs being used for final decisions (e.g., individuals being excluded from flying).

In addition to promoting critical thought, we advocate that any decision-making model should be objective, fluid and ethical. It should be standardized, yet flexible enough to be tailored to individual cases, much akin to using structured clinical guidelines in the assessment of risk for recidivism and CBCA in the assessment of verbal content. Moreover, the approach should be transparent so that it can stand up to scrutiny by others – a criterion that is inherently met if the aforementioned criteria are also met. As with many types of assessments, as long as the recommendations and conclusions stem logically from the body of the report, the method in question should be relatively ‘bullet-proof’. The same is true with the evaluation of truthfulness.

Generalizing from the classroom to the real world

Although unlearning bad habits, acquiring knowledge and skills, and using the right method for evaluating truthfulness are necessary to conducting such evaluations effectively, it is important to note that these steps are not sufficient. Indeed, there is a growing body of research in the education literature that suggests that learning does not generally translate well to real-world settings without both practice and support (see Bransford, Brown & Cocking, 1999). With regard to practice, the old edict still, in part, applies: practice makes perfect! Practice becomes especially important when unlearning bad habits, as this involves fundamentally changing one’s beliefs about and approach to evaluating truthfulness. At the 2nd International Investigative Interviewing Conference (2006), one attendee highlighted that, at the very least, professionals involved in conducting evaluations of truthfulness should learn about their own bad habits and how to counteract them (we agree fully with this proposition). The bottom line is that without focused practice, people simply tend to revert to old patterns, including bad habits (smoking being a case in point).

Unfortunately, when it comes to evaluating truthfulness within professional settings, the amount and type of practice available to individuals are often constrained by environmental demands (e.g., from caseloads to outdated regulations). For example, while videotaping interviews can prove very valuable in terms of practice and conducting evaluations, many jurisdictions/organizations still shy away from videotaping. Moreover, new approaches to evaluating truthfulness, particularly those akin to the one proposed in this chapter (see

below), often require not only time to learn but more time than previous, outdated approaches. Indeed, there is no question that relying on instinct alone is much quicker than collecting high quantity and quality data, which is constantly evaluated via a hypothesis-testing approach. However, if accuracy and resistance to challenges/scrutiny are the objective, we suggest that the latter, more time-consuming approach should be employed.

Given the additional demands associated with practicing new skills or methods in general and a specific approach to evaluating truthfulness in particular, we strongly believe that the generalization of information from the classroom to the real world will depend not only on practice but also on the amount of support received by the sponsoring agency/supervisors. Ultimately, for training to be successful, trainees will need the support and guidance of those around them, including superiors. In addition to providing tangible support (e.g., smaller caseload; videotaping capabilities), having a supervisor who is knowledgeable and skilled in evaluating truthfulness allows for a mentoring approach to training, thereby ensuring that bad habits are replaced with evidence-based practices. This approach can also help protect against drift over time, that is, the re-emergence of old or emergence of new bad habits.

An evidenced-based approach to detecting truth and lies

Grounded in the research noted above, an approach to evaluating truthfulness was developed to blend empirical evidence with the experience of clinical-forensic mental health professionals and law enforcement professionals. The mix of science and practice produced an approach to evaluating truthfulness that is evidenced-based, user-friendly and ethical in nature. As can be seen in Figure 17.2, this approach is rooted in the psychology of lying and truth-telling (see Figure 17.1).

When a person tells a lie or the truth, it can lead to emotional and/or cognitive consequences that are leaked behaviourally (see Figure 17.2). That is, when a person tries to lie about an emotion or has an emotion about lying, that emotion will leak out (i.e., an observable change will occur). When someone lies about their thought process or is thinking about lying, that too will leak out. Although not commonly discussed in the deception literature, as noted above, truth-telling can also result in leakage. A person telling the truth, for example, may leak emotions that reflect contextual factors (e.g., anxiety about the consequences of telling the truth, such as returning to jail; fear of being disbelieved, as displayed by Desdemona in *Othello*), the topic under discussion (e.g., during a murder investigation, an interviewee may display sadness or anger at the loss of a friend), and/or factors unrelated to either the topic or the context (e.g., during an investigation, an interviewee may display anger or sadness associated with the fight he or she had with his

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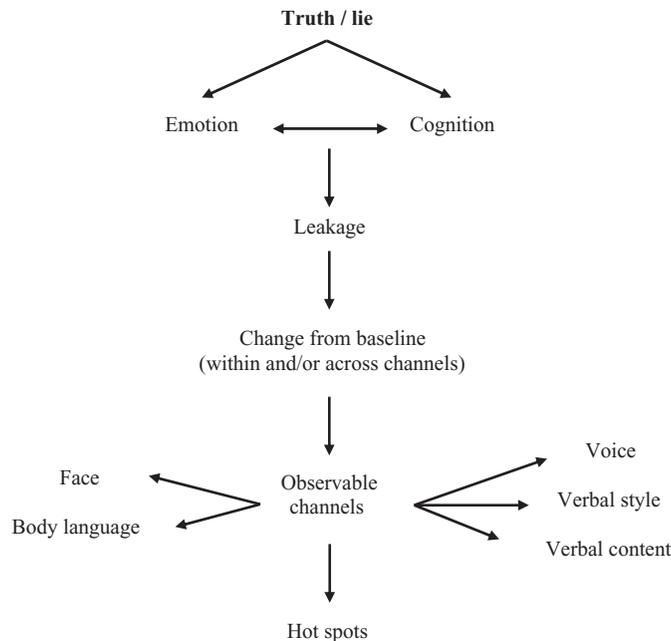


Figure 17.2: Model for evaluating truthfulness

or her partner that morning). Similarly, the truthful person may have particular thoughts regarding the context or more unique views about the topic under discussion. The bottom line is that someone can have emotional and cognitive reactions when telling the truth, reactions that should not be confused with signs of deception. Consequently, it is extremely important to consider alternative hypotheses when conducting evaluations of truthfulness.

When a lie or a truth affects or changes one's psychological state, be it emotional or cognitive, there will be some consequence of this change: leakage. It has been demonstrated that lies can leak out through a variety of channels or aspects of behaviour. The channels depicted in Figure 17.2 were chosen for the present model for two reasons: (i) they have been found to be valid indicators of leakage (i.e., evidenced-based); and (ii) they are easily observable in interviews without the use of equipment/technology (i.e., are user-friendly), unlike, for example, techniques that measure physiological changes (e.g., heart rate).

The easiest way to detect leakage is through a change in baseline (i.e., how the person typically behaves). That is, it is easier to detect leakage in what someone says if it is known how that person says things when not lying and/or influenced by factors known to affect their psychological states when telling the truth (see above). Similarly, it is easier to detect a leak through body language if you have some knowledge of the baseline body language of the person. At times, collecting such baseline information might reveal a 'tell' (the

term 'tell' is used by poker players to refer to a behaviour that gives away, or 'tells', that a player has a good hand or is bluffing). Note that this is not a 'universal' sign but a sign that applies 'only' to the individual in question and likely inconsistently, that is, it is a person-specific leakage that the person typically displays when lying. Baseline information is also crucial in evaluating how a person typically responds when telling the truth, which can then be contrasted with their reactions when lying.

It is important not to assume automatically that the identified leakage is a sign of deception. Indeed, leakage, be it emotional or cognitive, can reflect lying or truth-telling. Accordingly, we urge people to adopt a new term when observing leakage: a 'hot spot'. A hot spot is any significant change in a person's baseline behaviour within or across one or more observable channels. Inconsistencies between channels are particularly significant hot spots, such as when the person says, 'No, I didn't do it' all the while nodding 'yes'. Clearly, when one's nonverbal behaviour perhaps unconsciously contradicts one's verbal content, evaluators can – at the very least – be confident that the topic under discussion is creating internal/psychological conflict for the interviewee and, therefore, should be followed up. It is theoretically appealing that such inconsistencies are especially meaningful and more likely to be associated with lying than with truth-telling. Indeed, not only is truth-telling likely to lead effortlessly to the coordination of channels in such a manner as to lead to consistency across channels, the monitoring and coordination of multiple channels is inherently harder for liars to achieve than the monitoring and controlling of only one channel. This phenomenon is akin to juggling: it is simply easier to juggle one or two items than four or five. Unfortunately, the same can be said of evaluators. That is, it is harder to learn to monitor multiple channels in others than only one or two, again highlighting the importance of training and practice in active listening and observing across multiple behavioral channels.

The bottom line is that, when a change occurs in, or there is an inconsistency across, a person's face, body language or voice pitch, this is meaningful: change and/or inconsistencies do not occur randomly. Again, a hot spot is not a clue to lying; rather, it is a clue to importance. A hot spot may occur for a variety of reasons, of which lying is only one possibility (others include thinking about something off-topic, truth-telling). This highlights the importance of knowing about the nature of truths and lies and using a hypothesis-testing approach to evaluating truthfulness.

Step-wise approach to evaluating truthfulness

Although the model outlined in Figure 17.2 and described above provides the foundation from which to gain knowledge and acquire skills specific to evaluating truthfulness, it does not provide a method for implementation. We

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therefore suggest the following step-wise approach to evaluating truthfulness in clinical-forensic practice:

Seek background information

If possible, the evaluator/investigator should prepare for the interview/interaction by collecting background information. This will help define and identify the central issues, as well as other topics of interest. Evaluating truthfulness is akin to conducting other types of assessments in clinical-forensic contexts: professionals should never enter such contexts with patients/client/offenders blindly (i.e., before reading institutional/case files or discussing the case with the referral source). The more information that is attained, the better position the professional will be in to evaluate the interviewee. It is crucial that interviewers review as much information as possible before interviews, as this will help them develop interview strategies, will facilitate their ability to develop alternative hypotheses and will help them better evaluate the baseline of the interviewee. For example, at the time of the interview, interviewers can ask questions about known topics, which will allow them not only to collect baseline information (how the person behaves when telling the truth and/or lying), but to begin to develop an idea of the response style the interviewee is adopting (e.g., positive vs. negative impression management). Of note, if the interviewee is from another culture, background information on culture-specific topics related to the issue at hand (e.g., attitude to crime, mental health, business process and organizational structure), expected social conduct (e.g., social hierarchy and related interpersonal expectations, shameful behaviour) and behavioural idiosyncrasies (e.g., body language, eye contact, emotional expression) should be collected. Such information will prove crucial in assisting evaluators to avoid culturally-based idiosyncratic errors.

Establish baseline

The more baseline information obtained, the better position the evaluator will be in to detect changes from baseline. Again, by baseline we are referring to how someone typically behaves under certain conditions (e.g., when telling the truth, when lying; when happy, when sad). When using our model, or any other behaviourally-based model, we suggest that evaluators seek baseline information about all five channels depicted above (see Figure 17.2) – from facial expressions, eye contact, eye movement, gestures, voice characteristics, and verbal style and content. The establishment of a baseline can be made by discussing the person with others (e.g., case managers, front-line staff), through recordings of the person or in face-to-face conversation. If using the last approach, the collection of baseline data can easily be accomplished during the rapport-building phase of the interview. It is important to note that the rapport phase should also focus on making interviewees relatively at ease, as this serves

to decrease anxiety stemming from issues unrelated to the topic at hand that too often result in hot spots unrelated to deceit. In essence, the goal is to calibrate the situation (i.e., relax the interviewee) in such a way as to decrease the noise-to-signal ratio (topic-unrelated hot spots/topic-specific hot spots), not unlike that accomplished by polygraphers during their rapport-building phase of the pre-polygraph interview.

Observe hot spots

With baseline information in hand, the interviewer should actively observe and listen in order to be alert for changes within a channel or inconsistencies across channels, as well as for any signs that suggest the person is being truthful. To facilitate active listening and observing, it would be wise to remove any potential distracters such as those that are psychological (e.g., unresolved issues about the case, context or personal topic), physical (e.g., fatigue and/or hunger) and/or environmental (e.g., noise and/or visual barriers) in nature. Any significant change from baseline is a hot spot and the topic that produced the change should be noted. The hot spot should be used to determine if the observed change was due to emotional or cognitive reasons. If possible, the topic should be raised later to see if it again produces a similar hot spot. If the hot spot occurs consistently, one can be relatively confident that it was produced by the topic under discussion, as opposed to some unrelated issue.

Evaluate alternative hypotheses

As discussed above, knowing that a particular topic consistently gives rise to a hot spot only provides information indicating that a topic of importance has been identified. Determining what the hot spot actually signifies requires, among other things (e.g., adept interviewing skills), the consideration of alternative hypotheses. As noted above, the topics in question may raise issues in the interviewee but not bear on his or her guilt, such as when someone is interviewed about the disappearance of a close friend. In other words, alternative explanations for a hot spot should always be entertained before making a determination of its probable cause. In fact, we promote the consideration of multiple hypotheses (e.g., guilty vs. not guilty but knowledgeable of topic vs. innocent), not just two (e.g., guilty vs. innocent). As with other types of assessments and interviews in forensic contexts, the final conclusions should be data-driven. Indeed, by gaining the right knowledge, empirically-validated skills and a structured method that stresses critical thinking, one no longer needs to interject biases or rely solely on intuitions when making decisions. Rather, one can let the data speak for themselves. Only high quantity and quality data that are evaluated and re-evaluated against alternative hypotheses can lead to accurate decision-making – the closer one comes to this ideal, the more confident one can be about one's conclusions.

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Conclusions

The goal of this chapter was two-fold: first, to discuss the literature on evaluating truthfulness; and second, to introduce an evidence-based and practically-informed approach to the topic. As emphasized throughout this chapter, the proposed technique was developed by combining research with the field experience of law enforcement and forensic mental health professionals in order to develop a user-friendly, transparent and ethical procedure that is skill-based and portable. Of course, this model and related training programmes will evolve, as will the science and practice of evaluating truthfulness.

As the model was built on known psychological process, we believe that it applies across cultures. That is, although we are cognizant that there are cultural differences regarding baseline behaviour and why and how lies and truths leak out, the main part of this framework (i.e., going down the centre of Figure 17.2) is hypothesized to apply to all individuals, irrespective of culture: when someone tells a lie or the truth, it may lead to emotional and/or cognitive consequences that leak out in observable behaviour, resulting in a hot spot to be followed up. Given the strengths and applicability of this model, we have seen a growing attention in this and related approaches (e.g., Porter, Woodworth & Birt, 2000) in recent years, with interest spanning a variety of disciplines (psycho-legal, law enforcement, homeland security, airport security, customs and border control, the corporate world).

It should be noted that, although the individual components of the present approach have been empirically supported (see above), the entire model has yet to be completely validated. To a large extent, this is due to the research limitations addressed above (e.g., imposing a quantitative structure on a qualitative procedure). These limitations notwithstanding, research has found that training in verbal and nonverbal channels significantly improves (from 40% to 70%) people's ability to evaluate truthfulness (Porter *et al.*, 2000). Further, there is evidence that individuals who are naturally adept at evaluating truthfulness (i.e., individuals who attain accuracy rates over 80% with little training; O'Sullivan & Ekman, 2004) use approaches that are not unlike that reported in the present chapter. Although promising, this line of research constitutes only indirect evidence. Consequently, we are evaluating the present approach through a series of real-life case studies and are dedicated to the process of evaluation through pre- and post-studies (i.e., before and after the training). We invite others to test the present approach to evaluating truthfulness independently and hope that, in doing so, they will take into consideration the previously outlined limitations regarding the state of research in this area.

It is important to highlight that the evaluation of truthfulness is usually not a stand-alone procedure; rather, it is typically embedded as part of a bigger package. For example, the accurate evaluation of truthfulness involves the use of a high-quality, semi-structured, non-leading, non-suggestive interview (Yuille, 1988). In particular, we do not promote the use of deception and/or

torture in interviews, as we believe such techniques are not only unethical but lead to too many errors and, therefore, detract from the task at hand: the search for knowledge. Further, the interview requires a fair bit of preparation so that it can be tailored to the individual and the topic(s) in question. Indeed, at least within clinical-forensic populations, individual differences far outweigh individual similarities. The context (e.g., assessment vs. treatment; police vs. correctional interview) must also be taken into account, as well as the triggering event (i.e., what led the interviewee to be interviewed), as these factors may impact on the psychological state of the interviewee, and possibly the interviewer, thereby affecting the evaluation.

Evaluating truthfulness depends, to a large extent, on the quantity and quality of the available evidence, data or information. If enough high-quality information by which to evaluate truthfulness is not obtained, the task cannot be completed. It is akin to trying to conduct a risk assessment without any collateral information or relying solely on clinical judgement: poor decisions will be made.

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