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**The Detection of Deception Within Investigative Contexts:
Key Challenges and Core Issues**

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Abstract

A large and continually-growing body of research has explored the ways in which deception might be detected. The area is developing rapidly, opening up new avenues of study. This special issue of the *Journal of Investigative Psychology and Offender Profiling* brings together an exciting array of papers on the detection of deception within investigative contexts, examining a wide range of issues including; the efficacy of different interviewing techniques, the reliability of statement veracity assessment, factors influencing ability to detect deception and the need for applied research and ecologically valid studies. This examination of the key challenges and core issues surrounding the detection of deception within the criminal justice domain helps move the field forward, providing powerful results that have potentially far-reaching impacts. These are considered in detail throughout the following discussion...

INTRODUCTION

Telling lies and other forms of deception are consistent features of human social behavior; in a study by Hancock (2007), people admitted to using deception in 14% of the emails they sent, in 27% of their face-to-face interactions, and in 37% of their phone conversations. On average, each of us tells around two lies every day (De Paulo, Kashy, Kirkendol, Wyer & Epstein, 1996). As such, deception is a major aspect of social interaction.

Given the scale of interpersonal deception, it is not surprising that an extensive body of research has been devoted to its study. Over the past three or four decades, many researchers have examined the nature and characteristics of deception, and have explored the circumstances under which genuine and fabricated accounts can be distinguished. The overwhelming conclusion that can be drawn from this work is that the detection of deception is a challenging task, fraught with difficulties and complexities. One of the most basic problems is delineating effective and reliable cues to deception, and establishing robust methods of differentiating these from erroneous cues or other forms of emotional expression. This becomes even more challenging when one attempts to account for contextual factors and motivational influences. Further, the nature and types of cues to deception are also likely to vary considerably from individual to individual (DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, Cooper, 2003), and so a key challenge becomes one of determining what cues are likely to be salient and stable and which are likely to differ or alter depending on the type of person who exhibits them. Add to these difficulties the various methodological challenges that deception research entails, such as trying to simultaneously monitor all aspects of what a potential liar does or trying to identify minute micro-expressions, and it becomes easy to see

why the task of developing reliable methods of detecting deception is such a difficult one. These problems and pitfalls associated with catching liars also go a considerable way towards explicating the now generally-accepted finding that people typically make very poor lie detectors (e.g. Ekman, 1996; Ekman, O'Sullivan & Frank, 1999; Vrij, 2000; 2004; 2008; Porter & ten Brinke, 2010).

Despite its difficulties, the study of detection of deception, is of crucial importance in investigative and forensic contexts. The numerous detrimental consequences that may arise from failure to distinguish liars from truth tellers within these domains (discussed by Granhag & Stromwell, 2004, and Kassin, 2008, amongst others), mean that robust and valid research into the ways in which genuine and deceptive accounts can be distinguished, and on the reliability of such methods, is vital to the criminal justice process, having notable applications in assessing the veracity of alleged victims, eyewitnesses and – of course – criminal suspects.

Interviewing to Detect Deception

One obvious challenge for the real life investigator is the possibility that the interviewee will attempt to engage in deception either in the form of selective recall, misrepresentation of facts or outright lying. Although such deception may hinder or skew the investigation with serious implications, its detection is a very difficult task. Traditionally accepted indicators of lying are only weakly correlated with such deceptions, and training in the recognition of cues to deception – whilst potentially increasing an interviewer's confidence levels - rarely generates accuracy levels exceeding 50% (i.e. above chance). In essence, those trained in deception detection techniques rarely perform better than non-trained individuals (Vrij & Granhag, 2012).

How does one detect deception in an interview, then? And are some techniques more successful than others? There is a widespread belief amongst legal practitioners that using baseline comparisons constitutes a reliable approach to detecting deception. Using this method, comparisons are made between baseline behaviours (established during non-threatening questioning) and those behaviours exhibited during the critical questioning phase, with discrepancies or changes used as a basis for assessing veracity. This is a common technique used by police officers trained in interrogation techniques, such as the 'Reid Technique'. In addition, it constitutes one of the six steps in the 'Improving Interpersonal Evaluations for Law Enforcement and National Security' (IIE) technique developed by Ekman (2001); during this phase the interviewer observes the normal mode of behaviour (baseline behaviour) when asking non-threatening questions - this then becomes the basis for noting the general personality and interaction style of the interviewee, providing a control sample with which to compare any behavioural changes in the subject during the interview.

Bond & DePaulo (2006) identified 21 experimental comparisons of the detection of a target's messages by judges who had (vs. judges who had not) been previously exposed to that target. All of these comparisons were made on percentage correct lie-truth judgments. Results indicated that baseline exposure improves lie-truth discrimination: Receivers achieve a mean of 55.91% accuracy when given a baseline exposure versus 52.26% accuracy in the absence of any exposure. However, the questioning that establishes these baseline behaviours has been described as one of the most striking misuses of psychological research (Moston & Engelberg, 1993) and very misleading as non-threatening questions are low-stakes situations with no negative consequences for the interviewee while the actual questions during an investigative interview are high-stakes situation that can potentially have negative

consequences for the interviewee leading to incorrect judgments by the interviewer (Moston & Engelberg, 1993). Fundamental differences exist between small talk and the investigative part of the interview (Ewens et al., this issue). As a result, both guilty and innocent people are likely to exhibit different behaviours during small talk compared with the actual interview, and this ‘apple–orange’ comparison will be prone to incorrect judgments (Moston & Engelberg, 1993).

In one of the very few empirical studies assessing the reliability of this method, Ewens et al. (this issue) show that both liars and truth tellers’ behavioural patterns differ between baseline readings and the investigative interview. As such, they argue that the baseline lie detection technique as it is currently used in interrogation does not effectively distinguish liars and truth tellers. Their findings support the proposition that an overhaul of currently-employed techniques might be required in order to enhance their validity and broader utility within investigative contexts.

In addition to the influence(s) of the type of interview technique utilized, research has also shown that the style of interviewing that the police adopt (whether information-gathering or accusatory) may have an impact on the likelihood of type and frequency of different cues to deception manifesting during an interview. Consequently, a number of studies have addressed the question of how to best interview in order to discriminate between liars and truth tellers.

The cognitive load approach, for example, aims to increase the chances that the interviewee will reveal signs of deception. Cognitive overload ensures that a suspect finds it difficult to manage the situation without revealing indicators of the fact that he/she is lying. Similarly, the unanticipated question approach assumes that liars, more than truth tellers, plan what to say before an impending interview. If they are asked questions which they have not

anticipated, they face a difficult task and will struggle with unanticipated questions than truth tellers (Lancaster, Vrij, Hope and Waller, 2012).

The bulk of research into the detection of deception in relation to different interviewing methods has focused on an individual's ability to detect another individual's veracity. However, in real-life investigative contexts it might potentially be beneficial to interview groups of suspects, accused of the same crime, simultaneously in order to increase the likelihood of the emergence of deceptive cues. This possibility was addressed in a novel experiment conducted by Vrij et al. in 2012. They found that pairs of truth tellers interrupted and corrected each other more, and would add more information to each other's answers, than pairs of liars. As such, they showed that simultaneous interviewing could enhance the reliability of veracity assessments; a finding that has notable implications for detecting deception within the criminal justice domain. Taking this research strand another stage further; Mac Giolla & Granhag (this issue) examine the detection of false intent among small groups of suspects who are interviewed more than once, in order to assess the benefit of asking unanticipated questions in multiple respondent interview conditions. They conclude that truth-tellers are more consistent than liars for both anticipated and unanticipated questions, but that consistency levels are generally low, even for truth tellers. Their findings not only highlight important limitations of the unanticipated questions approach, but also illustrate the potential issues surrounding, and impacts of, group interviewing within investigative contexts.

The style of interviewing that is likely to be employed during an investigative interview might, to some extent, depend on whether or not there is evidence against the suspect (or on the perceived strength of evidence against the suspect. For example; in cases where there is some evidence against the suspect, this could be used strategically in interviews using an

information-gathering style. A key question here, then, is at what stage of the interviewing is it better to disclose the information? Most police interrogation manuals do not make reference to such interviewing specifics, and the ones that do suggest that the evidence should be disclosed at the beginning of the interview in order to make the suspect confess (Christianson, 2007). However, research in general has produced mixed findings regarding the most effective points of evidence disclosure. Leo (1996) - in an American study - showed that it was typical for interviews to start with disclosure of evidence (this occurred in more than 80% of the cases), while Moston and Engelberg (1993) - in a British study - showed that only a minority of the interviewers disclosed the evidence at the beginning of the interview. Hartwig, Granhag, Strömwall and Vrij (2005) found that observers who were asked to assess veracity in cases where the case-specific evidence was disclosed early in the interview achieved significantly lower deception detection accuracy (42.9%) than those who were asked to assess veracity when the same piece of evidence was disclosed later in the interview. It was suggested that this was because the late disclosure of evidence facilitated observers' abilities to pick up on suspects' inconsistencies. In a further study, Hartwig et al. (2006) refined and tested the strategic use of evidence technique (the SUE-technique), which involves the interviewer planning the interview very carefully in the light of any information that is available which potentially might incriminate the suspect.

While a number of tactics have been employed with the aim of making a suspect disclose evidence, the effectiveness of these evidence disclosure tactics has not yet been investigated in any great detail (Granhag, Strömwall, Willén & Hartwig, 2013), especially when it comes to interviewing groups of suspects. To assist such endeavours, Granhag, Rangmar & Strömwall (this issue) provide an evaluation of the efficacy of three different disclosure tactics in eliciting cues to deception in multiple-suspect interviews. Participants were

randomly allocated to different conditions, depending on whether they were guilty or innocent, and were subjected to one of three different evidential disclosure tactics; where evidence was disclosed early in the interview (Early Evidence), where evidence was disclosed late (SUE-Basic) and where evidence was disclosed late and with increased strength and precision (SUE-Incremental). Results reveal that the most effective technique is the SUE-incremental, resulting in significant differences between guilty and innocent suspects for all cues examined: statement-evidence inconsistency, within-statement inconsistency and within-group inconsistency.

Statement Veracity Assessment

The assessment of the credibility of the written or verbal statements of witnesses, victims and suspects is a very important area within the investigative arena, having impacts and implications that resonate throughout the criminal justice system. The two techniques that have been mainly utilised for analysing words for indicators of veracity revolve around either 1) human analysis of the semantic and grammatical structures associated with word usage, or 2) computerised text analysis to identify the words used and classify them according to their psychological meaning and function without relying on their linguistic features or grammatical structures.

Although a number of both human and computerised approaches have been used to analyse written or oral statements of suspects and alleged victims, there is still the question of whether these techniques can yield reliable methods for discriminating between veracity and deception, and detailed validation studies are most certainly warranted.

Statement Validity Analysis (SVA) and Criteria Based Content Analysis (CBCA) - both systematic assessments of the credibility of written statements - are probably the most popular human analysis instruments for assessing the veracity of written statements. They are based on the hypothesis that a statement derived from memory of an actual experience differs in content and quality from a statement based on invention or fantasy. The presence of each of a range of criteria strengthens the hypothesis that the account is based on genuine personal experience. But how reliable are such methods at identifying truth tellers and liars? Most laboratory studies give overall accuracy rates between 65 and 90 per cent (Vrij, 2005). Significantly higher CBCA scores for truth tellers than for liars have also been found in both studies with children (Akehurst, Köhnken & Höfer, 2001) and adult witnesses (Vrij, Edward & Bull, 2001). Of course, while there seems to be evidence of the effectiveness of the approach the legal implications that such research findings have potentially huge, and before reaching conclusions one needs to take into account error rates, which are mainly ignored in most published studies.

An alternative method to SVA and CBCA, examines verbal differences between responses believed to be true and false, is Reality Monitoring (RM). Reality Monitoring (RM) tries to identify the characteristics that differentiate between internal and external memories. It has inherent advantages over SVA and CBCA, which is that it is relatively straightforward to use and less time consuming to apply, as it contains fewer criteria. As with the other methods, research on the reliability of RM has generally yielded favourable findings (Granhag, et al 2001) and there is some evidence that the RM approach taken as a whole discriminates with an accuracy rate above chance level.

Whilst, together with Criterion-Based Content Analysis (CBCA), RM is one of the most extensively tested techniques of verbal lie-detection, most research that has been presented on these methods has not accounted for the influence of the length of (or number of words in) the account analysed. Elntib, Wagstaff & Wheatcroft (this issue), addressing this gap, investigate whether standardising accounts for length/word count affects the usefulness of the Reality Monitoring approach in discriminating between truthful and deceptive accounts and whether this is moderated by the modality of the accounts (whether they are oral or written). Their findings provide a useful demonstration of the conditions under which the RM approach is more or less likely to be helpful and accurate in distinguishing genuine from fabricated accounts.

As mentioned previously, most of the methods for discriminating liars from truth tellers rely on a number of criteria that have their basis on a theoretical framework. In general, research has shown that lies contain fewer words and omissions of information. They are less plausible, structured and logical, with internal inconsistencies and repeated details, and tend to include more descriptions of what did not occur (DePaulo et al, 2003). Such criteria are used not only to assess suspects accounts', but in many cases accounts of alleged victims.

Even though many studies have examined the reliability of such methods, critical variables that are often omitted are a) the amount of time that elapses between the experience or allegation of a criminal event and the time of a statement, and b) how statements may vary when they are given multiple times over different periods of time. Conducting a narrative analysis of statements of genuine traumas and false allegations of victimisation, across both a short and a long reporting interval, Peace et al (this issue) reveal that true allegations contain

more consistent details, omissions and commissions, although the rates of change over time are variable. On the other hand, inconsistent details are found to be more prevalent in false allegations, and these claims are more stable or "script-like" over time.

Although this section deals mainly with the human analysis of statements, another approach to the assessment of the credibility of statements relies on computer-based programmes. The most commonly used of these is the Linguistic Inquiry and Word Count (LIWC), which assigns words to psychologically meaningful categories and tallies their frequencies.

A number of studies, looking into indicators of veracity and lying, have documented word usage differences between truth telling and lying (Bond & Lee, 2005; Duran et al, 2010) using this technique. Matsumoto & Hwang (this issue), using the LIWC, conducted a novel study examining differences in word usage between truth tellers and liars in a moderately-high stakes, real-life scenario, looking into both written statements and interviews and taking into account cultural differences in word usage. Results reveal that word usage differentiates truths from lies in both the written statement and the investigative interview and that ethnicity does not moderate these effects. The unique findings that they report offer notable insights into the potential validity of word-usage assessment methods in different circumstances and under a variety of conditions and – as such – have significant implications for assessing the veracity of suspects, witnesses and victims throughout the criminal justice domain.

Factors Influencing Ability to Detect Deception

Throughout the course of its evolution, research into the detection of deception generally has identified a range of factors that impact upon both the ability of a person to effectively deceive and the reliability with which deceptive and genuine accounts can be distinguished.

Many of these have been discussed in detail elsewhere (c.f. Bond & DePaulo, 2006). However, an emergent literature has begun to focus on those factors that are particularly pertinent to detecting deception within applied settings – such as criminal investigations, identifying ways in which the efficacy of deception detection methods is influenced by, for example, the type of lie being assessed or the manner in which it is evaluated.

One such factor is the medium through which an account is delivered. Throughout the criminal justice system veracity assessments are made of a range of different source materials; verbal statements from suspects, witnesses or victims, as well as written testimonies or video evidence. Assessments may be made of materials that are solely text-based (e.g. suicide notes, extortion letters or written confessions); audio-only (e.g. threatening messages); audio-visual (e.g. face-to-face interviews); or purely visual (e.g. CCTV footage).

Different mediums are likely to facilitate effective detection of deception to different degrees, as Bond & De Paulo (2006) discuss. Written material affords the assessor the luxury of time to go over material, which is not necessarily available in real-time interviews. Visual media may encourage the use of stereotypes, and - as such - may be more susceptible to cognitive bias effects than, say - audio-only materials. Audio-visual matter tends to offer the greatest amount of material, including both verbal and non-verbal cues to deception which may aid the forming of an opinion as to likely truthfulness; but judgments made from such media could also potentially be confounded by erroneous material or assessors rendered less capable as a result of 'information overload'.

In their meta-analysis of the general deception detection literature, Bond & DePaulo (2006) find that lie-truth discrimination accuracy tends to be lower if judgments are made from a video rather than from audio-visual, audio-only or written media (these do not tend to differ substantially from one another). However, much of the research that formed the basis for this meta-analysis was conducted using abstract veracity assessment tasks in laboratory settings, and so it is unclear as to how these different forms of media are likely to fare when pitched against one another in applied contexts. Moreover, at present we have little information as to the *relative* impacts of different mediums on judgments of truthfulness.

These gaps in our understanding of the relationship(s) between methods of detecting deception and different types of media are addressed by number of the papers in the present volume; The studies by Wu et al. (this issue), Elntib et al. (this issue) and Matsumoto and Hwang (this issue) all examine the differences between truths and lies presented in different formats and assessments made across a range of different mediums. The findings that they present highlight limitations in the ability of previous studies to adequately characterise and explicate the production and presentation of different types of deceptive cues in investigative contexts. As such, these studies constitute valuable additions to the deception detection literature, offering an enriched understanding of how, in what ways, and to what extent different deceptive cues might manifest and be reliably identified within forensic settings.

Another factor that has been suggested to impact upon people's ability to detect deception is the type of account or story that they are assessing. Previous research has typically utilised 'mock transgressions', in which suspects are explicitly instructed to lie about their experiences, beliefs, thoughts or opinions. In general, this paradigm offers little by way of

motivation to tell a convincing lie, given the fact that the topics they are being lied about tend to be trivial and that performance is unlikely to have any notable consequence(s).

An alternative to the mock transgression is a 'real transgression', utilised in the study by Culhane et al. in the present issue. This novel method for eliciting truthful and deceptive statements for analysis involves the telling of more serious lies with more serious consequences. In this particular example, subjects were induced to cheat (or not) when completing logic problems, then were accused of cheating and threatened with a substantial punishment if they were deemed to have cheated. As such, the choice as to whether or not to cheat, and then whether or not to lie about it, was the participants' alone. This, the authors propose, generated a scenario that is likely to be more akin to the types of real deception that occur in everyday life (including in forensic or investigative contexts).

The findings that they present show that individuals are more accurate in detecting deceptions in situations where it is believed that a real transgression has occurred. This has notable implications for investigative assessments of the veracity of suspect accounts in particular, as it suggests that the picture regarding ability to detect deception might not be so bleak as previous, mock transgression research would suggest; in more realistic scenarios where the decision to lie is taken by the individual, deception detection accuracy actually appears to be quite high.

One further core issue that, as Wright Whelan, Wagstaff & Wheatcroft (2014) discuss, has not been addressed in detail in deception studies is the value of consensus judgments of veracity, made by a number of individuals. From an investigative standpoint this is a notable omission from the research literature, given that in legal settings multiple individuals typically assess the veracity of an individual's testimony (Inbau, Reid, Buckley & Jayne,

2011). In their study featured in the present volume, Scott Culhane and his colleagues seek to remedy this empirical shortfall by exploring the deception detection accuracy of individuals working in dyads (rather than independently). They show that there are no notable benefits to simultaneous, multiple assessments – a finding that provides a basis for a more informed consideration of who should conduct forensic veracity assessments and under what conditions.

The papers in the present volume, then, offer an enhanced understanding of the factors that impact upon both the ability to deceive and the ability to detect deception. This is not only through more detailed empirical examination of core influential factors than that previously undertaken within the detection deception literature, but also through the exploration of the *interactions* between the range of factors that influence lying and lie detection - something that has previously been lacking. This helps us to unpack the range of processes underlying the production, and consequent detection, of deceptive cues and – as such – offers wealth of investigative promise and potential.

The Need for Applied Research and Ecologically Valid Studies

In order to fully understand the potential for the detection of deception within investigative contexts, what is urgently needed is *applied* research. As Oxburgh, Walsh & Milne (2011) discuss, it is difficult to understand phenomena of this nature through the results of experiments conducted in a laboratory (they refer to investigative interviewing more generally).

Conducting reliable, ecologically valid research has long been a core concern of academic research. Developing experimental paradigms that facilitate this kind of research is an exigent mission. Very rarely can experimental research fully emulate the actuality and nuances of real life situations (Oxburgh et al., 2011). However, field research is difficult to control, and it is difficult to measure real-life phenomena consistently and reliably. The applied researcher is thus faced with the challenging task of achieving the delicate balance between providing a realistic contextual backdrop to their experiments whilst maintaining enough control so as to allow for reliable measurement of the key variables being examined. This kind of honed research paradigm is necessary for studying real-life issues and problems (Oxburgh et al., 2011).

To date, there has been little research directly exploring the detection of deception within investigative contexts, and few studies have utilised the kinds of ecologically valid methodology that would make deception detection research applicable to the types of situation which occur within such contexts. Instead, many have focused on trivial lies told by heavily-biased samples of participants (usually students) in low-stake scenarios, centred around abstract concepts or materials, under highly-controlled, unrealistic conditions (Matsumoto, Sung Hwang, Skinner & Frank, 2014). As Porter & ten Brinke (2010) note, it is highly unlikely that the behavioural manifestations of, and – indeed – cues to, deception displayed under such conditions will be representative of those displayed by forensic populations in more realistic, high-stake conditions.

Most lie-detection research has used stimulus materials/source situations in which people are asked to lie or tell the truth about feelings, opinions and events (Carlucci et al., 2013) – what

are generally referred to in the literature as 'low-stakes lies' (Wright Whelan et al., 2014). Creating fictional stories about innocuous events does not necessarily equate the challenge of effectively lying in a real world scenario (Mann, Vrij & Bull, 2002), failing to generate the same degree of pressure or urgency, or to produce the same types of consequences (Carlucci et al., 2013). As such, the low-stake stimulus material used in most lie-detection studies may not allow for the proper display of behavioural cues to deception (Vrij, 2008), the kinds that Mann et al. (2004) argue are found when high-stakes lies are told. As Carlucci et al. (2013) discuss, experimentally generated lies are likely to be qualitatively different from, for example – the lies told by criminals in high-stake situations, which may create differential deception detection accuracy (Vrij, 2008). Early indications do suggest that rates and levels of accuracy in detecting deception are likely to improve when more realistic stimulus materials are used (e.g. Calucci et al., 2013).

Another key factor of relevance here is participant motivation; this, Cooper, Herve & Yuille (2009) suggest, is likely to be one of the most critical determinants of the validity of any deception research. Indeed; preliminary findings presented by Whelan et al. (2014) suggest that the generally reported finding that people are poor at detecting deception may be an artefact of the use of low-stakes lies in conditions with little or no participant motivation (Whelan et al., 2014).

Some researchers have sought to increase motivation levels and consequently generate more realistic empirical contexts by offering participants money or other incentives as a reward for good performances. Whilst, as Carlucci et al. (2013) such incentives do not necessarily equate to the kinds of motivational stakes that underlie the production of lies in criminal or

investigative contexts, research does suggest that motivation increases the likelihood of lies being reliably discriminated from truths (Bond & DePaulo, 2006).

What is needed in order to enhance the applicability and value of research into the detection of deception to investigative and forensic contexts, and what has generally been lacking from the empirical literature so far, is research utilising study methodologies with high levels of ecological validity, conducted under more naturalistic conditions and/or with more representative and appropriate samples. Studies must focus on high-stake lies told in conditions with high-stake outcomes, and need to take into account motivational influences on the ability to deceive or to detect deception. Only then can the validity of the various techniques for assessing veracity that have been proposed within the literature be rigorously and reliably tested for suitability for use in such circumstances.

The works presented in this volume go a considerable way towards remedying shortfalls in existing research into the detecting of deception, between them offering a greatly enhanced understanding of the issues that need to be taken into account when assessing veracity within investigative contexts, and of the likely value of different methods for such endeavours. Many of the studies included here employ methodological frameworks that more closely replicate real-life situations, relying on more ecologically valid contextual backdrops such as mock-crime scenarios; David Matsumoto and Hyisung Hwang (this issue), for example, use a mock-theft scenario in which participants are either asked to steal a check made out to “Cash” and lie about it or not to steal it and tell the truth (and were also offered cash bonuses if they lied and got away with it). They also seek to enhance the applicability of experimental findings to forensic contexts by generating high-stake conditions and examining how this impacts upon deception detection accuracy; For instance - Song Wu, Wei Cai and Shenghua

Jin (this issue) examine in detail the impact of different levels and types of lie-detector motivation on their accuracy rates, providing valuable indications as to how reliably human assessors of deception are likely to perform in high-stake contexts such as criminal investigations.

One particularly important contribution made by a number of the works contained in the present volume is a more detailed consideration of both the general ecological validity and cross-cultural applicability of research into the detection of deception. All of the papers discuss and address these issues, with specific reference to the likely relevance of deception research findings to forensic contexts. The study by Matsumoto & Hwang (this issue) goes further still, by employing participants from a range of different cultural backgrounds and ethnic groups and making comparisons between them in terms of the deceptive cues that they exhibit and their ability to effectively lie. As such, this collection of papers offers a thorough, reasoned discussion of how, in what ways, and to what extent, deception research might inform investigative and forensic decision-making.

Conclusion

Porter and ten Brinke (2010) recently noted that research on high-stake lies, such as those that occur within the criminal and investigative domains, and on the detection of deception in forensic settings more generally, is in its infancy relative to that on trivial, everyday deception. It is our contention that the present volume takes research on the detection of deception within investigative contexts to the next stage of its life cycle.

Whilst there is clearly more work to be done, the methods and procedures employed throughout the papers contained within this issue together offer a new paradigm for

conducting more reliable and ecologically valid research into deception and how it might best be detected. Cumulatively, they catalogue the range of factors that influence the production and detection of deceptive cues, offering the researcher a valuable data resource. And, perhaps most importantly, they take valuable steps towards the kinds of applied research that has for so long been lacking in the field, but which has notable and far-reaching implications detecting deception throughout the criminal justice domain.

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