

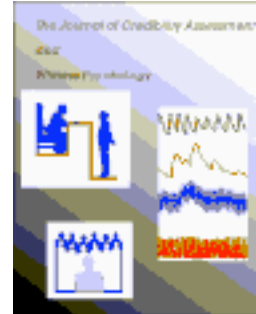
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## Rethinking Implicit Lie Detection

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### Abstract

**How to distinguish between truth and deception is one of the most critical forensic issues. Recently Bond & DePaulo (2006) reviewed a large number of studies that assessed people's ability to detect deception. Their review showed that people perform just above the level of chance. On a more positive note, there is a collection of empirical evidence suggesting that the real problem might not be poor knowledge of how to detect deception, but that the experimental task to which lie-catchers are exposed is framed in a disadvantageous manner (i.e., assessing explicit veracity). This new wave of research suggests that people might be better off using alternative, indirect, ways of assessing veracity. That is, by assessing aspects of a target's statement or appearance other than explicit veracity. These ways, which are discussed in detail in the current paper, are labeled *implicit lie detection*. Specifically, the present paper offers a review of a selection of the empirical findings lending evidence to implicit lie detection. This is followed by a conceptual analysis of the term implicit lie detection. Finally, by offering some reflections on the link between implicit lie detection and intuition, a first contribution to the work of re-thinking implicit lie detection is given.**

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## Rethinking Implicit Lie Detection

How to distinguish between truth and deception is one of the most critical forensic issues. Researchers worldwide devote their time to the question, and both practitioners and policy makers should follow their progress closely. Among the most fundamental research questions addressed are: (a) How good are people at detecting deception? (b) What cues do people use when trying to detect deception? (c) What cues differentiate liars and truth-tellers? and (d) How can people's deception detection ability be improved? Today, after nearly forty years of systematic research, the field offers a relatively large corpus of scientific findings. For a recent update on these and other questions, see the volume by Granhag and Strömwall (2004a).

People's ability to distinguish between the truth and deception has been assessed in a large number of studies. Bond & DePaulo (2006) recently summarized this line of research. Their review showed that people perform just above the level of chance. The two most frequently listed explanations to this discouraging result is that people tend to hold many misconceptions about liars' non-verbal behavior (see Strömwall, Granhag & Hartwig, 2004), and that the actual behavioral differences between liars and truth-tellers tend to be very few and small (DePaulo et al., 2003).

On a more positive note, there is a collection of research findings suggesting that the real problem might not be poor knowledge of how to detect deception, but that the experimental task to which lie-catchers are exposed is framed in a disadvantageous manner. Specifically, in majority of the tests conducted so far participants have been asked to assess veracity explicitly. Typically, after viewing a video-clip, participants are asked to assess the target's veracity by circling either "he is lying" or "he is telling-truth". The new wave of research findings suggests that people might be better off using alternative, indirect, ways of assessing veracity (e.g., DePaulo & Morris, 2004). That is, by assessing aspects of a target's statement or appearance other than explicit veracity: Examples of such aspects include the degree to which the target is thinking hard and how comfortable the observer feels watching the target. These ways, which will be discussed in detail below, have been labeled *implicit lie detection*.

The accumulated findings have led researchers within the field (and I have numbered myself among them) to post messages like "...people know more about deception than it first appears" (Vrij, 2004, p. 304), "...it seems that people are better at detecting deceit than they know themselves" (Granhag & Strömwall, 2004b, p. 320), and that lie-catchers may go wrong since they do not "... listen to their own correct intuitions" (DePaulo & Morris, 2004, p. 33). At first sight, this looks like good news: The problem is not that we do not know how to detect deception, but

that we do not know that we know. However, as soon as you scratch the surface of implicit lie detection, it becomes rather complicated.

In the standard implicit-learning experiment (see e.g., the classic artificial grammar task; Reber and Allen, 1978) participants commonly experience that they have not learnt much in the training phase, but nevertheless perform better in the test-phase than they predict. Turning to research on deception, we find the opposite; people tend to believe that they will perform better than they actually do (Elaad, 2003). Furthermore, some studies on implicit learning (e.g., Allwood, Granhag & Johansson, 2000) show that participants are rather realistic when, in retrospect, asked to assess their own performance in retrospect (i.e., they display some degree of meta-cognitive realism). In research on deception detection we once again find the opposite; people tend to believe that they have performed much better than they actually have (DePaulo et al., 1997). In short, the phrases summarizing the research on implicit lie detection may sound promising, but are hard to reconcile with what we know about people's ability to detect deception, and people's meta-cognitive realism.

In this paper, I first review a selection of the empirical findings lending evidence to implicit lie detection. Next, I conduct a conceptual analysis of the term "implicit lie detection", and highlight some of the consequences that follow from such an analysis. I then give a first contribution to the work of re-thinking implicit lie detection, by offering some reflections on the link between implicit lie detection and intuition.

### **Implicit lie detection: A selection of empirical evidence**

One might get the impression that implicit lie detection is something new, but this is wrong. In the late 1970's, Robert Rosenthal and Bella DePaulo looked at wmeasures other than direct (explicit) assessment of deception. (For a summary of this early research on implicit lie detection, see DePaulo and Morris, 2004.) In one such study, the participants either told the truth or lied when talking about people they liked and disliked (DePaulo & Rosenthal, 1979). The participants were videotaped, and the clips were shown to observers who assessed the targets' deceptiveness and ambivalence. The observers were successful in rating the lies as more deceptive than the truths. However, the ratings of ambivalence distinguished the truths from the lies even more clearly than did the ratings of deceptiveness. In short, perceived ambivalence discriminated between liars and truth tellers better than did perceived deceptiveness.

Hurd and Noller (1988) asked participants to try to assess a message as truthful or deceptive, and to 'think aloud' as they performed the task. Typical for such experiments, the participants' accuracy score was rather mediocre. However, when the think-aloud protocols were analyzed an interesting finding surfaced; the participants who had heard a lie were more likely to entertain the possibility that the message was deceptive, than participants who had heard a truthful message.

In the same vein, Anderson et al. (1999) showed that friends were not very successful in detecting each other's lies. However, when analyzing the cues that participants had written down in order to justify their assessments, the researchers found something intriguing. Participants mentioning verbal cues (e.g., story content, plausibility), were more likely to have just heard a truthful story than a deceptive one. In contrast, participants mentioning visual or demeanor cues (e.g., eye contact, nervousness) were more likely to have heard a lie than a truthful story. Their explicit assessments of deception did not distinguish between liars and truth tellers, but the cues they wrote down to justify their assessments did. Furthermore, friends and (in a follow up study by Anderson, DePaulo and Ansfield, 2002) new observers were able to discriminate between liars and truth tellers by rating dimensions other than explicit veracity. For example, they rated truth telling senders as more comfortable, and felt more confident themselves when listening to a true story than when listening to a lie.

Vrij, Edward and Bull (2001) tested the idea of implicit lie detection on police officers; one group assessed videotapes in the standard manner (explicit assessment) and another group assessed whether the suspect on the tape appeared to think hard (implicit assessment). The officers in the explicit group rated liars as somewhat more likely to be lying, than truth tellers. The officers in the implicit-group rated liars as having to think significantly harder than truth tellers. The difference between the implicit and explicit measures was not statistically significant, but the effect size for implicit detection was more than twice as large as the effect size for explicit detection. Recently, Landström and her colleagues replicated these findings. In a first study (Landström, Granhag & Hartwig, 2005), law students failed to distinguish between lying and truth telling adult witnesses when making explicit assessments (average accuracy score of 50%), but rated liars as having to think harder than truth tellers (this difference was close to significance). In addition, truthful (vs. deceptive) statements were perceived as significantly richer in detail. In a second study (Landström, Granhag & Hartwig, in press), university students failed to distinguish between lying and truth telling child witnesses when making explicit assessments of veracity (average accuracy score 59%), but rated lying children as having to think significantly harder than truth telling children. In addition, truthful statements were perceived as significantly more detailed, plausible and convincing than deceptive statements.

The tendency of liars to tell less compelling tales than truth-tellers was also found in the meta-analysis conducted by DePaulo et al. (2003). The meta-analysis further showed that liars (vs. truth-tellers) appeared more tense (e.g., an increased overall and vocal tension), and that this difference was particularly evident when the liars were highly motivated and lied about a transgression. Liars were also found to appear less friendly, pleasant, and forthcoming, to sound less involved, and to be perceived as less verbally immediate.

DePaulo et al. (1997) reported the first review on people's confidence in their ability to detect deceit. Not very surprisingly, they found a low correlation between lie-catchers' self-reported confidence and accuracy. More interestingly, they found lie-catchers to be more confident when assessing truthful messages, than when assessing deceptive messages. Put differently, the lie-catchers' explicit assessments did not differentiate between truths and lies, but their meta-cognitive assessments did.

Landström et al. (2005) presented yet another implicit lie detection measure by showing that observers who had watched a truthful statement had a significantly more accurate memory of the statement than did observers who had watched deceptive statement. Interestingly, when asked to assess their subjective memory performance (e.g., how well they thought they remembered, clarity in their own memory) no differences were found between the two groups of observers. In brief, the observers' memory of the statements distinguished more reliably between liars and truth tellers than did their explicit veracity assessments. It should be noted, however, that the authors failed to replicate this particular finding in a follow-up study (Landström et al., in press).

In sum, it is easy to find evidence that lie-catchers often fail when asked to make explicit assessments of veracity, but that they are able to distinguish between lies and truths when assessing other aspects of the target's statement and/or appearance. When reviewing the empirical evidence on implicit lie detection, one is struck not only by the amount of accumulated evidence, but also that the evidence is quite disparate. Below, I will deal with this issue.

### **Analysis: The shapes and forms of implicit lie detection**

In my analysis a number of basic distinctions will be used in order to illustrate the many different forms and shapes of implicit lie detection. I will then highlight a few consequences following from the analysis.

*Process vs. product.* First, one can note that the source of the evidence differs; some evidence is found in the mental processes that lead to an assessment, whereas other evidence is found in the product of the mental processes (the actual assessments). Specifically, by studying the observers' mental processes (e.g., by using think-aloud-protocols) we learned that people who heard a lie are more likely to entertain the possibility of deception, than are those who heard a truth (Hurd & Noller, 1988). By studying the actual products (assessments) we learned, for example, that liars are perceived as having to think harder than truth-tellers (Vrij et al., 2001).

*Object-level vs. meta-level measures.* Second, I believe it is possible to analyze the different implicit lie detection measures using a basic "object- and meta-level" dimension (Nelson, 2002). What one then finds is that some of the implicit measures are a product of an observer's perception of the target (object-level),

whereas other measures are a product of an observer's reflections on his or her own cognitions or emotions (meta-level). At the object-level are judgments such as that the target appears "convincing" and to 'thinking hard'. At the meta-level one finds measures such as the observer's own degree of confidence (metacognition) and comfortableness (metaemotion).

*Verbal cues vs. non-verbal cues.* Third, some measures pertain to the target's verbal behavior, whereas other measures pertain more to the target's non-verbal behavior. Specifically, an example of a relatively "verbal" implicit measure is that truth tellers' stories tend to make more sense. An example of a relatively "non-verbal" implicit measure is that liars tend to be more tense. However, it should be noted that several of the implicit measures reviewed are not easily categorized along the verbal/non-verbal dimension. For example, the extent to which a target is perceived as forthcoming is arguably based on both verbal and non-verbal information.

*Objective cues vs. Subjective impressions.* Fourth, among the evidence one finds measures that are possible to capture via an objective coding or count, but also measures that would escape most such attempts. For example, it is relatively easy to obtain an objective measure of a target's verbal immediacy, but it would be much more difficult to obtain an objective measure of how forthcoming the target is. Importantly, as noted by DePaulo and Morris (2004), some measures can be captured both objectively and subjectively; for example, one could both objectively code a target's verbal immediacy, and ask observers for their subjective impression of the same aspect. DePaulo and Morris made an interesting observation in this regard: "When objective and subjective measures of cues to deception differed significantly in strength, it was always the subjective measures that were stronger" (p. 36).

*Theory vs. no theory.* Finally, some implicit measures are more easily linked than others to one of the theoretical approaches suggested within the field of deception detection. For example, the fact that lying targets are rated as having to think harder than truth-tellers fits very well with the cognitive load approach, recently summarized by Vrij, Fisher, Mann, and Leal (2006). In contrast, the fact that observers seem to be more confident when assessing an actual truth-teller than when assessing an actual liar is very difficult to explain by any of the existing psychological approaches. In all fairness, it should be mentioned that the field of deception detection lacks strong theories (Granhag & Vrij, 2005; Granhag & Strömwall, 2004a).

The above analysis sheds light on the fact that the conceptual edges of 'implicit lie detection' are not clearly defined. In brief, when using the term one can refer to something that (i) pertains to mental processes or to the end-product, (ii) is found on the object-level or on the meta-level, (iii) is verbal or non-verbal, (iv) can or can not be captured by an objective coding, and (v) is or is not anchored in psychological theory. Note also that the problem is not the etiquette as such, but

that a host of diverse phenomena are sorted into the very same category. Consequently, we solve nothing by calling implicit lie detection something else, such as 'indirect lie detection'.

The analysis also shows that some questions described as "next in line" must wait until we can properly define what we mean by implicit lie detection. I therefore believe that it is premature to ask questions like why implicit lie detection works better than explicit lie detection, and how to make use of implicit lie detection (i.e., how to make it explicit), unless we know how to define implicit lie detection, or if we fail to be specific about which particular implicit measure we have in mind. I am not arguing that these and related questions are of little importance. On the contrary, if being able to answer such questions we could improve people's ability to detect deception, particularly in situations where there is little room for conducting longer interviews (e.g., customs and security checks). My point is that in order to properly address these questions, we need to chisel out a definition that is conceptually sound.

### **Rethinking implicit lie detection: A first step**

Making contributions in order to conceptually strengthen the term implicit lie detection is obviously a different (and probably more difficult) project than highlighting conceptual weaknesses. Below I will outline what can be viewed as a first step towards a laundering of the term.

Today the so-called dual processing perspective is well established, showing that human cognition such as reasoning, remembering and impression formation operates on two levels; the conscious/deliberate and the unconscious/automatic (see e.g., Chaiken & Trope, 1999). Also, many researchers have argued that there may not be one distinct set of learning mechanisms producing conscious (explicit) knowledge, and another producing unconscious (implicit) knowledge (see e.g., Whittlesea & Wright, 1997). Instead, there is reason to believe that some aspects of the learning process are explicit and others implicit (see also Underwood, 1996).

Transferred to the domain of deception detection, the distinction between the explicit and implicit appears to be less self-evident. We need instead to ask to what extent explicit lie detection contains an implicit part, and to what extent implicit lie detection contains an explicit part. We also need to ask why it is that explicit lie detection tends to fail. Is it due to its explicit or implicit component? Conversely, why it is that implicit lie detection tends to fail less often? Is it due to its implicit or explicit component? At this point such questions are difficult to answer, but what can be said is that the relative success of implicit lie detection is often attributed to the fact that people listen to their gut feelings or intuitions. Hence, we need to turn our attention to the link between implicit lie detection and intuition.

First, we need to define the characteristics of intuitive decisions. This is a far from easy task, but for the present context it suffices to say that there is a relative consensus among scholars that intuitive decisions are immediate and effortless (Myers, 2002; Hogarth, 2001). Juxtaposing these characteristics and the reviewed implicit measures it appears that some implicit measures do not seem to be very immediate and effortless (e.g., deciding if the story makes sense or not), whereas other implicit measures might be (e.g., assessing how sympathetic the target seemed).

In addition, intuitive decisions are often difficult to verbally justify (other than in terms like, 'I went with my gut feeling'). In my view, it is difficult to translate this particular characteristic to implicit lie detection measures. I would, however, suspect that in some cases it would be rather difficult to verbally justify why one arrived at a specific assessment (e.g., whether a target was viewed as sympathetic or not), but that the call for a verbal justification would be less problematic for other measures (e.g., whether a target seemed to think hard or not). In addition, the think-aloud protocols from the study by Hurd and Noller (1988) showed that the participants could verbalize some of their mental processes, which speaks against the likelihood that these particular parts were intuitions, and that these introspections could be used (by the experimenters) to predict whether the message under deliberation was truthful or deceptive. This finding has been interpreted as evidence that the participants went wrong because they did not listen to their own correct intuitions. However, I believe one could raise an equally strong argument stating that they went wrong because they trusted their intuitions too much, and failed to listen to their own deliberate reasoning.

For the present context, I do not think that the most relevant question is whether intuitive judgments are more valid than analytically based judgments. Instead I think that acknowledging that some intuitions may be more valid than others can advance our understanding. In accord with Hogarth (2001), I believe that the quality of lie-catchers' intuitive judgments are highly contingent on the environment from which the intuitions stem (i.e., the learning structures). Specifically, one can predict more valid intuitions if the learning structures have been "kind" (e.g., offered clear and immediate feedback on the accuracy of past judgments), compared to if the learning structures have been 'wicked' (e.g., offered no such feedback). For lie-catchers to develop valid intuitions they need to be able to learn the right lessons from experience; an intuition is not valid simply because it is an intuition.

In brief, I am not convinced that we will learn much about the implicit aspects of human lie detection by adding more empirical evidence to the category 'implicit lie detection'. Labeling all sorts of disparate empirical evidence as measures of 'implicit lie detection' will just add to the confusion. Neither am I convinced that there is a strong link between intuition and implicit lie detection (as the term is commonly used). It might of course be that the link is stronger for some implicit measures than for other. Speculatively, it might be that our intuition is more

involved when assessing how sympathetic a target seems, than when assessing to what extent a target seems to think hard. I think it can be argued that some of the measures sorted into the implicit lie detection category pertain more to conscious/deliberate processes, whereas other measures pertain more to unconscious/automatic processes. Obviously, this adds to the confusion brought about by the term “implicit lie detection”.

### **Coda**

In my view, the empirical findings accumulated so far do not lend much support to the idea that people can detect deception by processes that are purely implicit. To begin with, I am not convinced that there is much of an implicit component to what we today call ‘implicit lie detection’. The empirical evidence at hand is not about participants successfully solving a problem using mainly their implicit knowledge. Instead, it is about the experimenter relating the participants’ ratings of everything else but deception to the statement’s ground truth.

More specifically, the unclear use of the term may cause several problems. First, adding measures that are not implicit to the category might complicate the investigation of the powers and perils of implicit lie detection. For example, the measure ‘thinking hard’ deserves its own investigation; one that should be situated in the context of the cognitive load approach (Vrij et al., 2006), and not in the context of implicit lie detection. In brief, by incorrectly categorizing explicit measures as implicit will make it much more difficult to capture and utilize the true implicit components of human lie detection.

Second, a misuse of the term might create the false belief that implicit lie detection works because it draws more on people’s intuitions than does explicit lie detection. Based on what we know so far, I think we must refrain from concluding that lie-catchers are better off if they go with their own gut feelings. In fact, on the basis of the above analysis, I think it is fully possible to argue that it might be the other way around. That is, implicit lie detection may work because it draws less on lie-catcher’s intuitions, and that explicit lie detection often fails because lie-catchers trust their intuitions too much.

Finally, my message is not that there is no such thing as implicit lie detection. I actually think there is. Instead, what I argue is that the implicit component of lie detection should be viewed in the light of a dual-process model (Chaiken & Trope, 1999), and not as a part of an explicit vs. implicit distinction. Furthermore, my intention is not to de-emphasize the link between people’s intuition and lie detection. In fact, I believe this link to be rather strong, and one that deserves to be carefully examined. My point is that we should be cautious interpreting the accumulated empirical evidence on implicit lie detection as showing that it works because that our intuitions are correct more often than they err. In essence, the area of implicit lie detection needs much more conceptual work, and would profit

from a re-organization of the empirical evidence showing that “implicit lie detection works”.

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